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November 17, 2023

U.S. Army Corps of Engineers Galveston District
2000 Fort Point Road
Galveston, Texas 77550

U.S. Environmental Protection Agency Region 6
1445 Ross Avenue
Dallas, Texas 75202

Re: ***Sampling, Chemical Analysis, and Bioassessment for Offshore Disposal of Dredge Material***
Port of Corpus Christi Authority
Harbor Island New Dock and Facilities Project
Port Aransas, Texas

To Whom It May Concern:

On behalf of the Port of Corpus Christi Authority (PCCA), Terracon Consultants, Inc. (Terracon) is pleased to submit this report which details the field sampling, analysis and results of Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 103 sediment testing and analysis in support of the new work dredging for the PCCA Harbor Island New Dock and Facilities Project in Port Aransas, Texas. The project area is composed of eight dredged material management units (DMMUs), which includes six land-based/terrestrial DMMUs (DMMU 1 through DMMU 6) located on Harbor Island, and two marine DMMUs (DMMU 7 and DMMU 8) that are adjoining to the south of Harbor Island and north of the Port Aransas federal ship channel. The project included sampling at the offshore Reference Area (Reference) and the Corpus Christi New Work Ocean Dredged Material Disposal Site (ODMDS), herein referred to as New Work ODMDS.

This report presents the results of the investigation completed between January 16 and January 27, 2023 (re-sampling event) for the Harbor Island New Dock and Facilities Project, including applicable data for the offshore Reference Area and New Work ODMDS area.

Sincerely,
Terracon Consultants, Inc.
(TBPE Firm Registration No. F-3272)
(TBPG Firm Registration No. 50058)

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Sampling, Chemical Analysis, and Bioassessment for Offshore Disposal of Dredge Material Harbor Island New Dock and Facilities Project Port Aransas, Texas

Submitted to:
U.S. Army Corps of Engineers Galveston District
2000 Fort Point Road
Galveston, Texas 77550

and

U.S. Environmental Protection Agency Region 6
1445 Ross Avenue
Dallas, Texas 75202

Prepared by:

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On behalf of
Port of Corpus Christi Authority
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Corpus Christi, Texas 78401

Date
November 17, 2023

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ACRONYMS, ABBREVIATIONS, & INITIALISMS

ADDAMS	Automated Dredging and Disposal Alternatives Modeling System
CFR	Code of Federal Regulations
CMC	criteria maximum concentration
CME	Central Mine Equipment
CQAR	Chemical Quality Assurance Report
Cy	cubic yard
DEHP	di(2-ethylhexyl) phthalate
DMMU	dredged material management unit
ECD/ELCD	electron capture detectors/electrolytic conductivity detectors
EET	ecological effects threshold
EPA/USEPA	U.S. Environmental Protection Agency
ERDC	U.S. Army Engineer Research and Development Center
ERED	Environmental Residue Effects Database
ERL	effects range-low
FDA	U.S. Food and Drug Administration
Green Book	Evaluation of Dredged Material Proposed for Ocean Disposal – Testing Manual (EPA 503/8-91/001, February 1991)
GPS	Global positioning system
HPAH	high molecular weight PAH
HSA	hollow-stem augers
ICP/MS	inductively coupled plasma
ITM	Inland Testing Manual
LC_{50}	lethal concentration affecting 50% of a population
LCS	laboratory calibration standard
LOAEL	lowest observed adverse effect level
LPAH	low molecular weight PAHs
LPC	limiting permissible concentration
LRL	laboratory reporting limit
LMW	low molecular weight
MDL	method detection limit
MLLW	Mean Lower Low Water
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
MRL	method reporting limit
MS/MSD	matrix spike/matrix spike duplicate
NOAEL	no observed adverse effect level
NWDLS	North Water District Laboratory Services, Inc.
ODMDS	ocean dredged material disposal site
PAH	polynuclear aromatic hydrocarbon
pH	potential of hydrogen
PCB	polychlorinated biphenyl
PCCA	Port of Corpus Christi Authority
QA/QC	quality assurance/quality control
Reference	Offshore Reference Area
RIA	Regional Implementation Agreement
RRC	Railroad Commission of Texas
SAP	Sampling and Analysis Plan
SP	solid phase

SPP	suspended particulate phase
SERIM	Southeastern Regional Implementation Manual (EPA USACE 2008)
SMMP	Site Management and Monitoring Plan
STFATE	Short-Term Fate of Dredged Material Disposal in Open-Water Models]
SVOC	semi-volatile organic compounds
TEL	threshold effects level
TDL	target detection limit
TOC	total organic carbon
TSS	total suspended solids
TPH	total petroleum hydrocarbons
TWQS	Texas Water Quality Standard
USACE	U.S. Army Corps of Engineers
VOA	volatile organic analysis

LABORATORY QUALIFIERS

A	Detection limit elevated due to abundance of non-target analyte
B	Analyte was found in the associated method blank
B2	The analyte was detected in the associate leach blank
C+	The associated calibration higher than the established quality control criteria for accuracy
CQ	Internal standard response less than 50% calibration response
H	The parameter was analyzed outside the method specified holding time
V	Analyte was detected in both sample and method blank
V2	Analyte was detected in the sample and associated leach blank
U	Indicates that the compound was analyzed for but not detected

EXECUTIVE SUMMARY

This report details the field sampling, analysis, and results of Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) Section 103 sediment testing and analysis in support of the new work dredging, to include deepening and widening from current elevation of the Harbor Island New Dock and Facilities Project in Port Aransas, Texas. The project area is composed of eight dredged material management units (DMMUs), which includes six land-based/terrestrial DMMUs (DMMU 1 through DMMU 6) located on Harbor Island, and two marine DMMUs (DMMU 7 and DMMU 8) that are adjoining to the south of Harbor Island and north of the Port Aransas federal ship channel. The project included sampling at the offshore Reference Area (Reference) and the Corpus Christi New Work Ocean Dredged Material Disposal Site (ODMDS), herein referred to as New Work ODMDS.

Sampling Approach

Mobilization and field sampling for this report which relates to the Harbor Island New Dock and Facilities Project took place between January 16 and January 27, 2023. However, please note than an initial sampling event for the Harbor Island New Dock and Facilities Project, which included sampling of DMMUs 1 through DMMU 8, the Reference Area, and the New Work ODMDS, took place between February 1, 2022 and March 3, 2022.

Toxicity studies and bioaccumulation studies in the U.S. Army Corps of Engineers (USACE) Galveston and New Orleans Districts are generally conducted in accordance with the Regional Implementation Agreement (RIA, U.S. Environmental Protection Agency [EPA]/USACE, 2003), which "provides guidance for applicants, permittees, and USACE and EPA staff working on ocean dredge material disposal projects in Louisiana and Texas." RIA, Preface. For biological tests of dredge material, RIA Appendix B indicates that holding times, the time between sample collection and test initiation, should not exceed eight weeks or 56 days.

During the initial sampling event conducted in 2022, Terracon performed sediment and water sampling on behalf of the PCCA to establish that material from certain dredging units meets ocean disposal criteria in 40 CFR Parts 220-229. Samples were sent to the North Water District Laboratory Services, Inc. (NWDLS) in the Woodlands, Texas. Due to NWDLS starting the holding time upon the composite date of the sediment material, rather than the time of sample collection, recommended holding times per the RIA were exceeded for eight samples collected for solid phase (SP) bioassay testing and seven samples collected for suspended particulate phase (SPP) bioassay testing. Test initiation for sediment samples collected for SP bioassay testing from DMMU 1 through DMMU 8 commenced between 10 to 15 days beyond the 56 days recommended by the RIA. Test initiation for sediment samples collected for SPP bioassay testing from DMMU 1 through DMMU 7 commenced between one to five days beyond the 56 days recommended by the RIA. Test initiation for sediment samples collected from the Reference Area commenced within the recommended 56-day period.

Due to the test initiation for sediment samples collected for SP and SPP bioassay testing from the various DMMUs beyond the 56 days recommended in the RIA, Terracon mobilized back to the site in January 2023 to conduct a complete resampling of the Harbor Island New Dock and Facilities Project per approval and under the directive of the EPA and USACE. The results of the January 2023 resampling event are summarized below and throughout the following sections of this report.

Sampling efforts consisted of collecting sediment and water samples for physical, chemical, toxicological, and bioaccumulation analysis. A copy of the EPA/USACE-approved Port of Corpus Christi Authority (PCCA) Sampling and Analysis Plan (SAP), dated April 2021, including the SAP Errata Sheet, dated January 10, 2022, and subsequent email correspondences dated January 28, 2022, January 31, 2022, February 3, 2022, February 14, 2022, December 14, 2022, January 17, 2023, January 24, 2023, and February 3, 2023, are presented in Appendix A.

Areas to be dredged were divided into eight DMMUs for the purpose of new work dredging. Each DMMU was expected to have consistent characteristics, and each DMMU covers a specific area (land-based/terrestrial and marine) and dredge material volume within the overall dredging footprint.

- DMMU 1 is comprised of subsample locations 1A – 1C and characterizes the surficial terrestrial sediment (0 feet [ft.] Mean Lower Low Water [MLLW] to -30 ft. MLLW).
- DMMU 2 is comprised of subsample locations 1A – 1C and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 3 is comprised of subsample locations 2A – 2B and characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 4 is comprised of subsample locations 2A – 2B and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 5 is comprised of subsample locations 3A – 3C and characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 6 is comprised of subsample locations 3A – 3C and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 7 is comprised of subsample locations 4A – 4D and characterizes the shallow marine sediment from existing depths to -60 ft. MLLW.
- DMMU 8 is comprised of subsample location 5A – 5D and characterizes marine sediment from existing depths to -60 ft. MLLW.

Sediment samples were collected from two to four sample locations within each DMMU as referenced above. Sampling locations were selected by the PCCA and approved by the EPA/USACE based on previous terrestrial and marine soil boring investigations conducted in 2019. The distribution and number of cores collected at substation locations provided adequate representation for each DMMU. The material collected from the stations represents dredged material to be disposed of at the New Work ODMDS. The sediment samples were collected from 24 substations within the eight DMMUs using either a Central Mine Equipment (CME) drill rig equipped with hollow-stem and solid-flight augers (terrestrial borings), sonic drill rig (marine borings) and/or double van Veen™ grab sampler (DMMU-8-5D). Grab samples were collected from three substations (A, B, and C) within the offshore Reference Area located to the north of the Entrance Channel and the New Work ODMDS located to the south of the entrance channel using the double van Veen™ grab sampler.

The sediment samples collected from each station within the eight DMMUs were discretely homogenized for physical and chemical laboratory analysis prior to combining the station subsamples to create one composite per DMMU for elutriate preparation and

toxicological/bioaccumulation analysis. Physical, chemical, and toxicological/bioaccumulation analysis was performed on the Reference composite sample. Physical and chemical analysis was performed on the ODMDS composite sample.

Site water was collected from station DMMU-7-4A for elutriate preparation of the terrestrial composite samples from DMMUs 1 through 4. Site water was collected from station DMMU-7-4B for elutriate preparation of the terrestrial composite samples from DMMUs 5 and 6. Site water for elutriate preparation of the marine composite samples from DMMUs 7 and 8 was collected from stations DMMU-7-4B and DMMU-8-5B, respectively. The locations were chosen to best represent the hydrochemical conditions for each DMMU. Additionally, water samples from the Reference Area and the New Work ODMDS was collected for chemical analysis.

Exhibit ES-1 is a summary table of analytical results for this project.

Sediment Physical Results

Grain size distributions for the subsamples analyzed for each DMMU, including the Reference composite sample, and the New Work ODMDS composite sample, are summarized below.

DMMU 1 (Subsamples 1A, 1B, and 1C) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-1 core station subsamples 1A, 1B, and 1C were predominantly sand (71.8% to 82.4%), with silt (17.2% to 27.3%), and trace clay (0.4% to 0.9%).

DMMU 2 (Subsamples 1A, 1B, 1C) – Subsurface Terrestrial (-30 to -60 ft MLLW)

- DMMU-2 core station subsamples 1A, 1B, and 1C were predominantly sand (59.5% to 69.6%), with silt (29.7% to 33.4%), and trace clay (0.7% to 7.1%).

DMMU 3 (Subsamples 2A, 2A Duplicate, and 2B) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-3 core station subsamples 2A and 2B were predominantly sand (84.5% and 82.1%), with silt (15.0% and 17.1%), and clay (15.0% and 17.1%). DMMU-3-2A Duplicate was predominantly sand (84.0%), with silt (15.6%), and trace clay (0.4%).

DMMU 4 (Subsamples 2A and 2B) – Subsurface Terrestrial (-30 to -60 ft MLLW)

- DMMU-4 core station subsamples 2A and 2B were predominantly sand (63.6% and 66.7%), with silt (34.2% and 30.3%), and trace clay (2.2% and 3.0%).

DMMU 5 (Subsamples 3A, 3B, and 3C) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-5 core station subsamples 3A, 3B, and 3C were predominantly sand (70.3% to 83.1%), with silt (16.4% to 29.1%), and trace clay (0.5% to 0.9%).

DMMU 6 (Subsamples 3A, 3B, and 3C) – Subsurface Terrestrial (-30 to -60 ft MLLW)

DMMU-6 core station subsamples -3A, -3B, and -3C were predominantly sand (66.0% to 72.6%), with silt (26.4% to 32.3%), and trace clay (1.0% to 1.7%).

DMMU 7 (Subsamples 4A, 4B, 4C and 4D) – Marine (existing depth to -60 ft MLLW)

- DMMU-7 core station subsamples -4A, -4B, -4C, and -4D were predominantly sand (40.4% to 63.6%) and silt (35.2% to 51.9%), with trace clay (1.2% to 7.4%).

DMMU 8 (Subsamples 5A, 5B, 5C and 5D) - Marine (existing depth to -60 ft MLLW)

- DMMU-8 core station subsamples 5A, 5B, and 5C, were predominantly sand (64.1% to 70.6%), with silt (27.3% to 31.8%), and trace clay (0.9% to 6,3%). Subsample DMMU-8-5D, which was a surface grab sample, consisted of nearly equal portions of sand (43.3%) and silt (47.3%), with some clay 9.4%.

The Reference composite was predominantly sand (59.8%), with silt (39.1%), and trace clay (1.1%).

The New Work ODMDS composite was predominantly sand (76.3%), with silt (23.3%), and trace clay (0.4%).

Sediment Chemistry Results

Sediment chemistry analyses were performed on each DMMU discrete subsample, the Reference composite sample, and the New Work ODMDS composite sample.

Metals, Ammonia, Cyanide, Total Petroleum Hydrocarbons (TPH), Total Organic Carbon (TOC), Total Solids and Butyltins

Most of the 13 metals analyzed were detected in concentrations above the method detection limits (MDL / J-qualified[1]) or the laboratory reporting limit (LRL) in the subsamples tested except for antimony, which was U-qualified[2]. Metals detected above the LRL were below the respective threshold effects level (TEL) and effects range low (ERL).

Trivalent chromium ranged from less than (<) 0.139 milligrams per kilogram (mg/kg) to 6.55 mg/kg among the samples tested and was highest in DMMU-7-4B. Hexavalent chromium ranged from <0.132 mg/kg to 1.78 mg/kg among the samples tested and was highest in DMMU-7-4B.

Ammonia (as nitrogen) concentrations ranged from <6.60 mg/kg to 261 mg/kg among samples tested and was highest in DMMU-7-4B. Total cyanide was not detected above the MDL in any of the samples tested.

TPH ranged from <1.86 mg/kg (New Work ODMDS) to 2,068 mg/kg among samples tested and was highest in DMMU-3-2A.

Total solids ranged from 54.2% to 85.5% among samples tested.

TOC concentrations ranged from <0.0512% to 1.29% among samples tested.

The potential of hydrogen (pH) ranged from 7.88 to 9.04 System International [S.I.] units and was H-qualified (analyzed outside of holding time) among samples tested. Please note that the numerous results reported with an H qualifier are a direct result of the Laboratory Information Management System (LIMS) which automatically assigns qualifiers based on the test and specific criteria maintained in the LIMS for analysis. The pH holding times from SW 846 are not specified but have been recommended for as little as 15 minutes. Because of the procedure for sample collection from a vessel including sample prep and delivery to the laboratory, sample analysis was performed as soon as possible, even though it did not meet the suggested holding time.

[1] Indicates an estimated concentration, reported between the laboratory MDL and the LRL.
[2] Indicates that the compound was analyzed, but not detected above the MDL. Concentrations preceded by the less than (<) symbol are U-qualified.

Organotin compounds dibutyltin, monobutyltin, and tributyltin were not detected above the LRLs in any of the project samples tested, except for monobutyltin in DMMU-1-1C (1.6 micrograms per kilogram [µg/kg]).

Pesticides and Total Polychlorinated Biphenyls (PCB)

Pesticide analytes were not detected above the MDLs (U-qualified) for any DMMU subsample or composite sample tested. The pesticide analyte MDLs, except for dieldrin, γ-BHC (lindane), and toxaphene, were reported below the applicable TELs and (or) ERLs for the samples tested. The MDLs for chlordane (technical) in samples DMMU-2-1C and DMMU-7-4B exceeded the ERL of 0.5 µg/kg.

Total PCBs were not detected above the MDL (U-qualified) for any DMMU subsample or composite sample tested. Project sediment samples had MDLs ranging between 1.15 µg/kg to 1.84 µg/kg, which slightly exceeded the target detection limit (TDL) for total PCBs (1.0 µg/kg) in the SAP. The MDLs for total PCBs were below the TEL (21.6 µg/kg) and ERL (22.7 µg/kg) for the samples tested.

Polynuclear Aromatic Hydrocarbons (PAH)

Several PAH analytes tested were detected above the LRL in some of the subsamples, as summarized below:

- DMMU 1: In subsamples 1B and 1C, PAH analytes were not detected above the LRL. In subsample 1A, two PAH analytes (fluorene and pyrene) were detected above the LRL.
- DMMU 2: In subsamples 1A, 1B, and 1C, PAHs were not detected above the MDL (U-qualified).
- DMMU 3: In subsample 2B, PAHs were not detected above the MDL (U-qualified). In subsamples 2A and 2A Duplicate, seven and six PAH analytes were detected above the LRL respectively. Subsample 2A had four PAH analytes with concentrations that exceeded the TEL and/or ERL. Subsample 2A had one PAH analyte (dibenzo[a,h]anthracene) with a MDL that exceeded the TEL.
- DMMU 4: In subsample 2A, fluorene was detected above the LRL. In subsample 2B, PAHs were not detected above the MDL (U-qualified).
- DMMU 5: In subsamples 3A and 3C, PAHs were not detected above the MDL (U-qualified). In subsample 3B, ten PAH analytes were detected above the LRLs. The detected concentrations for PAHs in subsample 3B did not exceed applicable TELs or ERLs.
- DMMU 6: In subsamples 3A, 3B, and 3C, PAHs were not detected above the MDL (U-qualified).
- DMMU 7: In subsample 4C, PAHs were not detected above the MDL (U-qualified). In subsamples 4A, 4B, and 4D, between three and 12 PAH analytes were detected above the LRL. The PAH analyte concentrations were below the applicable TELs and ERLs with the exception of anthracene (276 µg/kg) in subsample 4A, which exceeded the respective TEL (46.9 µg/kg) and ERL (85.3 µg/kg).
- DMMU 8: In subsamples 5A, 5B, and 5D, PAHs were not detected above the MDL (U-qualified). In subsample 5C, two PAH analytes (naphthalene and phenanthrene) were

detected above the LRL. The detected concentrations for naphthalene and phenanthrene in subsample 5C were below the respective TELs and ERLs.

- New Work ODMDS and Reference: PAHs were below the MDLs in the Reference composite sample and New Work ODMDS composite sample.

Total low molecular weight PAHs (LPAH) ranged from 8.34 µg/kg to 2,485 µg/kg among samples tested. Total high molecular weight PAHs (HPAH) ranged from 12.5 µg/kg to 329 µg/kg among samples tested. Total PAHs ranged from 20.9 µg/kg to 2,814 µg/kg among samples tested. Total LPAHs, total HPAHs, and total PAHs were highest in DMMU-3-2A. The concentration for total LPAHs in DMMU-3-2A (2,485 µg/kg) exceeded the TEL (312 µg/kg) and ERL (552 µg/kg), and the concentration for total PAHs (2,814 µg/kg) exceeded the TEL (1,684 µg/kg). The concentration for total LPAHs in DMMU-7-4A (460 µg/kg) exceeded the TEL of 312 µg/kg.

MDLs for the PAH compounds were below applicable TDLs from the SAP. The MDLs for acenaphthene, acenaphthylene, and dibenzo(a,h)anthracene in DMMU-3-2A (16.8 µg/kg) exceeded the analyte specific TELs 6.71 µg/kg, 5.87 µg/kg, and 6.22 µg/kg, respectively, and the ERL for acenaphthene (16 µg/kg).

Semi-Volatile Organic Compounds (SVOCs)

Most SVOCs were reported below MDLs (U-qualified) among the samples tested, with specific SVOCs detected in J-qualified concentrations or above the LRL in one or more subsamples tested. Di-n-butyl phthalate was detected above the LRL in the majority of the DMMU subsamples tested while specific SVOCs were detected above the LRL in the following DMMU subsamples tested.

- 2,4-dichlorophenol and 2,6-dinitrotoluene (2,6-DNT) were detected above the LRL in DMMU-3-2A Duplicate sample.
- Diethyl phthalate was detected above the LRL in the three subsamples from DMMU 5 (3A, 3B, and 3C), and hexachlorocyclopentadiene was detected above the LRL in DMMU-5-3B.
- Bis(2-ethylhexyl) phthalate was detected above the LRL in DMMU-8-5C.

TEL or ERL criteria values were not listed for the SVOC analytes except for bis(2-ethylexyl) phthalate. The concentrations for bis(2-ethylexyl) phthalate for the samples ranged from <1.48 to 18.8 µg/kg and were below the TEL of 182 µg/kg.

Elutriate and Water Chemistry Results

Elutriates were generated from the eight project sediment composites as referenced above. Project elutriates, site water samples, and water samples collected from the Reference Area and New Work ODMDS were analyzed for the analytes summarized below. Results for elutriate and water samples were compared to applicable criteria maximum concentration (CMC [synonymous with 'acute']) and Texas Water Quality Standard (TWQS) values.

Metals, Ammonia, Cyanide, TPH, and TOC

Two or more metals were detected above the MDL in either J-qualified concentrations or above the LRLs in site water and elutriate samples tested except for mercury, selenium, silver, and thallium, which were U-qualified. Beryllium was U-qualified in the samples tested, except for

DMMU-7-4B water. Detected concentrations of the 13 metals analyzed did not exceed applicable CMCs or TWQS.

Trivalent chromium was below the MDL in the samples tested. Hexavalent chromium ranged from 0.00208 micrograms per liter (µg/L) to 58.4 µg/L and was greatest in DMMU-8 water. Hexavalent chromium concentrations in the samples tested were below the CMC or TWQS.

Monobutyltin was detected above the LRL in elutriate samples DMMU-2 and DMMU-4, site water samples DMMU-7-4B, DMMU-8-5B, and the ODMDS water sample. Dibutyltin and tributyltin were not detected above the MDLs in any of the elutriate and site water samples tested.

Ammonia (as nitrogen) ranged from 0.133 milligrams per liter (mg/L) to 7.62 mg/L among the samples tested and was highest in DMMU-7 elutriate. Ammonia concentrations in DMMU-7 elutriate exceeded the calculated CMC of 6.50 mg/L.

Total cyanide was not detected above the MDL in any of the elutriate and site water samples tested.

TOC ranged from 2.0 mg/L to 9.9 mg/L among samples tested.

Total suspended solids (TSS) ranged from 1.68 mg/L to 249 mg/L among samples tested.

Salinity ranged from 28.6 mg/L to 30.4 mg/L among the site water samples tested.

TPH concentrations ranged from <0.484 mg/L to 8.94 mg/L among samples tested and was highest in elutriate sample DMMU-3.

Pesticides and Total PCBs

Pesticide analytes were reported below MDL (U-qualified) in the site water and elutriate samples tested except for p,p'-DDE (4,4'-DDE) in DMMU-1-E (0.00790 µg/L) and methoxychlor in DMMU-3-E (0.0101 µg/L). There are not CMC or TWQS values listed for 4,4'-DDE or methoxychlor. The MDLs for toxaphene were 0.300 µg/L among samples tested, which exceeded the CMC (0.21 µg/L) and TWQS (0.21 µg/L).

Total PCBs were not detected above the MDL (U-qualified) in any sample.

PAHs

PAH analytes were not detected above the MDLs in elutriate samples from DMMU-1, DMMU-2, DMMU-4, DMMU-5, and DMMU-6. PAH analytes were not detected above the MDLs in site waters from DMMU-7, DMMU-8, the Reference, or the ODMDS. Four PAH analytes were detected in concentrations above the LRLs in elutriate sample DMMU-3. Two PAH analytes were detected in concentrations above the LRLs in elutriate sample DMMU-3 Duplicate. One PAH analyte was detected at concentrations above the MDL in elutriate samples DMMU-7 and DMMU-8. There are not CMC or TWQS values for the PAH analytes except phenanthrene. The concentration for phenanthrene in DMMU-3 elutriate (1.08 µg/L) was below the TWQS (7.7 µg/L).

Total LPAHs ranged from 1.66 µg/L to 7.06 µg/L among samples tested. Total HPAHs ranged from 2.49 µg/L to 2.81µg/L among samples tested. Total PAHs ranged from 4.16 µg/L to 9.87 µg/L among samples tested.

SVOCs

Two of the 41 SVOC analytes (diethyl phthalate and di-n-butyl phthalate) were detected above the LRLs in the samples tested, except for diethyl phthalate in site water samples DMMU-7-4A and DMMU-8-5B, which were J-qualified. Bis(2-ethylhexyl) phthalate was detected above the MDL (J-qualified) in elutriate samples DMMU-1 and DMMU-7. Total phenol was detected above the MDL (J-qualified) in elutriate samples DMMU-3 Duplicate, DMMU-6, DMMU-7, and DMMU-8, and the site water samples. There are not CMC or TWQS for the SVOC analytes tested except for pentachlorophenol. Concentrations for pentachlorophenol were below the MDLs (U-qualified) in the samples tested, and the MDLs were below the CMC (13 mg/L) and TWQS (15.1 mg/L).

Toxicology Results

Toxicity analyses were performed on the eight project composites and the Reference. Site water samples from the eight DMMUs were analyzed as part of the water column bioassays.

Water Column (Suspended Particulate Phase) Bioassays

Water column SPP tests were performed with the atherinoid fish *Menidia beryllina* (inland silverside) and planktonic and juvenile life stages of the mysid crustacean *Americamysis bahia* (opossum shrimp).

Americamysis bahia 96-Hour Bioassay: Survival in the site water controls for each project sample ranged from 96% to 100%, meeting the acceptability criterion of greater than or equal to (≥) 90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 100% among the project elutriates and was 100% in the Reference. The estimated lethal concentration affecting 50% of a population (LC_{50}) was greater than (>) 100% for the eight project samples.

Menidia beryllina 96-Hour Bioassay: Survival in the site water controls for each project sample ranged from 94% to 100%, meeting the acceptability criterion of ≥90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 98% among the project elutriates and was 92% in the Reference. The estimated LC_{50} values were >100% for the eight project samples.

Americamysis bahia Plankton 48-Hour Bioassay: Survival in the controls for each project sample ranged from 96% to 100%, meeting the acceptability criterion of ≥90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 100% among the project elutriates and was 100% in the Reference. The estimated LC_{50} values were >100% for the eight project samples.

Whole Sediment (Solid Phase) Bioassays

The SP toxicity tests were performed with the amphipod crustacean *Leptocheirus plumulosus* and the mysid crustacean *Americamysis bahia*.

Significant differences between the project sediments and the Reference sediment were not observed. Mean survival in the project sediments using *L. plumulosus* ranged from 87% to 92% and was 91% in the Reference. Mean survival in the project sediments using *A. bahia* ranged from 87% to 93% and was 91% in the Reference. Mortality in the test treatments did not exceed the biological criterion for the limiting permissible concentration (LPC, >20% for amphipods and >10% for mysids). The results did not statistically exceed those of the Reference and met the LPC for benthic toxicity as defined in the Regional Implementation Agreement (RIA).

Bioaccumulation Potential

Bioaccumulation tests were conducted with the bivalve mollusk *Mercenaria mercenaria* (hard clam) and the polychaete worm *Alitta virens* (sand worm). Mean survival in the control was 99% for *M. mercenaria* and 87% for *A. virens*. Mean survival in the Reference was 99% for *M. Mercenaria* and 96% for *A. virens*. Survival in the project sediment samples ranged from 91% to 100% in *M. mercenaria* and from 89% to 100% for *A. virens*.

Tissue Chemistry Results

Tissue chemistry results for project samples are compared to the Reference and to applicable screening benchmarks. Results are summarized below.

Total Solids in Tissues

Mercenaria mercenaria: Total solids ranged from 10.4% to 15.6% among the project samples, the Reference, and pre-exposure tissue.

Alitta virens: Total solids ranged from 9.43% to 15.0% among the project samples, the Reference, and pre-exposure tissue.

Metals and TPH in Tissues

Mercenaria mercenaria

Most metals tested in *M. mercenaria* tissue were detected in concentrations greater than the MDL (in one or more replicates) in one or more project samples. The mean concentrations for antimony, arsenic, chromium, copper, lead, selenium, thallium, and zinc were statistically significantly greater than those of the Reference tissue (as listed below).

- DMMU-1: antimony, arsenic, lead, selenium, and thallium
- DMMU-2: antimony, arsenic, chromium, lead, selenium, and thallium
- DMMU-3: antimony, arsenic, chromium, lead, and selenium
- DMMU-4: arsenic, chromium, lead, selenium, and thallium
- DMMU-5: antimony, arsenic, chromium, copper, lead, selenium, and thallium
- DMMU-6: antimony, arsenic, chromium, lead, selenium, and thallium
- DMMU-7: arsenic, lead, and selenium
- DMMU-8: antimony, arsenic, lead, selenium, and zinc

The results did not exceed their respective U.S. Food and Drug Administration (FDA) action levels. Mean concentrations for copper in DMMU-5, lead in DMMU-2 and DMMU-5, and zinc in DMMU-1 exceeded the applicable ecological effects threshold. Additionally, the mean concentration of zinc in DMMU-8 exceeded the northern Gulf of Mexico background concentration.

TPH mean wet weight concentrations in *M. mercenaria* tissues ranged from 10.4 mg/kg to 2,404 mg/kg and were highest in DMMU-7. Mean concentrations for TPH in the project samples, except for DMMU-2, were statistically significantly greater than that of the Reference. There is not a FDA action level for TPH.

- The fact sheet from the Agency for Toxic Substances and Disease Registry (ATSDR 1999) states that TPH is a term used to describe a large family of several hundred chemical compounds originally from crude oil. Crude oil is used to make petroleum

products, which can contaminate the environment. Because there are so many different chemicals in crude oil and in other petroleum products, it is not practical to measure each one separately. However, it is useful to measure the total amount of TPH at a site to evaluate and screen potential constituents of concern and intensity. Scientists do this by dividing TPH into groups of petroleum hydrocarbons that act alike in soil or water. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual chemicals, including both volatile and extractable petroleum hydrocarbons (VPHs and EPHs), encompassing the gasoline range organics (>C_6–C_{12}), diesel range organics (>C_{12}–C_{28}), and oil range organics (>C_{28}–C_{35}).

Generally, TPH testing provides a means to quantify the magnitude (in relative terms) of petroleum contamination that remains in the environment. For dredging projects, this exposure would come from biomagnification starting at low level organisms and working up to humans through a food chain. Upon their discharge into the environment, petroleum hydrocarbons can pose risks to human health, ecosystems, and groundwater. Since there are not FDA action levels for TPH resulting from the lack of scientific studies that document the effects of TPH on local marine-based organisms due to its large chemical composition, where mean concentrations for TPH were statistically significantly greater than that of the Reference, the effects of the TPH were addressed through PAH and SVOC analyses which provide an estimate of more toxic components found within the TPH fractions (as further discussed below and in Section 3.8.3). PAHs and SVOCs were not identified as a concern for *M. mercenaria*.

Alitta virens

Most metals tested in *A. virens* tissue were detected in concentrations greater than the MDL (in one or more replicates) in one or more project samples. Mercury was not detected above the MDL (U-qualified) in any sample. Mean concentrations for cadmium (all project samples except DMMU-8), nickel (all project samples), silver (DMMU-4, DMMU-6, and DMMU-8) and thallium (DMMU-2, DMMU-3, DMMU-4, and DMMU-6), were statistically significantly greater than those of the Reference tissues. Sample mean results did not exceed the FDA action levels or screening criteria concentrations in *A. virens* tissues.

TPH mean wet weight concentrations in *A. virens* tissues ranged from 76.7 mg/kg to 2,566 mg/kg and were highest in the Reference. Mean concentrations for TPH in the project samples were not statistically significantly greater than that of the Reference tissues. There is not a FDA action level for TPH.

PAHs in Tissues

Mercenaria mercenaria: One to four PAH analytes were detected in concentrations greater than the LRL in *M. mercenaria* tissues in one or more replicates in project tissues as follows:

- DMMU-3 – fluorene
- DMMU-7 – acenaphthene, fluoranthene, phenanthrene, and pyrene
- DMMU-8 – anthracene

Mean adjusted concentrations of acenaphthene, fluoranthene, phenanthrene, and pyrene in DMMU-7, and anthracene in DMMU-8, statistically significantly exceeded those of the Reference tissues. Additionally, mean concentrations of total LPAHs, total HPAHs, and total

PAHs in DMMU-7, calculated from results of individual PAHs, statistically significantly exceeded those of the Reference. These results did not exceed the ecological effects threshold except for acenaphthene and fluoranthene in DMMU-7. Additionally, the results did not exceed the northern Gulf of Mexico background concentration except for total HPAHs in DMMU-7. There are not applicable FDA action levels for the PAHs tested.

Alitta virens: One to four of the PAH analytes were detected in concentrations greater than the LRL in *A. virens* tissues in one or more replicates in project tissues, and adjusted mean concentrations of these analytes statistically significantly exceeded those of the Reference tissues as follows:

- DMMU-3 – fluorene, phenanthrene, pyrene
- DMMU-5 – benzo(a)pyrene
- DMMU-7 – anthracene, fluoranthene, phenanthrene, pyrene

Mean concentrations of total LPAHs (DMMU-7), total HPAHs (DMMU-7), and total PAHs (DMMU-3 and DMMU-7), calculated from results of individual PAHs, also statistically significantly exceeded those of the Reference tissues. There are not applicable FDA action levels for the PAHs tested. However, these results did not exceed the ecological effects threshold or northern Gulf of Mexico background concentration.

Monobutyltin and SVOCs in Tissues

Monobutyltin was tested in project sample DMMU 1, the Reference, and pre-exposure tissues. SVOCs including 4-nitrophenol, bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, and total phenol were tested in *M. mercenaria* and *A. virens* tissues from the eight project samples along with the Reference and pre-exposure tissues.

Monobutyltin in Mercenaria mercenaria and Alitta virens

Monobutyltin was not detected above the MDL (U-qualified) in DMMU-1, the Reference, and the pre-exposure tissues for either species. There are not applicable FDA action levels, ecological effect threshold, or northern Gulf of Mexico background concentrations for monobutyltin in either species.

SVOCs in Mercenaria mercenaria

The following SVOC analytes were detected in *M. mercenaria* tissues above the LRL in one or more replicates of the project samples tested:

- DMMU-2 – di-n-butyl phthalate
- DMMU-3 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- DMMU-5 – di-n-butyl phthalate, diethyl phthalate, hexachlorocyclopentadiene
- DMMU-6 – di-n-butyl phthalate
- DMMU-8 – di-n-butyl phthalate
- Reference – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate

Adjusted mean concentrations for these SVOCs did not statistically significantly exceed those of the Reference. There are not applicable FDA action levels or northern Gulf of Mexico background

concentrations for these SVOCs. The adjusted mean concentrations for bis(2-ethylhexyl) phthalate in *M. mercenaria* were below the ecological effects threshold.

SVOCs in Alitta virens

The following SVOC analytes were detected in *A. virens* tissues above the LRL in one or more replicates of the project samples tested:

- DMMU-2 – di-n-butyl phthalate
- DMMU-3 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- DMMU-4 – di-n-butyl phthalate
- DMMU-5 – di-n-butyl phthalate, diethyl phthalate
- DMMU-6 – di-n-butyl phthalate
- DMMU-7 – di-n-butyl phthalate
- DMMU-8 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- Reference – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate
- Pre-Exposure – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate

Adjusted mean concentrations for bis(2-ethylhexyl) phthalate (DMMU-8), di-n-butyl phthalate (DMMU-2, DMMU-4, and DMMU-7), and diethyl phthalate (DMMU-5), statistically significantly exceeded those of the Reference tissue. There are not applicable FDA action levels or screening criteria concentrations for these SVOCs in *A. virens* tissues.

Automated Dredging and Disposal Alternatives Modeling System (ADDAMS) Model Results

Simulations of the Short-Term Fate [of Dredged Material Disposal in Open-Water Models] (STFATE) module of the Automated Dredging and Disposal Alternatives Modeling System (ADDAMS) model were run to establish the compliance of the water column toxicity for the Harbor Island New Dock and Facilities sediment samples. Based on analytical results, one sample was selected for modeling Tier II Water Quality Criteria for ammonia because those elutriate concentrations were above the CMC. The CMC for ammonia was determined using a spreadsheet provided in Appendix H.

Based on elutriate chemistry results, sample DMMU-7 (prepared as the composite of sediment subsamples DMMU-7A through DMMU-7D) was selected for modeling Tier II Water Quality Criteria. The elutriate concentration for ammonia of 10.8 mg/L exceeded the calculated CMC of 6.50 mg/L. Other sample results did not exceed the CMC for any other contaminant.

The results of the STFATE (Tier II) modeling indicate that the dredged material from DMMU-7 and additional seven project DMMUs may be disposed of without restriction to a maximum of 13,500 cubic yards (cy) per load for hopper or cutter dredging, or 9,000 cy per load for mechanical dredging. Exhibit 4-9 is a map of the Corpus Christi New Work ODMDS with boundaries and the modeled disposal point.

Exhibit ES-1. Summary of Analytical Results for Harbor Island New Dock and Facilities

		Sediment Physical					Sediment Chemistry					Elutriate Chemistry			
Dredging Unit / Composite ID	Station / Subsample ID	Gravel	Sand	Silt	Clay	Solids	Metals, Ammonia, Cyanide, Organotins, & TPH* (mg/kg)	TOC	Pesticides & Total PCBs	PAHs	SVOCs	Metals, Ammonia, Cyanide, Organotins, & TPH*	Pesticides & Total PCBs	Total PAHs	SVOCs
		%	%	%	%	%	# of analytes > TEL or ERL	(%)	# of analytes > TEL or ERL	# of analytes > TEL or ERL	# of analytes > TEL or ERL	# of analytes > CMC or TWQS	# of analytes > CMC or TWQS	µg/L	# of analytes > CMC or TWQS
DMMU 1	**1A, 1B, 1C**	0.0	71.8 to 82.4	17.2 to 27.3	0.4 to 0.9	74.4 to 74.6	(none) TPH* (78.4, 71.8, and 75.5)	<0.0594, <0.0514, and <0.0569	(none) [A]	(none)	(none)	(none) TPH* (0.867 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 2	**1A, 1B, 1C**	0.0	59.5 to 69.6	29.7 to 33.4	0.7 to 7.1	58.0 to 67.8	(none) TPH* (74.5, 76.6, and 78.4)	0.0584, <0.0529, and <0.0598	(none) [A]	(none)	(none)	(none) TPH* (1.25 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 3	**2A, 2A Duplicate, 2B**	0.0	82.1 to 84.5	15.0 to 17.1	0.4 to 0.8	72.2 to 74.3	(none) TPH* (2608, 144.1, and 77.9)	<0.0547, <0.0517, and <0.0596	(none) [A]	DMMU-3-2A (7 > TEL and ERL)[B]	(none)	(none) TPH* (8.94 mg/L and 1.90 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 4	**2A, 2B**	0.0	63.6 and 66.7	34.2 and 30.3	2.2 and 3.0	65.1 and 69.7	(none) TPH* (83.1 and 74.6)	< 0.0567 and <0.0522	(none) [A]	(none)	(none)	(none) TPH* (1.73 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 5	**3A, 3B, 3C**	0.0	70.3 to 83.1	16.4 to 29.1	0.5 to 0.9	72.9 to 74.0	(none) TPH* (79.5, 292.4, and 71.5)	<0.0518, <0.0522, and <0.0578	(none) [A]	(none)	(none)	(none) TPH* (0.654 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 6	**3A, 3B, 3C**	0.0	66.0 to 72.6	26.4 to 32.3	1.0 to 1.7	73.1 to 75.8	(none) TPH* (73.1, 79.3, and 71.8)	<0.0569, <0.0544, and <0.0594	(none) [A]	(none)	(none)	(none) TPH* (0.649 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 7	**4A, 4B, 4C, 4D**	0.0	40.4 to 63.6	35.2 to 51.9	1.2 to 19.5	54.2 to 83.2	(none) TPH* (80.4, 69.2, 78.9, and 75.0)	1.29, <0.0528, <0.0545, and <0.0579	(none) [A]	DMMU-7-4A (Anthracene and Total LPAHs > TEL or ERL)	(none)	DMMU-7 Elutriate 1 > CMC (Ammonia) TPH* (1.58 mg/L))	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
DMMU 8	**5A, 5B, 5C, 5D**	0.0	43.3 to 70.6	27.3 to 47.3	0.9 to 9.4	71.7 to 85.5	(none) TPH* (76.3, 75.2, 73.2, and 71.7)	<0.0542, <0.0512, <0.0593, and <0.0583	(none) [A]	(none)	(none)	(none) TPH* (0.676 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
Reference	**REF Composite**	0.0	59.8	39.1	1.1	69.0	(none) TPH* (81.7)	<0.0597	(none) [A]	(none)	(none)	(none) TPH* (<0.489 mg/L)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)
ODMDS Placement Area	**ODMDS Composite**	0.0	76.3	23.3	0.4	75.6	(none) TPH* (<1.86)	<0.0548	(none) [A]	(none)	(none)	(none) TPH* (1.78 mg/l)	1 > CMC and TWQS (toxaphene MDL and LRL)[C]	(none)	(none)

[A] Although no pesticide analytes concentration exceeded the TEL or ERL (U-qualified), the MDLs and (or) LRLs for either chlordane, dieldrin, lindane, and/or toxaphene exceeded the associated TEL and (or) ERL.
[B] Refer to Section 3.0 Exhibit 3-3 for a list of the PAH analytes that exceeded the TEL or ERL in respective samples.
[C] Although toxaphene was not detected (U-qualified) in any sample, the MDLs/LRLs were greater than the CMC/TWQS.
*TPH results for sediment and elutriate samples are provided as data only. There is no applicable TEL, ERL, CMC, or TWQS for TPH.

Exhibit ES-2. Summary of Analytical Results for Harbor Island New Dock and Facilities

	Water Column Bioassays						Whole Sediment Bioassays				Bioaccumulation Bioassay		Bioaccumulation					
	Mysid 96-hr *Americamysis bahia*		Fish 96-hr *Menidia beryllina*		Planktonic Stage 48-hr *Americamysis bahia*		Amphipod *Leptocheirus plumulosus*		Mysid *Americamysis bahia*		Mollusk *Mercenaria mercenaria*	Polychaeta *Alitta virens*	Metals and TPH		PAHs		Organotins and SVOCs	
Dredging Unit / Composite ID	Significantly different from control? (yes or no)	EC_{50} (%)	Significantly different from control? (yes or no)	EC_{50} (%)	Significantly different from control? (yes or no)	EC_{50} (%)	Mean Survival (%)	Significantly different from reference? (yes or no)	Mean Survival (%)	Significantly different from reference? (yes or no)	Mean Survival (%)	Mean Survival (%)	*Mercenaria mercenaria* (# of analytes stat. sig. > reference)	*Alitta virens* (# of analytes stat. sig. > reference)	*Mercenaria mercenaria* (# of analytes stat. sig. > reference)	*Alitta virens* (# of analytes stat. sig. > reference)	*Mercenaria mercenaria* (# of analytes stat. sig. > reference)	*Alitta virens* (# of analytes stat. sig. > reference)
DMMU 1	No	>100	No	>100	No	>100	92	No	93	No	98	100	6 (Sb, As, Pb, Se, Th, TPH)	2 (Cd, Ni,)	(none)	(none)	(none)	(none)
DMMU 2	No	>100	No	>100	No	>100	89	No	90	No	99	99	6 (Sb, As, Cr, Pb, Se, Th)	3 (Cd, Ni, Th)	(none)	(none)	(none)	1 (D-n-butyl phthalate)
DMMU 3	No	>100	No	>100	No	>100	91	No	89	No	100	95	6 (Sb, As, Cr, Pb, Se, TPH)	3 (Cd, Ni, Th)	(none)	4 (Fluorene, Phenanthrene, Pyrene, Total PAHs)	(none)	(none)
DMMU 4	No	>100	No	>100	No	>100	90	No	90	No	97	97	6 (Sb, Cr, Pb, Se, TPH)	4 (Cd, Ni, Ag, Th)	(none)	(none)	(none)	1 (D-n-butyl phthalate)
DMMU 5	No	>100	No	>100	No	>100	88	No	89	No	99	100	8 (Sb, As, Cr, Cu, Pb, Se, Th, TPH)	2 (Cd, Ni)	(none)	1 (Benzo(a) pyrene)	(none)	1 (Diethyl phthalate)
DMMU 6	No	>100	No	>100	No	>100	87	No	87	No	99	93	7 (Sb As, Cr, Pb, Se, Th, TPH)	4 (Cd, Ni, Ag, Th)	(none)	(none)	(none)	(none)
DMMU 7	No	>100	No	>100	No	>100	90	No	88	No	91	89	4 (As, Pb, Se, TPH.)	2 (Cd, Ni)	7 (Acenaphthene, Fluoranthene, Phenanthrene, Pyrene, Total LPAHs, Total HPAHs, Total PAHs)	7 (Anthracene, Fluoranthene, Phenanthrene, Pyrene, Total LPAHs, Total HPAHs, Total PAHs)	(none)	1 (D-n-butyl phthalate)
DMMU 8	No	>100	No	>100	No	>100	91	No	90	No	96	95	6 (Sb As, Pb, Se, Zn, TPH)	2 (Ni, Ag)	1 (Anthracene)	(none)	(none)	1 (Bis(2-ethylhexyl) phthalate
REF (Reference)	(not applicable)						91	(not applicable)	91	(not applicable)	99	96	(not applicable)		(not applicable)		(not applicable)	
ODMDS Placement Area	(not applicable)						(not applicable)				(not applicable)		(not applicable)		(not applicable)		(not applicable)	

N/A = Not analyzed for that parameter; Stat. Sig. = Statistically significantly greater (>) the Reference.

1 INTRODUCTION

The Port of Corpus Christi Authority (PCCA) submitted an application to the U.S. Army Corps of Engineers (USACE), Galveston District under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of Marine Protection, Research and Sanctuaries Act (MPRSA) to construct a new terminal and facilities to load crude oil into marine vessels as part of the Harbor Island New Dock and Facilities Project. The project area is composed of eight dredged material management units (DMMUs), which include six land-based/terrestrial DMMUs (DMMU 1 through DMMU 6) located on Harbor Island, and two marine DMMUs (DMMU 7 and DMMU 8) that are adjoining to the south of Harbor Island and north of the Port Aransas federal ship channel.

1.1 Project Area Description

The Harbor Island New Dock and Facilities Project is located at the confluence of the Aransas Pass, Gulf Intracoastal Waterway by-pass channel (Lydia Ann Channel), and the Corpus Christi Ship Channel on the northern side of State Highway 361, between channel stations 40+00 and 70+00, on Harbor Island in Port Aransas, Nueces County, Texas (refer to Figure 1 – Dredge Area Location Map).

Excavation and dredging on Harbor Island and within the Aransas Pass Channel will be required for the purpose of creating a berth at the proposed Harbor Island Terminal that is capable of supporting two very large crude carrier (VLCC) size vessels. Initial estimates indicate that approximately 6.5 million cubic yards (cy) of dredge material will need to be removed and relocated from within the approximate 64.80-acre dredge footprint for disposal at the New Work ocean dredged material disposal site (ODMDS).

The proposed dredge prism would be dredged to -54 feet mean lower low water (MLLW), plus 4 feet of advanced maintenance and a 2 feet overdredge to reach the required project depth of -60 feet MLLW. Basin corners and edges would exhibit a 3 to 1 slope.

This project area description was approved by the U.S. Environmental Protection Agency (EPA) and the USACE in PCCA's Sampling and Analysis Plan (SAP), dated April 2021.

1.2 Dredging History

As stated in the Site Management and Monitoring Plan (SMMP) prepared by the EPA and USACE in 2018 for the Corpus Christi Maintenance and New Work ODMDSs, *"the ODMDSs were approved in 1989 for the placement of dredged material from the U.S. Navy Homeport Project in Ingleside, Texas. Upon approval, the original designation for the Corpus Christi New Work ODMDS site was Homeport Project, Port Aransas, Texas ODMDS; however, the Homeport project was never implemented and thus the site was not utilized.*

In a Final Rule published in the Federal Register on August 2, 2014, the USEPA modified the period of use and use restriction for the ODMDS to change the use of the site to include suitable dredged material from the greater Texas vicinity over an indefinite period of time. The modification also changed the name to Corpus Christi New Work ODMDS.

On September 15, 2015, the EPA modified Title 40 of the Code of Federal Regulations (CFR), Part 228 to allow other entities besides the USACE to seek permit approval by USEPA to dispose of dredged material into ocean waters pursuant to the Marine Protection Research and Sanctuaries Act (Ocean Dumping Regulations). It is under this regulation that the PCCA is requesting the new work material dredged from the Harbor Island New Dock and Facilities dredge footprint be approved for disposal at the Corpus Christi New Work ODMDS."

A detailed history related to Harbor Island is provided in the EPA/USACE-approved PCCA SAP, dated April 2021, in Appendix A.

1.3 Description of the Testing Approach

1.3.1 Evaluation of Dredged Material for Disposal

MPRSA Section 103 requires that proposed operations involving the transportation and discharge of dredged material into ocean waters be evaluated to determine the potential environmental impact of such activities. In addition to Tier I and Tier II requirements, Tier III toxicity and bioaccumulation testing are required under MPRSA Section 103 to determine the suitability of the dredged material for ocean disposal. The proposed dumping must be evaluated using criteria published by EPA in Title 40 CFR, Parts 220-228. Specific testing methods are described in the Evaluation of Dredged Material Proposed for Ocean Disposal, Testing Manual (EPA and USACE 1991, referred to here as the 'Green Book') and the Ocean Dredged Material Disposal Program, Regional Implementation Agreement for Testing and Reporting Requirements for Ocean Disposal of Dredged Material off the Louisiana and Texas Coasts under Section 103 of the Marine Protection, Research and Sanctuaries Act (EPA and USACE 2003, referred to herein as the 'RIA'). These testing manuals provide guidance to support the tiered testing procedure for evaluating compliance with the LPC as defined by the ocean dumping regulations. The procedure includes levels of increasing investigative intensity that provide information to make ocean disposal decisions and is comprehensive enough to enable sound decision-making without unnecessary expenditure of time and resources.

1.3.2 Objectives and Deliverables

The objective of this MPRSA Section 103 report is to evaluate the suitability of dredged material from eight DMMUs from the Harbor Island New Dock and Facilities project area for ocean disposal by addressing the transport and disposal of the material at the New Work ODMDS. Terracon Consultants, Inc. (Terracon) was contracted to provide oversight of the sediment collection activities, conduct required analyses, and present the results in a report. The field effort, laboratory methods, and this report are in accordance with the SAP dated April 2021, including the SAP Errata Sheet, dated January 10, 2022, and subsequent email correspondences dated January 28, 2022, January 31, 2022, February 3, 2022, February 14, 2022, December 14, 2022, January 17, 2023, January 24, 2023, and February 3, 2023, as presented in Appendix A.

Deliverables associated with this project include:

- Daily Quality Control Reports
- Preliminary sediment physical and chemical data for tissue testing recommendations
- Laboratory electronic data deliverables and report
- Section 103 sediment testing report and supporting documentation
- A Chemical Quality Assurance Report (CQAR)

Terracon coordinated with the USACE and EPA to develop sampling and analysis schemes, schedules, and deliverables. This report summarizes the results of the physical, chemical, and toxicological analyses of sediment, elutriate, water, and tissue samples of the proposed dredge material collected from the project area. Exhibits 1-1 and 1-2 list the principal data users and subcontractors associated with this testing report and their respective areas of responsibility.

Exhibit 1-1. Principal Data Users and Decision-Makers Associated with This Project

Agency or Company	Area(s) of Responsibility
U.S. Army Corps of Engineers, Galveston District (Galveston, Texas)	Permit and maintain the federal channels with the dredge material to be disposed of at the New Work ODMDS
U.S. Environmental Protection Agency, Region 6, (Dallas, Texas)	Give concurrence to environmental requirements of dredged sediment for approval of offshore disposal per the Green Book and the RIA
Port of Corpus Christi Authority (Corpus Christi, Texas)	Manages port terminals and determines the need for maintenance and new work dredging and develops long-term dredged material management strategies

Exhibit 1-2. Prime and Subcontractors and Responsibilities Associated with This Report

Company, Location, Website	Area(s) of Responsibility
Terracon Consultants, Inc. (Houston, Texas) www.terracon.com	Primary contractor, project management team, oversight of field operations including health and safety, drilling service provider, coordinate with labs, and prepare project deliverables
ANAMAR Environmental Consulting, Inc. (Gainesville, Florida) www.anamarinc.com	Provide field support for sediment core sample collection, coordinate with labs, data Quality Assurance/Quality Control (QA/QC), and prepare portions of project deliverables
Laredo Offshore Services (Galveston, Texas) http://www.laredogroup.org	Provide sampling vessel (*L/B DuLarge*), captain and crew
Envirotech Drilling Services (Houston, Texas) http://www.envirotech-services.com	Provide CME 55 drill rig and crew for DMMU 1 through DMMU 6
Cascade Drilling L.P. (Weatherford, Texas) http://www.cascade-env.com	Provide sonic drill rig and crew for DMMU 7 and DMMU 8
Ryan Marine Services (Galveston, Texas) http://www.ryanmarine.com	Provide sampling vessel (M*/V Hercules*), captain, and crew
North Water District Laboratory Services, Inc. (NWDLS) (The Woodlands, Texas) http://www.nwdls.com	Laboratory sample preparation and chemical analysis of sediment, elutriate and water and tissues; toxicology analysis, sample holding, and archiving
A&B Labs (Houston, Texas) www.ablabs.com	Laboratory sample preparation and chemical analysis of TOC and TPH in sediments, elutriate, and water
ALS Environmental (Kelso, Washington) www.caslab.com/Kelso-Laboratory	Laboratory sample preparation and chemical analysis of total solids, total cyanide, and organotins in sediments, total cyanide and organotins in elutriate and water
Eurofins (Stafford, Texas) www.eurofinsus.com	Laboratory for chemical analysis of TPH and organotins in tissues
Taylor Engineering Coastal & Marine Geosciences Laboratory (Jacksonville, Florida) www.taylorengineering.com	Laboratory preparation and physical analysis of sediment; sample holding and archiving

2 MATERIALS AND METHODS

2.1 Project Design and Rationale

In 2019, the PCCA conducted pre-dredge characterization sampling associated with the Harbor Island New Dock and Facilities Project; however, bioassay testing was not completed during that sampling event. Therefore, because the proposed new work dredged material is being considered for ocean disposal, a full Tier II and Tier III evaluation is required. The prior results of the chemistry analysis in 2019 would subsequently be used for reference purposes only.

Thus, in accordance with the EPA/USACE-approved PCCA SAP, dated April 2021, sediment and marine water samples were collected from eight DMMUs spread across five areas within the Harbor Island New Dock and Facilities Project footprint as depicted on Figure 2.1 for physical, chemical, and toxicological/bioaccumulation analysis, to evaluate the suitability of the proposed dredged material for disposal in the New Work ODMDS. Samples obtained from the various DMMUs within the Harbor Island New Dock and Facilities dredge footprint, collected from both terrestrial and submerged marine environments, were selected by the PCCA and approved by the EPA/USACE in an effort to be spatially representative of the estimated 6.5 million cy of material to be excavated and to adequately address the vertical component of the proposed dredging activities. Each land-based DMMU was characterized by two to three subsamples while each marine DMMU was characterized by four subsamples. A total of 24 subsamples were collected from the various DMMUs throughout the dredge footprint while eight composite samples were prepared from the subsamples collected as outlined below:

- DMMU 1 is comprised of subsample locations 1A – 1C and characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 2 is comprised of subsample locations 1A – 1C and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 3 is comprised of subsample locations 2A – 2B and characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 4 is comprised of subsample locations 2A – 2B and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 5 is comprised of subsample locations 3A – 3C and characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 6 is comprised of subsample locations 3A – 3C and characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 7 is comprised of subsample locations 4A – 4D and characterizes the shallow marine sediment from existing depths to -60 ft. MLLW.
- DMMU 8 is comprised of subsample location 5A – 5D and characterizes marine sediment from existing depths to -60 ft. MLLW.

Coordinates of the sampled locations, project depths, and sample composite IDs are provided in Tables 1A through 1C and presented in Exhibit 2-1. The sample locations are depicted in Figures 2.1 through 2.3.

Reference sediment was a composite of three samples collected in the Reference Area as outlined in the SAP. A composite of three sediment samples was also collected from the New Work ODMDS for physical and chemical analysis as outlined in the SAP.

Summaries of field sampling materials and methods, analytes of interest, and bioassay test species are provided in Exhibits 2-2 and 2-3, respectively.

Exhibit 2-1. Dredged Material Management Units, Sample IDs, Bottom Elevations, Composite IDs, and Analyses

Dredged Material Management Unit	Sample ID	Sediment Elevation (ft, MLLW) or Sampling Depth (ft)	Project Depth Including Allowable Overdepth (ft, MLLW)	Discrete ID and Analyses (see Exhibit 2-3 for more information)	Composite ID and Analyses (see Exhibit 2-3 for more information)
DMMU 1 (Subsurface Terrestrial)	DMMU-1-1A	-0 to -30 ft.	-30 ft.	**DMMU 1-1A** Physical and Sediment Chemistry	**DMMU-1** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-1-1B	-0 to -30 ft.	-30 ft.	**DMMU 1-1B** Physical and Sediment Chemistry	
	DMMU-1-1C	-0 to -30 ft.	-30 ft.	**DMMU 1-1C** Physical and Sediment Chemistry	
DMMU 2 (Subsurface Terrestrial)	DMMU-2-1A	-30 to -60 ft.	-60 ft.	**DMMU 2-1A** Physical and Sediment Chemistry	**DMMU-2** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-2-1B	-30 to -60 ft.	-60 ft.	**DMMU 2-1B** Physical and Sediment Chemistry	
	DMMU-2-1C	-30 to -60 ft.	-60 ft.	**DMMU 2-1C** Physical and Sediment Chemistry	
DMMU 3 (Subsurface Terrestrial)	DMMU-3-2A and 2A Duplicate	-0 to -30 ft.	-30 ft.	**DMMU 3-2A and 2A Duplicate** Physical and Sediment Chemistry	**DMMU-3** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-3-2B	-0 to -30 ft.	-30 ft.	**DMMU 3-2B** Physical and Sediment Chemistry	

Exhibit 2-2. Dredged Material Management Units, Sample IDs, Bottom Elevations, Composite IDs, and Analyses

Dredged Material Management Unit	Sample ID	Sediment Elevation (ft, MLLW) or Sampling Depth (ft)	Project Depth Including Allowable Overdepth (ft, MLLW)	Composite ID and Analyses (see Exhibit 2-3 for more information)	Composite ID and Analyses (see Exhibit 2-3 for more information)
DMMU 4 (Subsurface Terrestrial)	DMMU-4-2A	-30 to -60 ft.	-60 ft.	**DMMU 4-2A** Physical and Sediment Chemistry	**DMMU-4** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-4-2B	-30 to -60 ft.	-60 ft.	**DMMU 4-2B** Physical and Sediment Chemistry	
DMMU 5 (Subsurface Terrestrial)	DMMU-5-3A	-0 to -30 ft.	-30 ft.	**DMMU 5-3A** Physical and Sediment Chemistry	**DMMU-5** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-5-3B	-0 to -30 ft.	-30 ft.	**DMMU 5-3B** Physical and Sediment Chemistry	
	DMMU-5-3C	-0 to -30 ft.	-30 ft.	**DMMU 5-3C** Physical and Sediment Chemistry	
DMMU 6 (Subsurface Terrestrial)	DMMU-6-3A	-30 to -60 ft.	-60 ft.	**DMMU 6-3A** Physical and Sediment Chemistry	**DMMU-06** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-6-3B	-30 to -60 ft.	-60 ft.	**DMMU 6-3B** Physical and Sediment Chemistry	
	DMMU-6-3C	-30 to -60 ft.	-60 ft.	**DMMU 6-3C** Physical and Sediment Chemistry	

Exhibit 2-3. Dredged Material Management Units, Sample IDs, Bottom Elevations, Composite IDs, and Analyses

Dredged Material Management Unit	Sample ID	Sediment Elevation (ft, MLLW) or Sampling Depth (ft)	Project Depth Including Allowable Overdepth (ft, MLLW)	Composite ID and Analyses (see Exhibit 2-3 for more information)	Composite ID and Analyses (see Exhibit 2-3 for more information)
DMMU 7 (Marine Area)	DMMU-7-4A	-12.1 ft., MLLW*	-60 ft., MLLW	**DMMU 7-4A** Physical and Sediment Chemistry	**DMMU-7** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-7-4B	-13.1 ft., MLLW*	-60 ft., MLLW	**DMMU 7-4B** Physical and Sediment Chemistry	
	DMMU-7-4C	-44.0 ft., MLLW*	-60 ft., MLLW	**DMMU 7-4C** Physical and Sediment Chemistry	
	DMMU-7-4D	-15.5 ft., MLLW*	-60 ft., MLLW	**DMMU 7-4D** Physical and Sediment Chemistry	
DMMU 8 (Marine Area)	DMMU-8-5A	-41.3 ft., MLLW*	-60 ft., MLLW	**DMMU 8-5A** Physical and Sediment Chemistry	**DMMU-8** elutriate chemistry, toxicological/bioaccumulation bioassays, tissue chemistry
	DMMU-8-5B	-51.4 ft., MLLW*	-60 ft., MLLW	**DMMU 8-5B** Physical and Sediment Chemistry	
	DMMU-8-5C	-44.4 ft., MLLW*	-60 ft., MLLW	**DMMU 8-5C** Physical and Sediment Chemistry	
	DMMU-8-5D	-60.3 to -66.8 ft., MLLW* Grab Samples	-60 ft., MLLW	**DMMU 8-5D** Physical and Sediment Chemistry	

* Feet mean lower low water were calculated from water depth (measured by fathometer and lead line) and tide height using real-time data

Exhibit 2-4. Dredged Material Management Units, Sample IDs, Bottom Elevations, Composite IDs, and Analyses

Dredged Material Management Unit	Sample ID	Sediment Elevation (ft, MLLW) or Sampling Depth (ft)	Project Depth Including Allowable Overdepth (ft, MLLW)	Composite ID and Analyses (see Exhibit 2-3 for more information)	Composite ID and Analyses (see Exhibit 2-3 for more information)
ODMDS (New Work ODMDS)	ODMDS-A	-44.3 ft., MLLW*	Not Applicable	Not Applicable	**ODMDS** physical and sediment chemistry
	ODMDS-B	-44.6 ft., MLLW*			
	ODMDS-C	-44.4 ft., MLLW*			
Reference (HI-REF)	REF A	-44.2 ft., MLLW*	Not Applicable	Not Applicable	**REFERENCE** physical, sediment chemistry, solid phase/bioaccumulation bioassays, tissue chemistry
	REF B	-44.2 ft., MLLW*			
	REF C	-44.3 ft., MLLW*			

* Feet mean lower low water were calculated from water depth (measured by fathometer and lead line) and tide height using real-time data

Exhibit 2-5. Summary of Field Sampling Materials and Methods

FIELD SAMPLE COLLECTION:

- 24 subsamples were collected from the 8 DMMUs within the dredge footprint (DMMU 1 through DMMU 8) for physical and sediment chemistry.
- 1 duplicate sediment sample was collected at DMMU-3-2A for physical and sediment chemistry.
- 8 project sediment composites (one composite per DMMU composed of 2 to 4 subsamples each [N = 24]), 1 reference composite (composed of 3 samples), and 1 ODMDS composite (composed of 3 samples).
- 5 water samples (Stations DMMU-7-4A, DMMU-7-4B, DMMU-8-5B, Reference, and New Work ODMDS) for water chemistry.
- 9 elutriate preparation (1 per DMMU and 1 duplicate).
- 9 toxicology testing (1 per DMMU and Reference).

SAMPLING GEAR:

- Land-Based Borings
  - Sediment samples DMMU-1-1A through DMMU-6-3C (16 subsamples total) were collected from borings advanced by a Monitor Well Driller licensed in the State of Texas utilizing CME drill rig equipped with hollow-stem and solid flight augers.
- Marine Borings
  - Sediment samples DMMU-7 (4A through 4D) and DMMU-8 (5A through 5C) were collected from borings advanced by a Monitor Well Driller licensed in the State of Texas utilizing a sonic drill rig. The drill rig was mounted on a lift boat (the *DuLarge* Class 170 liftboat).
- Grab Samples
  - Sediment at DMMU-8-5D was collected utilizing a double van Veen™ sampler due to the depth of water (62 feet).
- Reference and ODMDS Sample
  - All offshore Reference and ODMDS grab samples were collected utilizing a double van Veen™ grab sampler.
- Site marine water samples were collected with a stainless-steel submersible pump in laboratory supplied glassware and/or clean food grade 5-gallon buckets

VESSELS:

- The *DuLarge* Class 170 liftboat (sediment from DMMU 7 and DMMU 8 [except 5D])
- Hercules crew boat (sediment from DMMU-8-5D, Reference, and ODMDS)
- Gulf Star crew boat (water samples from DMMU 7 and DMMU 8)

PRESERVATION:

- Sediment chemistry samples were kept at or below 4°C
- Marine water samples in various containers, with or without stabilizing agents, were kept at or below 4°C
- Holding-time requirements were analyte-specific and test-specific

IN-SITU WATER COLUMN MEASUREMENTS AT SITE WATER SAMPLING STATIONS:

- Horiba multiparameter meter

Exhibit 2-6. Analytical Requirements for Physical, Chemical, and Toxicological Testing

SEDIMENT GRAIN SIZE DISTRIBUTION AND PERCENT TOTAL SOLIDS ANALYSES

- Individual subsamples from eight project DMMUs
- Reference composite
- ODMDS composite

SEDIMENT CHEMICAL ANALYSES
(project, Reference, and ODMDS composites):

- Ammonia (as nitrogen)
- Cyanide
- 13 metals, plus tri- and hexavalent chromium
- 41 SVOCs
- 21 organochlorine pesticides (includes derivatives)
- 15 PAHs, plus total PAH calculations
- Total PCBs
- TOC
- TPH
- Organotins

ELUTRIATE AND WATER ANALYSES
(water samples and project elutriates):

- Ammonia (as nitrogen)
- Cyanide
- 13 metals, plus tri- and hexavalent chromium
- 41 SVOCs
- 21 organochlorine pesticides (includes derivatives)
- 15 PAHs, plus total PAH calculations
- Total PCBs
- TOC
- TPH
- Organotins

BIOASSAY AND BIOACCUMULATION TESTS (eight project composites and the Reference):

Water Column (Suspended Particulate Phase) 48-hour and 96-hour tests using two species:

- Mysid crustacean: *Americamysis bahia* (opossum shrimp)
  - Juvenile life stage (1 to 5 days old)
  - Planktonic life stage (<1 day old)
- Atherinoid fish: *Menidia beryllina* (inland silverside)

Whole Sediment (Solid Phase) Bioassay 10-day toxicity tests using two species:

- Amphipod crustacean: *Leptocheirus plumulosus* (burrower amphipod)
- Mysid crustacean: *Americamysis bahia* (opossum shrimp)

Whole Sediment Bioaccumulation Potential 28-day exposure tests using two species:

- Bivalve mollusk: *Mercenaria mercenaria* (bent-nose clam)
- Infaunal polychaete worm: *Alitta virens* (formerly known as *Neanthes virens* or *Nereis virens*) (sand worm). Referred to as *Nereis virens* in the NWDLS toxicology report.

TISSUE CHEMICAL ANALYSES:

Based on results of sediment chemical analyses, tissues were analyzed for total solids (all samples); metals (all samples); monobutyltin in DMMU-1 only; TPH (all samples); PAHs in DMMU 1, DMMU 3, DMMU-4, DMMU-5, DMMU 7, and DMMU 8; and selected SVOC compounds (all samples). The Reference and pretest tissue samples were analyzed for all parameters recommended above. Tissue recommendations are discussed in Subsection 2.5.

2.2 Sample Collection Techniques

2.2.1 Field Effort

Field sampling as discussed in this report took place between January 16 and January 27, 2023. However, please note than an initial sampling event for the Harbor Island New Dock and Facilities Project, which included sampling of DMMUs 1 through DMMU 8, the Reference Area, and the New Work ODMDS, took place between February 1, 2022 and March 3, 2022.

Toxicity studies and bioaccumulation studies in the USACE Galveston and New Orleans Districts are generally conducted in accordance with the Regional Implementation Agreement (RIA, EPA/USACE, 2003), which "provides guidance for applicants, permittees, and USACE and EPA staff working on ocean dredge material disposal projects in Louisiana and Texas." RIA, Preface. For biological tests of dredge material, RIA Appendix B indicates that holding times, the time between sample collection and test initiation, should not exceed eight weeks or 56 days.

During the initial sampling event conducted in 2022, Terracon performed sediment and water sampling on behalf of the PCCA to establish that material from certain dredging units meets ocean disposal criteria in 40 CFR Parts 220-229. Samples were sent to the North Water District Laboratory Services, Inc. (NWDLS) in the Woodlands, Texas. Due to NWDLS starting the holding time upon the composite date of the sediment material, rather than the time of sample collection, recommended holding times per the RIA were exceeded for eight samples collected for solid phase (SP) bioassay testing and seven samples collected for suspended particulate phase (SPP) bioassay testing. Test initiation for sediment samples collected for SP bioassay testing from DMMU 1 through DMMU 8 commenced between 10 to 15 days beyond the 56 days recommended by the RIA. Test initiation for sediment samples collected for SPP bioassay testing from DMMU 1 through DMMU 7 commenced between one to five days beyond the 56 days recommended by the RIA. Test initiation for sediment samples collected from the Reference Area commenced within the recommended 56-day period.

Due to the test initiation for sediment samples collected for SP and SPP bioassay testing from the various DMMUs beyond the 56 days recommended in the RIA, Terracon mobilized back to the site in January 2023 to conduct a complete resampling of the Harbor Island New Dock and Facilities Project per approval and under the directive of the EPA and USACE. The results of the January 2023 resampling event are summarized in the following sections of this report and were conducted as outlined in the EPA/USACE-approved PCCA SAP, dated April 2021, including the SAP Errata Sheet, dated January 10, 2022, and subsequent email correspondences dated January 28, 2022, January 31, 2022, February 3, 2022, February 14, 2022, December 14, 2022, January 17, 2023, January 24, 2023, and February 3, 2023 (presented in Appendix A).

Terracon and ANAMAR personnel were present throughout the field activities to direct the work, log the borings and collect samples. As part of the scope of work, 16 land-based borings plus one duplicate, and seven marine borings were advanced throughout the proposed dredge footprint, plus one grab sediment sample at DMMU-8-5D. The samples were collected at representative locations within DMMU 1 through DMMU 8 as depicted on Figure 2.1 for the collection of marine water and sediment samples. Sampling locations were evenly distributed across the proposed dredge footprint in an effort to be spatially representative of the estimated cubic yards of material to be excavated and to adequately address the vertical extent of the proposed dredging activities.

As outlined in the SAP, a total of 24 subsamples were collected from the various DMMUs advanced throughout the dredge footprint for physical and chemical laboratory analysis while eight composite samples were prepared at the analytical laboratory from the subsamples collected for elutriate preparation and toxicological/bioaccumulation analysis. In addition to the project samples, three sediment grab samples were collected using a double van Veen™ from three stations within the New Work ODMDS, and from three stations within the offshore Reference Area to the north of the Entrance Channel. The Reference composite underwent physical, sediment chemistry, and toxicological/bioaccumulation analysis. The New Work ODMDS composite sample underwent physical and sediment chemistry analysis.

Site water for elutriate preparation of the terrestrial composite samples from DMMUs 1 through 4 was collected from station DMMU-7-4A. Site water for elutriate preparation of the terrestrial composite samples from DMMUs 5 and 6 was collected from station DMMU-7-4B. Site water for elutriate preparation of the marine composite samples from DMMUs 7 and 8 was collected from stations DMMU-7-4B and DMMU-8-5B, respectively.

Figure 2.1 shows the location of the borings in relation to the pertinent structures and dredging prism. Details regarding the various daily sampling activities are presented on the Daily Log Sheets and/or Daily Quality Control Reports in Appendix B. Photographs taken during the field activities are presented in Appendix I.

2.2.2 Site Positioning

Sampling locations within each DMMU were selected by the PCCA and approved by the EPA/USACE based on previous terrestrial and marine soil boring investigations conducted in 2019. The distribution and number of cores collected at substation locations provided adequate representation for each DMMU. The material collected from the stations represents dredged material to be disposed of at the New Work ODMDS. The locations of the three site water sampling stations were chosen to best represent the hydrochemical conditions within each DMMU. Water for chemical analysis also was collected from the Reference Area and the New Work ODMDS.

Target coordinates were uploaded to a Trimble® Global Positioning System (GPS – Geoexplorer® 6000 Series, Geo XH 3.5 H edition, model #88951) unit with an accuracy of approximately ± 3 feet for each boring location was utilized to ensure that the samples were collected as close as possible to the boring locations provided in the SAP. Uploaded coordinates in the GPS unit were reviewed and compared with the original coordinates for verification prior to field sampling.

All sediment and water samples were taken within 100 feet of the target station and conformed to the Station Positioning paragraph in the Errata dated January 10, 2022, except for borings at DMMU-7-4A, DMMU-7-4C and DMMU-8-5D, as well as site water sample DMMU-7-4A. These locations were subsequently approved by the USACE and EPA in emails dated February 3, 2022, February 14, 2022, and January 24, 2023.

- *Boring DMMU-7-4A* – The water depth at the target location was approximately 4 feet. Due to the lift boat's (the *DuLarge* Class 170 liftboat) minimal draft depth of approximately 10 feet, the boring was moved 275 feet to the southeast.
    - *Water Sample HI-DMMU-7-4A-SW* – Due to the relocation of boring DMMU-7-4A, the collection point for the associated water sample was also relocated to be representative of the revised boring location. The location of the marine water sample

was approximately 240 feet southwest of the original coordinates provided in the SAP, but well within the boundaries of DMMU 7.

- Marine water samples collected as part of the assessment were considered a snapshot in time, and levels of any chemical of concern detected in marine water could vary at any point in time due to the continual tidal movement of water through the channel. During collection of marine water sample HI-DMMU-7-4A-SW for elutriate and bioassay analysis, there was a low to mid-outgoing tide and there was a strong current throughout the dredge prism. Therefore, water sample HI-DMMU-7-4A-SW collected in the vicinity of boring DMMU-7-A passed through both DMMU 7 and DMMU 8 at the time of collection and is representative of water flowing throughout the dredge prism at any one point in time.

- *Boring DMMU-7-4C* – Shallow water depths and rock/rubble/concrete debris were observed at the target location. Due to the lift boat's minimal draft depth of approximately 10 feet, the debris and rubble represented a safety hazard for the lift boat and operations. Therefore, the boring was relocated 375 feet to the west. The location of the boring was also affected by strong currents encountered by the lift boat while maneuvering into position and prior to finding the bottom while jacking up the lift boat.
- *Boring DMMU-8-5D* – Due to the remnants of the former structures off the shoreline of Harbor Island and water depths greater than the project depth of -60 feet MLLW, surface grab samples were approved by the EPA per email received January 24, 2023. Grab samples were collected using a double van Veen™.

Sampled locations are depicted in Figures 2.1 through 2.3. Tables 1A through 1C and Table 2 contain spatial and temporal data along with field observations taken during sediment grab and site water sampling, respectively.

2.2.3 Sediment Sampling with Drill Rig

Land-Based Borings
Sediment samples DMMU-1-1A through DMMU-6-3C (16 subsamples total) were collected from borings advanced by a Monitor Well Driller licensed in the State of Texas utilizing CME drill rig equipped with hollow-stem augers (HSA) to a depth of 60 feet MLLW (during drilling activities, the ground surface at each land-based boring was assumed to be +10 feet MLLW). A Trimble® Global Positioning System (GPS - Geoexplorer® 6000 Series, Geo XH 3.5 H edition, model #88951) unit with an accuracy of approximately ± 3 feet loaded with the coordinates for each boring location was utilized to ensure that the samples were collected as close as possible to the boring locations provided in the SAP.

During drilling activities, saturated flowing sands within the land-based borings were encountered at depths between -15 and -20 feet MLLW which resulted in reduced sample recovery and sample barrels becoming trapped within the augers due to the upwelling of flowing sands. Therefore, sediment from the land-based borings was collected utilizing the following approach approved by the USACE and EPA via email correspondence dated February 3, 2022:

- The top 10 feet of sediment under the jurisdiction of the Railroad Commission of Texas (RRC) was screened off with 6 $^{5}/_{8}$-inch diameter decontaminated HSAs.
- 6-inch solid flight augers were subsequently used to drill within the 6 $^{5}/_{8}$-inch HSA collecting sediment in the form of cuttings from the 0 to -30 feet MLLW sampling interval.

- Upon completion of sampling, the 6 $^{5}/_{8}$-inch HSAs were decontaminated. Following decontamination, the 6 $^{5}/_{8}$-inch HSAs were advanced to a depth of -30 feet MLLW to screen off the 0 to -30 feet MLLW sample interval (DMMU) as well as the 10 feet of sediment under the jurisdiction of the RRC.
- Once set at a depth of 40 feet below ground surface, decontaminated 6-inch solid flight augers were advanced within the 6 $^{5}/_{8}$-inch HSAs to collect sediment in the form of cuttings from the -30 to -60 feet MLLW sampling interval (DMMU).

Note that 6-milliliter plastic was placed on the ground surrounding the HSAs to prevent sediment at each boring location from contacting surficial soils prior to sample collection. Upon collection, the sediment cores were examined in the field to document lithology, color, moisture content, and visual or olfactory evidence of impact. In addition, the samples were screened with an organic vapor monitor (OVM) equipped with a photoionization detector (PID) calibrated to 100 parts per million (ppm) isobutylene standard to detect the presence of volatile organic vapors. GPS coordinates for each boring location are provided in Table 1A.

Marine Borings

Sediment samples DMMU-7-4A through DMMU-7-4D and DMMU-8-5A through DMMU-8-5C were collected from borings advanced by a Monitor Well Driller licensed in the State of Texas through the top of the mudline utilizing a sonic drill rig to depths ranging from -60.0 to -61.4 feet MLLW. The drill rig was mounted on a lift boat (the *DuLarge* Class 170 liftboat). A Trimble® Global Positioning System (GPS - Geoexplorer® 6000 Series, Geo XH 3.5 H edition, model #88951) unit with an accuracy of approximately ± 3 feet loaded with the coordinates for each boring location was utilized to ensure that the samples were collected as close as possible to the boring locations provided in the SAP. Prior to commencement of drilling, a water level meter equipped with a lead shackle was slowly lowered from the water surface to the mudline to determine boring depths, which were subsequently adjusted to account for tidal fluctuations observed at the time of drilling (refer to Table 1B for boring depths in relation to tide levels at time of drilling).

Sediment cores were collected continuously from the surface to the maximum terminal depths. Ten-foot threaded core barrels (4-inch and 6-inch diameter) were used and placed inside an 8-inch diameter steel casing that extended from the surface to the mudline. The steel casing was installed prior to commencement of drilling activities.

- Note that due to the depth of sediment at boring DMMU-8-5D, -60.2 feet below the water surface (or greater in the vicinity), sediment cores were not collected, and surficial grab samples were collected using a double van Veen™ grab sampler. The USACE and EPA approved grab sampling at DMMU-8-5D via email correspondence dated January 24, 2023. The sediment cores were examined in the field to document lithology, color, moisture content, and visual or olfactory evidence of impact. GPS coordinates for each boring location are provided in Tables 1A and 1B.

Sediment Sampling Procedures

For land-based borings, the top 10 feet of material was discarded since it falls under the jurisdiction of the RRC, and proposed development plans call for the soil to be reused on-site to bring existing low-lying areas to grade.

- Approximately 5-gallons of sediment placed within Teflon® bags were collected from each land-based DMMU subsample for physical and chemistry analyses. At each DMMU

boring location, the selected sample intervals (0 to -30 feet MLLW and/or -30 to -60 feet MLLW) represented one individual sediment core sample, respectively.

- For each DMMU (1 through 6), approximately 35-gallons of sediment total was collected from the various subsamples within the DMMU for elutriate preparation and toxicological/bioaccumulation analysis (i.e., DMMU1-1A [0 to -30'] through DMMU1-1C [0 to -30'] to form composite sample DMMU 1).

For the marine-based stations, representative core sediment samples were collected from the existing mudline to at least the project depth of -60 feet MLLW at each station location except DMMU-8-5D.

- Sediments from each substation (between 15 and 25 gallons) and approximately 3-gallons from DMMU-8-5D (grab sample) was placed within Teflon® bags and submitted to the lab for homogenization and collection of discrete physical parameters and sediment for chemistry analysis before compositing the subsamples within each DMMU for elutriate preparation and toxicological/bioaccumulation analysis.

When the required volume of sediment was collected, a photograph of the material was taken and notes on the sample's appearance and characteristics were recorded on a project-specific field log. Immediately after collection, food grade 5-gallon buckets containing the various sediment samples were labeled and transferred to a refrigerated trailer stored on the Martin Energy property on Harbor Island. Note that for marine borings, the sediment samples were stored in a refrigerated trailer onboard the vessel prior to being transferred to a refrigerated trailer stored on the Martin Energy property upon return to the dock. The samples were monitored for preservation at or below 4°C. Samples were received by the laboratory courier on an as needed basis, typically within one or two days of sample collection and transported back to the laboratory in a refrigerated trailer at or below 4°C. Tables 1A and 1B and the field logs in Appendix B provide additional information on the sediment sampling process.

Sediment Elutriate and Bioassay Sampling Procedures
As stated above, approximately 35 gallons of sediment were collected from the various subsamples that make up each specific DMMU for the purposes of elutriate analysis and bioassay testing. Upon receipt of the various 5-gallon buckets of sediment, the NWDLS composited the various station subsamples to create one composite per DMMU for elutriate preparation and toxicological/bioaccumulation analysis (i.e., DMMU1-1A [0 to -30'] through DMMU1-1C [0 to -30'] to form composite sample DMMU 1. The composite sediment samples were later mixed with marine water collected from within the dredge prism at a 4 to 1 ratio prior to undergoing the specified elutriate analyses. Tables 1A and 1B and the field logs in Appendix B provide additional information on the sediment sampling process.

2.2.4 Sediment Sampling with Double van Veen™

Offshore Reference grab samples were collected aboard the sampling vessel *Hercules* using a double van Veen™ grab sampler that was lowered and raised using a cable winch with a pivoting davit on the starboard side of the vessel. One person operated the hoist, another moved/positioned/secured the davit during deployment and retrieving, and two additional team members guided the sampler into a decontaminated stainless-steel bin on the vessel. Excess water was allowed to drain from the sampler prior to placing sample material in the bin. When the required volume of sediment (~35 gallons) was collected, a photograph of the material was taken and notes on the sample's appearance and characteristics were recorded on a project-

specific field log. Using decontaminated stainless-steel utensils and disposable nitrile gloves, the sample was placed in pre-cleaned, labeled Teflon® bags and stored in a refrigerated trailer onboard the vessel. Upon return to Martin Energy dock, the samples were transferred to a refrigerated trailer stored on the Martin Energy property. The samples were monitored for preservation at or below 4°C. Samples were received by the laboratory courier the next day and transported back to the laboratory in a refrigerated trailer at or below 4°C. Table 1C and the field logs in Appendix B provide additional information on grab sampling.

2.2.5 Water Column Measurements and Sampling

Three marine water samples were collected aboard the *Gulf Star* sampling vessel from DMMU 7 and DMMU 8 within the dredge prism at various boring locations for analyses. Marine water samples were also collected on the *Hercules* from the Reference location and New Work ODMDS. A Trimble® GPS unit (Geoexplorer® 6000 Series, Geo XH 3.5 H edition, model #88951) with an accuracy of approximately ± 3 feet loaded with the coordinates for each boring location was utilized to ensure that the samples were collected as close as possible to the boring locations provided in the SAP.

- *Boring DMMU-7-4A* – Marine water sample HI-DMMU-7-4A-SW was collected for elutriate, bioassay and water chemistry associated with DMMUs 1 through 4.
- *Boring DMMU-7-4B* – Marine water sample HI-DMMU-7-4B-SW was collected for elutriate, bioassay and water chemistry associated with DMMUs 5 through 7.
- *Boring DMMU-8-5B* – Marine water sample HI-DMMU-8-5B-SW was collected for elutriate, bioassay and water chemistry associated with DMMU 8.
- *REF-B* – Marine water sample HI-REF-B-SW was collected for bioassay and water chemistry.
- *ODMDS-B* – Marine water sample HI-ODMDS-B-SW was collected for sediment and water chemistry.

Prior to sampling, a water level meter equipped with a lead shackle was slowly lowered over the side of the lift boat and/or crew boat from the water surface to the mudline to determine the depth of the water column. A stainless-steel monsoon pump equipped with phthalate-free hoses was then lowered, in tandem with the water level meter, by personnel wearing clean, disposable nitrile gloves to a depth determined to be in the middle of the water column while avoiding contact with the boat deck and other surrounding equipment to prevent contamination. New phthalate-free hoses were utilized at each sampling location. Approximately 5 to 10 gallons of water was purged through the pump, an amount greater than five times the hose volume, prior to sample collection.

A Horiba multiparameter meter was used to measure water column parameters at water sampling stations within the project area. The instrument was calibrated prior to use according to manufacturer's instructions. A summary of standard sampling parameters (including time of reading, depth, pH, dissolved oxygen, specific conductance, oxidation/reduction potential, turbidity, temperature) obtained for marine water samples collected during field activities are presented in Table 2.

Marine Water / Elutriate / Bioassay Sampling Procedures

Marine water samples were collected in laboratory-supplied volatile organic analysis (VOA) vials/polyethylene bottles/glassware equipped with Teflon®-lined caps provided by the analytical

laboratory by personnel wearing clean, disposable nitrile gloves in accordance with the SAP. VOA vials were filled to a positive meniscus, sealed, and visually checked for the presence of air bubbles. The remaining containers were filled to capacity to limit the amount of headspace. Please note that water samples to be analyzed for metals, other than mercury and selenium, were collected in unpreserved containers to be filtered by the analytical laboratory through a dedicated 0.45-micron (µm) filter prior to analysis.

Additional water was collected from the three referenced boring locations as previously discussed in eight 5-gallon food grade buckets for the purposes of providing marine water to the laboratory for mixing with the various sediment samples collected throughout the dredge prism. The marine water was mixed with the various sediment samples upon receipt by the analytical laboratory at a 4 to 1 ratio prior to performing the elutriate and bioassay analyses.

Immediately after collection, marine water samples were labeled and placed in bubble wrap within a sealed, Ziploc®-type, plastic bag. Sealed plastic bags containing the bubble wrapped sample containers were then placed in insulated coolers and chilled to an approximate temperature of 40°F (4°C). A separate cooler was utilized for each sampling location. Upon return to Martin Energy dock, the samples were transferred to a refrigerated trailer stored on the Martin Energy property. Samples were monitored for preservation at or below 4°C. Samples were received by the laboratory courier the next day and transported back to the laboratory in a refrigerated trailer at or below 4°C. Table 2 and the field logs in Appendix B provide additional information regarding water sampling.

2.2.6 Decontamination Procedures

Equipment (including the 4-inch and 6-inch diameter 10-foot threaded core barrels, double van Veen™ grab sampler, submersible water pump, and sampling utensils) that contacted sediment or water samples was cleaned and decontaminated as described below.

Decontamination of Sediment Sampling Equipment (Land-Based Borings within DMMU 1 through DMMU 6)

Prior to sampling at the first DMMU substation, and prior to sampling at the next DMMU, decontamination procedures for the hollow-stem and solid-flight augers consisted of using a nonphosphate detergent (Alconox®) and potable water wash followed by cleaning with a pressure washer to rinse the outside/inside of the drilling equipment to prevent potential cross-contamination between boring locations.

Decontamination of Sediment Sampling Equipment (Marine Borings within DMMU 7, DMMU 8, the Reference Area, and the ODMDS

Decontamination procedures for the sonic drill rig 10-foot core barrels (4-inch and 6-inch diameter) consisted of flushing the outside and inside of the core barrel with ambient water to remove remnant sample material. A round brush connected to an extension rod was used to wash the inside of the core barrel with a nonphosphate detergent (Alconox®) and then thoroughly rinsed with deionized water. Sampling utensils were decontaminated in a 5-gallon bucket with Alconox and thoroughly rinsed with deionized water. Prior to collecting sediment grab samples from the Reference Area and the ODMDS, the double van Veen™ grab sampler was flushed with ambient water and decontaminated following the same procedures as referenced above. Disposable nitrile gloves used at a given sampling station were replaced with new gloves prior to sampling at the next station.

Decontamination of Marine Water Sampling Equipment
Decontamination procedures for stainless-steel sampling equipment (monsoon pump) and water level meter was conducted in 5-gallon buckets and consisted of using a nonphosphate detergent (Alconox®) and potable water wash followed by a distilled water rinse prior to commencement of the project and between sampling locations.

These above referenced decontamination methods conform to those summarized in the SAP (Appendix A). Any derived waste was contained and disposed of in accordance with federal, state, and local laws.

2.2.7 Field Quality Control

Field Duplicates – One sediment and one elutriate duplicate sample were collected during field activities to satisfy the general frequency per matrix specified in the SAP. The duplicate sediment sample was a composite sample consisting of sediment collected from DMMU-3-2A (0 to -30 feet MLLW) on January 19, 2023 and DMMU-3-2B (0 to -30 feet MLLW) on January 20, 2023, while the marine water sample HI-DMMU-7-4A-SW used to create the duplicate elutriate sample DMMU-3-E Duplicate was collected on January 25, 2023. Sampling procedures for duplicate samples were previously discussed in Sections 2.2.3 and 2.2.5. Analytical results for the field duplicate samples are provided in Tables 3 through 11.

Equipment Rinsate Blanks – One equipment rinsate blank was prepared during the field activities (please note that specific requirements regarding equipment rinsate blanks were not provided in the SAP [April 2021]). The equipment rinsate blank was collected from the solid-flight augers during sampling activities at boring DMMU-3-2B (0 to -30 feet MLLW) on January 20, 2023. The equipment rinsate blanks were prepared by passing analyte-free distilled water through the sampling equipment after decontamination to document potential contamination from inadequately decontaminated sample collection equipment. Analytical results for the equipment rinsate blank are provided in the general chemistry report in Appendix E.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples – In order to assess the accuracy and precision of the analytical methods used in the sample matrix, NWDLS prepared MS/MSD samples of the media sampled (sediment, marine water and elutriate) by Terracon. The MS/MSD samples are provided in the analytical laboratory reports in Appendix E.

2.2.8 Sample Transport, Processing, and Custody

2.2.8.1 Transport and Shipping to the Laboratories

As previously discussed in Sections 2.2.3 through 2.3.5, immediately after collection sediment and marine water samples were stored in refrigerated trailers onboard the marine vessels and/or at the Martin Energy property for preservation at or below 4°C. Samples were received by the laboratory courier on an as needed basis, typically within one or two days of sample collection, and transported back to NWDLS in The Woodlands, Texas in a refrigerated trailer at or below 4°C.

Chemical analyses were performed by NWDLS in The Woodlands, Texas, except for those constituents that were subcontracted to the following analytical laboratories:

- The sediment sample analyses for organotins and TOC were subcontracted to ALS Environmental located at 1317 South 13th Avenue in Kelso, Washington and 10450 Stancliff Road, Suite 210, Houston, Texas.

- The sediment sample analysis for TPH analysis was subcontracted to A&B Labs located at 10100 East Freeway, Suite 100, Houston, Texas.
- The water and elutriate analyses for organotins, TOC and total cyanide were subcontracted to ALS Environmental located at 1317 South 13th Avenue in Kelso, Washington.
- The water and elutriate analyses for TOC and TPH analysis were subcontracted to A&B Labs located at 10100 East Freeway, Suite 100, Houston, Texas.
- The tissue sample analysis for TPH and organotins was subcontracted to Eurofins Houston located at 4145 Greenbriar Drive, Stafford, Texas.
- The sediment sample analysis for grain size was subcontracted to Taylor Engineering Coastal & Marine Geosciences Laboratory located at 10199 Southside Boulevard, Suite 310 in Jacksonville, Florida.

2.2.8.2 Compositing and Homogenizing

Homogenization and compositing of samples for elutriate, toxicological, and bioaccumulation analysis was conducted by staff at NWDLS. Decontamination of the stainless-steel compositing equipment was performed before and between groups of samples and was conducted in accordance with methods outlined in the SAP and Errata dated January 10, 2022.

2.2.8.3 Chain-of Custody

Proper chain-of-custody documentation was maintained throughout the sampling process. Chain-of-custody forms for each laboratory were completed to reflect the final sample names and to identify the analyses and analytical methods required, and also accompanied the samples during shipment to the laboratories. Copies of the final signed chain-of-custody forms are included in the laboratory reports (Appendices C, E and G).

2.3 Physical and Chemical Analytical Procedures

2.3.1 Physical Procedures

Taylor Engineering Coastal & Marine Geosciences Laboratory, a subconsultant to NWDLS, performed physical analyses of the sediment composites. ANAMAR performed QA/QC on sediment physical data and presented the data in Table 3.

2.3.1.1 Grain Size Distribution

Gradation tests were performed by Taylor Engineering, Inc. in general accordance with method ASTM D422. Sieve analysis utilized U.S. standard sieve numbers 4, 10, 20, 40, 50, 70, 100, 140, and 200. Each DMMU subsample and each DMMU composite sample was air-dried and dry-prepped in accordance with method ASTM D422, and results of the sieve analysis of material larger than a #10 sieve (2.00-mm mesh size) were determined.

2.3.1.2 Moisture Content

Moisture content analyses were performed by NWDLS in general accordance with method ASTM D-2216-80 and Plumb (1981). The sample weight was recorded, and the sample was placed in an oven and dried to a constant mass at 110°C. Once a constant dry mass was obtained, the percent moisture was determined by subtracting the dry mass weight from the wet mass weight, then dividing the loss in mass due to drying (the mass of just moisture) by the wet mass. The percent total solids were reported on a 100% wet weight basis.

2.3.2 Chemical Analytical Procedures

Target detection limits (TDLs) for these analyses are provided in Table 5 of the SAP (Appendix A). Analytical and preparation methods were performed following guidelines in EPA (2012).

Elutriates were generated using methods described in Subsection 10.1.2.1 of the Green Book, equivalent to Subsection 10.1.2.1 of the *Inland Testing Manual* (ITM) (EPA and USACE 1998). ANAMAR performed QA/QC on these data and presented them in summary tables. Complete laboratory reports are in Appendix E. Exhibit 2-4 presents a summary of analytical methods used for chemical analysis of sediment, elutriate, and tissue samples.

Exhibit 2-7. Summary of Methods and Equipment Used during Sediment, Elutriate, and Tissue Analysis

EPA Method	Instrument/ Procedure	Methodology Summary
200.8 (trace metals)	ICP and ICP/MS for trace metals	Inductively coupled plasma (ICP) with or without mass spectrometry (MS) is applicable to the determination of sub-µg/L concentrations of many elements in water samples and in waste extracts or digests. Acid digestion prior to filtration and analysis is required for aqueous samples, sediments, and tissues for which total (acid-leachable) elements are required.
350.1, 350.2 and SM 4500 (modified)	Autoanalyzer Spectrophotometer	Methods 350.2 and 4500 are used for measuring ammonia in sediments. This method utilizes a reaction of the sample with phenolate and hypochlorite to form a blue color, which is proportional to the concentration of ammonia in the sample. The color is intensified with sodium nitroprusside and is measured by spectrophotometer.
7470 (mercury in water)	Mercury Analyzer Cold Vapor Atomic Absorption (water)	Method 7470 is a cold-vapor atomic absorption procedure approved for determining the concentration of mercury in mobility-procedure extracts and aqueous wastes. The samples are subjected to an appropriate dissolution step before analysis.
7471 (mercury in sediment and tissues)	Mercury Analyzer Cold Vapor Atomic Absorption	Method 7471 is approved for measuring total mercury (organic and inorganic) in sediments and tissues. The samples are subjected to an appropriate dissolution step before analysis. If this dissolution procedure is not sufficient to dissolve a specific matrix type or sample, this method is not applicable for that matrix.
TX-1005 (TPH C6–C35)	Gas Chromatograph/ Flame Ionization Detector	This method is designed to determine total concentrations of TPH in solid and aqueous matrices using gas chromatography. This method can be used for the quantitative analysis of petroleum hydrocarbons in the gasoline and diesel ranges and portions of the heavier fuel and lubricating oil range.
8081 (pesticides)	Gas Chromatograph	Method 8081 is used to determine the concentrations of various organochlorine pesticides in extracts from solid and liquid matrices using fused-silica, open-tubular capillary columns with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD). The compounds that can be run by this method may be determined by a single- or dual-column analysis system.

EPA Method	Instrument/ Procedure	Methodology Summary
8082A (PCB Aroclors)	Gas Chromatograph	Method 8082 is used to determine the concentrations of PCBs as individual PCB congeners or Aroclors in extracts from solid, tissue, and aqueous matrices using open-tubular capillary columns with ECD or ELCD. The target compounds may be determined by a single- or dual-column analysis system. Total PCBs are calculated from the sum of congeners or Aroclors.
8270 SIM (PAHs and semi-volatiles)	Gas Chromatograph/ Mass Spectrometer	This method is used to determine the concentration of semi-volatile/ PAH organic compounds in extracts prepared from many types of solid matrices and water samples. Direct injection of a sample may be used in limited applications.
9060 and 415.1 (modified*)	TOC Analyzer	EPA methods 9060 and 415.1 are used to determine the concentration of organic carbon in sediment by catalytic combustion or wet chemical oxidation. The carbon dioxide formed from this procedure is measured and is proportional to the TOC in the sample.
9014 and 4500-CN-E (cyanide)	Colorimetric Analysis	EPA methods 9014 and 4500-CN-E use colorimetric procedures to determine the total concentration of cyanide in sediment and water samples, respectively. The analysis uses linear regression of the signal measured by the instrument compared to the signal determined by known standards to evaluate the sample concentration.
7196 and SM3500-Cr B	Colorimetric Analysis	EPA methods 7196 and SM 3500-Cr B use colorimetric procedures to determine the total concentration of hexavalent chromium in sediment and water samples, respectively. The analysis uses linear regression of the signal measured by the instrument compared to the signal determined by known standards to evaluate the sample concentration.

***** Minor modifications were made to method 9060 that were approved by the National Environmental Laboratory Accreditation Conference.

2.4 Bioaccumulation and Toxicology Procedures

NWDLS conducted toxicology testing using sediment samples collected by Terracon as part of this MPRSA Section 103 sediment testing report. The information presented in this subsection is based on the toxicology laboratory report by NWDLS. The complete laboratory report is in Appendix G.

The material under consideration for ocean disposal was evaluated in accordance with procedures and criteria outlined in the Green Book and the RIA and with guidance outlined in the ITM. Biological analyses using Reference sediment were performed concurrently with the test sediment evaluations.

The testing program included bioassay analysis of eight project sediment composites and a Reference sediment sample composite. In addition, appropriate laboratory control samples were run with each of the selected test species. Bioassay testing consisted of three water column bioassays, two whole sediment bioassays, and two whole sediment bioaccumulation potential tests. The bioassay and bioaccumulation tests are summarized in Exhibit 2-5 below.

Exhibit 2-8. Toxicity and Bioaccumulation Potential Testing Performed for Dredged Material Evaluation

Test Type	Taxonomic Group	Test Species	Project Sediments (yes/no)	Reference Sediment (yes/no)	Control Sediment or Water (yes/no)
Water column (suspended particulate phase)	Mysid crustacean (planktonic [<1-day-old] and juvenile stage [1-5 days-old] life stages)	*Americamysis bahia* [1] (opossum shrimp)	Yes [2]	No (not applicable)	Yes
	Atherinoid fish	*Menidia beryllina* (inland silverside)	Yes [2]	No (not applicable)	Yes
Whole sediment (solid phase)	Amphipod crustacean	*Leptocheirus plumulosus* (no common name)	Yes	Yes	Yes
	Mysid crustacean	*Americamysis bahia* [1] (opossum shrimp)	Yes	Yes	Yes
Bioaccumulation potential	Bivalve mollusk	*Mercenaria mercenaria* (quahog clam)	Yes	Yes	Yes
	Infaunal polychaete worm	*Alitta virens* [3] (sand worm)	Yes	Yes	Yes

[1] Referred to as *Mysidopsis bahia* (a junior synonym of *Americamysis bahia*) in the NWDLS' toxicology report.
[2] Sediment elutriates of project material.
[3] Formerly known as *Neanthes virens* and *Nereis virens*. Referred to as *Nereis virens* in the NWDLS' toxicology report.

2.4.1 Ammonia and Salinity Screening in Sediments

While elevated ammonia concentrations in the porewater are transient qualities in dredged material, they can influence organism survival and development in laboratory tests. If high concentrations of ammonia were found in the test composites, they would be considered non-persistent effects under Green Book and RIA guidance.

Prior to testing, initial sediment ammonia concentrations and salinity were measured to determine if supplemental testing or modifications to the methods used would be required. The results of these analyses are summarized in Exhibit 2-6.

Exhibit 2-9. Initial Sediment Overlying Water Measurements

Sample ID	Benthic Test Species	Total Ammonia (mg/L)	Un-ionized Ammonia (mg/L)	Salinity (ppt)	pH
DMMU 1 (sediment)	*L. plumulosus*	0.006	0.000	19.9	8.2
DMMU 2 (sediment)		0.008	0.000	19.9	8.2
DMMU 3 (sediment)		0.006	0.000	19.8	8.2
DMMU 4 (sediment)		0.006	0.000	19.8	8.2
DMMU 5 (sediment)		0.036	0.002	19.9	8.2
DMMU 6 (sediment)		0.026	0.002	20.1	8.2
DMMU 7 (sediment)		0.005	0.000	20.1	8.2
DMMU 8 (sediment)		0.005	0.000	20.0	8.2
HI-20-REF (Reference)		0.007	0.000	20.0	8.1
DMMU 1 (sediment)	*A. bahia*	0.003	0.000	29.1	8.0
DMMU 2 (sediment)		0.004	0.000	29.1	8.0
DMMU 3 (sediment)		0.005	0.000	29.1	8.0
DMMU 4 (sediment)		0.005	0.000	29.1	8.0
DMMU 5 (sediment)		0.020	0.001	29.2	8.0
DMMU 6 (sediment)		0.019	0.001	29.1	8.0
DMMU 7 (sediment)		0.005	0.000	29.1	8.0
DMMU 8 (sediment)		0.004	0.000	29.1	8.0
HI-20-REF (Reference)		0.003	0.000	29.2	8.1

Sources: NWDLS' toxicology report (Appendix G)

In accordance with the SAP, ammonia is to be measured in sediment overlying water to evaluate which sample(s) may have sufficiently elevated ammonia present to produce negative biological effects with the targeted test organisms. If the ammonia concentration is greater than (>) 0.4 milligrams per liter (mg/L) un-ionized ammonia or >30 mg/L total ammonia, the test sediment will be flushed with overlying water at up to six volume replacements per 24 hours, as described in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Marine Invertebrates* (EPA 1994). Based on the initial water quality readings, ammonia concentrations were not predicted to cause ammonia-related effects for either of the test species; therefore, flushing of test sediments was not required.

2.4.2 Water for Bioassay Testing

Water used in this study is laboratory-prepared artificial seawater (Instant Ocean® Sea Salt or Hawaiian Marine Mix) mixed with freshwater to the salinity requirements of the test species. This water was used for the control treatment and as the diluent for less than (<) 100% elutriate concentrations. Laboratory seawater parent analytical standard records are included as PDF pages 181 through 194 of the toxicology laboratory report by NWDLS (Appendix G).

2.4.3 Water Column (Suspended Particulate Phase) Bioassay Procedures

Two species were used in the SPP testing: *Americamysis bahia* (opossum shrimp) and *Menidia beryllina* (inland silverside). SPP tests were performed to estimate the potential impact of dredged

material disposal on organisms within the water column. Two life stages of *A. bahia* were tested: a zooplankton stage of <1 day old and an adult stage of 7 days old. The *A. bahia* and *M. beryllina* were cultured at the NWDLS' toxicology laboratory. SPP bioassay procedures and the sources of the two test species are described in detail in PDF pages 4 through 6 of the toxicity report (Appendix G).

After preparation, the suspended particulate phase bioassays were transferred to the test containers. Test chambers consisting of 1,000- or 500-milliliter (mL) disposable food-grade, polypropylene cups with test solution were mixed with laboratory-prepared artificial seawater in appropriate proportions to give three replicates each of 10%, 50%, and 100% concentrations of elutriates per DMMU. Containers filled with 100% laboratory-prepared seawater were used as controls for the tests.

After the test containers were prepared and determined to be at the appropriate temperature, 10 *M. beryllina* or 10 adult *A. bahia* were added randomly to each 1,000-mL test chamber. Ten post-larval *A. bahia* were added to each 500-mL test chamber. The loading factor in all vessels was less than 0.5 grams of test organism tissue per liter of medium. The number of live organisms remaining were counted after 24 and 48 hours in the post-larval mysid bioassays and after 24, 48, 72, and 96 hours in the adult mysid and *M. beryllina* bioassays to monitor the number of surviving organisms. Using hand-held meters, temperature, dissolved oxygen, pH, salinity, and ammonia were recorded daily. The fish were not fed, but the mysids, being prone to cannibalism, were given one drop of suspended *Artemia* sp. (brine shrimp) nauplii per test cup twice daily.

2.4.4 Whole Sediment (Solid Phase) Bioassay Procedures

The 10-day SP tests were performed using the amphipod crustacean *Leptocheirus plumulosus* and the mysid crustacean *Americamysis bahia*. SP tests were performed to estimate the potential impact of ocean disposal of dredged material on benthic organisms that attempt to re-colonize the area after disposal has occurred. Field collected *L. plumulosus* organisms were supplied by Aquatic Research Organisms, Inc. in Hampton, New Hampshire. The *A. bahia* were cultured at the NWDLS' toxicology laboratory. SP bioassay procedures and the sources of the two test species are described in detail in PDF pages 4 through 6 of the toxicity report (Appendix G).

The SP bioassay consisted of a 1-day settling period after the sediment was added, followed by 10 days (Days 1–10) of test-organism exposure. The bioassay vessels were partially filled with artificial seawater and enough sediment (test station, Reference, or control) was placed in each vessel to meet the needs of the test organisms: a 2-centimeter (cm) layer on the bottom. Five replicates were prepared for each of the test stations, Reference, and control. Separate 1-liter jars were used for the amphipods and for the mysids. Initial ammonia levels in the samples were below the target level in the project SAP, and ammonia reduction procedures were not required. After 10 days, the SP bioassay was terminated. The sediment was wet-sieved (0.5-mm screen) to remove surviving organisms, which were counted. To evaluate the relative sensitivity of the organisms, Reference toxicity tests were performed using standard Reference toxicants (Lee 1980).

2.4.5 Bioaccumulation Procedures

Assessment of bioaccumulation potential was carried out using the bivalve mollusk *Mercenaria mercenaria* (quahog clam) and the polychaete worm *Alitta virens* (sand worm) over a 28-day test period. The bioaccumulation study was conducted for 28 days following the same procedures as the solid phase bioassay. Field collected *M. mercenaria* and *A. virens* organisms were supplied

by Aquatic Research Organisms, Inc. in Hampton, New Hampshire. Procedures for assessment of bioaccumulation potential and test organism and control sediment sources are described in PDF pages 4 through 6 of the NWDLS' laboratory toxicology report (Appendix G).

Ten-gallon aquaria were used in the bioaccumulation study for both clams and polychaetes. A loading factor of not more than 0.5 grams of test organism tissue per liter of medium was maintained. Twenty-four hours after the addition of the sediment, or the end of the acclimation period for the new work material, the water was changed, and organisms were placed in the test vessels (20 organisms per replicate for the polychaete and 25 for the clams).

Following laboratory exposures, the gut contents of the test organisms were purged for 24 hours in clean aquaria filled with artificial seawater and clean sand. The *M. mercenaria* were then frozen, their valves were removed and discarded, and the soft tissue was placed in certified pre-cleaned glass jars, frozen, and distributed for tissue chemistry analysis. Whole specimens of *A. virens* were frozen in certified pre-cleaned glass containers and distributed for tissue chemistry analysis. Chemical analysis of tissue samples (except for the laboratory treatments) were analyzed at NWDLS for chemical contaminants. To evaluate the relative sensitivity of the organisms, Reference toxicity tests were performed using standard Reference toxicants (Lee 1980).

2.5 Tissue Analysis Recommendations

Sediment physical and chemistry results were reviewed to determine which analytes should be tested in the corresponding tissue samples based on guidance provided in Subsection 10.2.2 of the RIA and Subsection 9.5.1 in the Green Book and the ITM. The proposed tissue analyses and the rationale were provided to EPA Region 6 and USACE Galveston District for review and approval. Contaminants analyzed from tissue samples are summarized in Exhibit 2-7. Recommendations for tissue analysis are in Appendix E. EPA provided concurrence on the tissue recommendations via a letter dated April 24, 2023 (Appendix J).

Exhibit 2-10. Contaminants of Concern Analyzed in Tissue Samples from PCCA Harbor Island New Dock and Facilities Project

Analyte	DMMU 1	DMMU 2	DMMU 3	DMMU 4	DMMU 5	DMMU 6	DMMU 7	DMMU 8	HI-REF and Pre-exposure
Total cyanide	No	No	No	No	No	No	No	No	No
TPH	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Metals	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Organotins	**Yes** Monobutyltin	No	No	No	No	No	No	No	**Yes** Monobutyltin
Pesticides	No	No	No	No	No	No	No	No	No
PCBs	No	No	No	No	No	No	**Yes**	No	**Yes**
PAHs	**Yes**	No	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**	**Yes**
SVOCs	**Yes** di-n-butyl phthalate	**Yes** di-n-butyl phthalate	**Yes** di-n-butyl phthalate, 2,4-dichlorophenol, 2,6-DNT, and bis(2-ethylhexyl) phthalate	**Yes** di-n-butyl phthalate	**Yes** di-n-butyl phthalate, diethyl phthalate, and hexachlorocyclopentadiene	**Yes** di-n-butyl phthalate	**Yes** di-n-butyl phthalate	**Yes** di-n-butyl phthalate and bis(2-ethylhexyl) phthalate	**Yes** di-n-butyl phthalate, 2,4-dichlorophenol, 2,6-DNT, bis(2-ethylhexyl) phthalate, diethyl phthalate, and hexachlorocyclopentadiene
All other SVOC compounds	No	No	No	No	No	No	No	No	No

Yes = Contaminant included with tissue analysis (**blue font**)
No = Contaminant omitted from tissue analysis
EPA approved the tissue recommendations per correspondence dated April 24, 2023.

2.6 Data Reduction and Applicable Technical Quality Standards

Raw field and laboratory data were summarized, compiled into tables, and reviewed for errors. The CQAR is in Appendix D. Figures 2.1 through 2.3 are used to associate the results spatially with respect to sampling locations.

2.6.1 Sediment Chemistry

Analytical results for sediment samples are compared to published sediment screening values as appropriate and in conformance with the Green Book and the RIA. These levels are the threshold effects level (TEL) and the effects range-low (ERL). The TEL represents the concentration below which adverse effects are expected to occur only rarely. The ERL is the value at which toxicity may begin to be observed in sensitive species (Buchman 2008). These comparisons are for reference use only and are not intended for regulatory decision-making.

2.6.2 Elutriate and Water Chemistry

Analytical results for elutriate and water samples were compared to the latest published EPA water quality criteria of criteria maximum concentration (CMC [synonymous with 'acute']) established in EPA (2006, 2015). The CMC is an estimate of the highest concentration of a pollutant in saltwater to which an aquatic community can be exposed briefly without resulting in an unacceptable effect (EPA 2006, Buchman 2008). The CMC for total ammonia was calculated using methods from EPA (1989). The site water sample having the lowest calculated concentration of total ammonia was used as the CMC value (in Table 8 and in Exhibit 3-3) for comparison with site water and elutriate results. Results for elutriate and water samples were also compared with Texas Water Quality Standards (acute) in Table 1 of *Texas Surface Water Quality Standards* by the Texas Commission on Environmental Quality (TCEQ, 2018).

2.6.3 Toxicity

Statistical analyses are described in the SAP and the RIA and are designed to determine whether the test results are significantly different from the results of the Reference. Statistical comparisons were at the 95% confidence level and are included herein, if needed.

Statistical calculations were performed for any SPP bioassay if survival in any 100% test treatment was less than the survival in the control and the difference exceeded 10%. For the SP bioassay, statistical comparisons of mean survival were made for each species and for the total number of organisms, if (1) mean survival for any station test was less than that for the Reference, and (2) the difference between Reference and test survival was at least 10% (20% for the amphipods). For the bioaccumulation assessment, statistical comparisons of mean concentrations were made for each parameter and species if the mean concentration of the parameter for any station test tissue was greater than that for the Reference tissue.

2.6.4 Tissue Chemistry

Analytical results for tissue samples were compared to published tissue screening values. Most U.S. Food and Drug Administration (FDA) action levels were obtained from the original FDA source documents (i.e., FDA 2001, 2020). According to FDA (2020), the action levels for arsenic, cadmium, lead, and nickel in tissue are no longer in effect. Additionally, Table 9-1 of FDA (2020) lacks action levels for chromium and mercury in tissue, although an earlier version of the document (FDA 2001) does provide action levels for these metals. Regardless, it was decided to use previous FDA action levels for arsenic, cadmium, chromium, lead, and nickel in this report as it is possible that such action levels may be put into effect in the future.

Analytical results for tissues from *Mercenaria mercenaria* tests and/or *Alitta virens* tests were compared to the FDA levels for crustacea as suggested in Appendix H of the *Southeast Regional Implementation Manual* (SERIM, EPA and USACE 2008), as there are not FDA levels published for polychaete worm tissue and the RIA does not address this topic. Additionally, mean tissue analytical results found to statistically significantly exceed those of the Reference tissue and contain at least one replicate result greater than the method detection limit (MDL) were then compared with ecological non-specific effects threshold concentrations and northern Gulf of Mexico background concentrations from Appendix H of the SERIM (the RIA lacks these background concentrations). Northern Gulf of Mexico background concentrations were chosen over other background concentrations because the survey area from which the concentrations are based included waters as far west as Gulfport, Mississippi. These waters are closest to the project area in Port Aransas, Texas. If results statistically significantly exceeded mean Reference tissue results and exceeded effects threshold or background concentrations, such results may be used in a risk-based evaluation by USACE.

Project and Reference tissue samples had five replicates (except for the pre-exposure tissue results, which had just three replicates). The mean of results of each set of five replicates per sample and analyte combination was calculated and compared to the mean of the Reference tissue result per analyte. Mean values of analyte concentrations were calculated as follows:

- For non-detects/U-flagged data, the MDL was used in the statistical calculations.
- For J-flagged and non-flagged data, the result was used in the statistical calculations.

Whenever the dry weight mean concentration (or mean adjusted concentration) of an analyte in *M. mercenaria* or *A. virens* tissue was found to exceed that of the Reference tissue, and at least one of the five replicate samples had concentrations above the MDL, the software program ToxCalc v5.0.32 (Tidepool Scientific, LLC) was used to determine the relative distribution and variances among each group of replicates tested. If the distribution was determined to be abnormal or if the variances were unequal, the data were treated with a reciprocal transformation and the distribution and variances were re-evaluated. If mean tissue contaminant concentration (or mean adjusted concentration) was found to not statistically significantly exceed that of the Reference tissue, then additional analysis was not necessary to demonstrate compliance with the LPC (Green Book). Project sample mean values that statistically significantly exceeded those of the Reference were then compared with screening benchmarks such as relevant ecological effects threshold and the northern Gulf of Mexico background concentrations.

2.7 Reporting Limits

Sediment chemical concentrations, MDLs, and laboratory reporting limits (LRLs) (essentially the same as the more widely used method reporting limits [MRLs]) were reported on a dry weight basis. Chemical concentrations, MDLs, and LRLs for water and elutriates were reported on a wet weight basis. Tissue chemical concentrations, MDLs, and MRLs were reported on dry weight and wet weight bases. The LRL and MRL refers to the minimum concentration at which the laboratory will report analytical chemistry data with confidence in quantitative accuracy of a given datum. Common laboratory procedures for defining an LRL or MRL include assigning it to a fixed factor above the MDL or by using the lowest calibration standard. LRLs and MRLs are often adjusted by the laboratory for sample-specific parameters such as sample weight, percent solids, or dilution.

3 RESULTS AND DISCUSSION

3.1 Field Sampling

A summary of the January 16 through January 27, 2023, sampling effort is provided in Tables 1A, 1B, and 2 for sediment terrestrial core data, sediment marine core data, and site water sampling, respectively. Samples were collected and processed in accordance with the SAP and Errata approved by EPA and USACE (Appendix A).

3.2 Sediment Physical Results

Physical analyses were conducted for each DMMU subsample, the ODMDS (composite), and the Reference (composite). Each DMMU subsample underwent grain size distribution analysis in accordance with the SAP (Appendix A). Exhibit 3-1 summarizes and compares percent grain size distributions for each subsample. Complete results of physical testing are in Table 3. The laboratory report of physical analytical results is in Appendix C.

DMMU 1 (Subsamples 1A, 1B, and 1C) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-1 core station subsamples 1A, 1B, and 1C were predominantly sand (71.8% to 82.4%), with silt (17.2% to 27.3%), and trace clay (0.4% to 0.9%).

DMMU 2 (Subsamples 1A, 1B, 1C) – Subsurface Terrestrial (-30 to -60 ft MLLW)

- DMMU-2 core station subsamples 1A, 1B, and 1C were predominantly sand (59.5% to 69.6%), with silt (29.7% to 33.4%), and trace clay (0.7% to 7.1%).

DMMU 3 (Subsamples 2A, 2A Duplicate, and 2B) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-3 core station subsamples 2A and 2B were predominantly sand (84.5% and 82.1%), with silt (15.0% and 17.1%), and clay (15.0% and 17.1%). DMMU-3-2A Duplicate was predominantly sand (84.0%), with silt (15.6%), and trace clay (0.4%).

DMMU 4 (Subsamples 2A and 2B) – Subsurface Terrestrial (-30 to -60 ft MLLW)

- DMMU-4 core station subsamples 2A and 2B were predominantly sand (63.6% and 66.7%), with silt (34.2% and 30.3%), and trace clay (2.2% and 3.0%).

DMMU 5 (Subsamples 3A, 3B, and 3C) – Surficial Terrestrial (0 to -30 ft MLLW)

- DMMU-5 core station subsamples 3A, 3B, and 3C were predominantly sand (70.3% to 83.1%), with silt (16.4% to 29.1%), and trace clay (0.5% to 0.9%).

DMMU 6 (Subsamples 3A, 3B, and 3C) – Subsurface Terrestrial (-30 to -60 ft MLLW)

DMMU-6 core station subsamples -3A, -3B, and -3C were predominantly sand (66.0% to 72.6%), with silt (26.4% to 32.3%), and trace clay (1.0% to 1.7%).

DMMU 7 (Subsamples 4A, 4B, 4C and 4D) – Marine (existing depth to -60 ft MLLW)

- DMMU-7 core station subsamples -4A, -4B, -4C, and -4D were predominantly sand (40.4% to 63.6%) and silt (35.2% to 51.9%), with trace clay (1.2% to 7.4%).

DMMU 8 (Subsamples 5A, 5B, 5C and 5D) - Marine (existing depth to -60 ft MLLW)

- DMMU-8 core station subsamples 5A, 5B, and 5C, were predominantly sand (64.1% to 70.6%), with silt (27.3% to 31.8%), and trace clay (0.9% to 6,3%). Subsample DMMU-8-5D, which was a surface grab sample collected, consisted of nearly equal portions of sand (43.3%) and silt (47.3%), with some clay 9.4%.

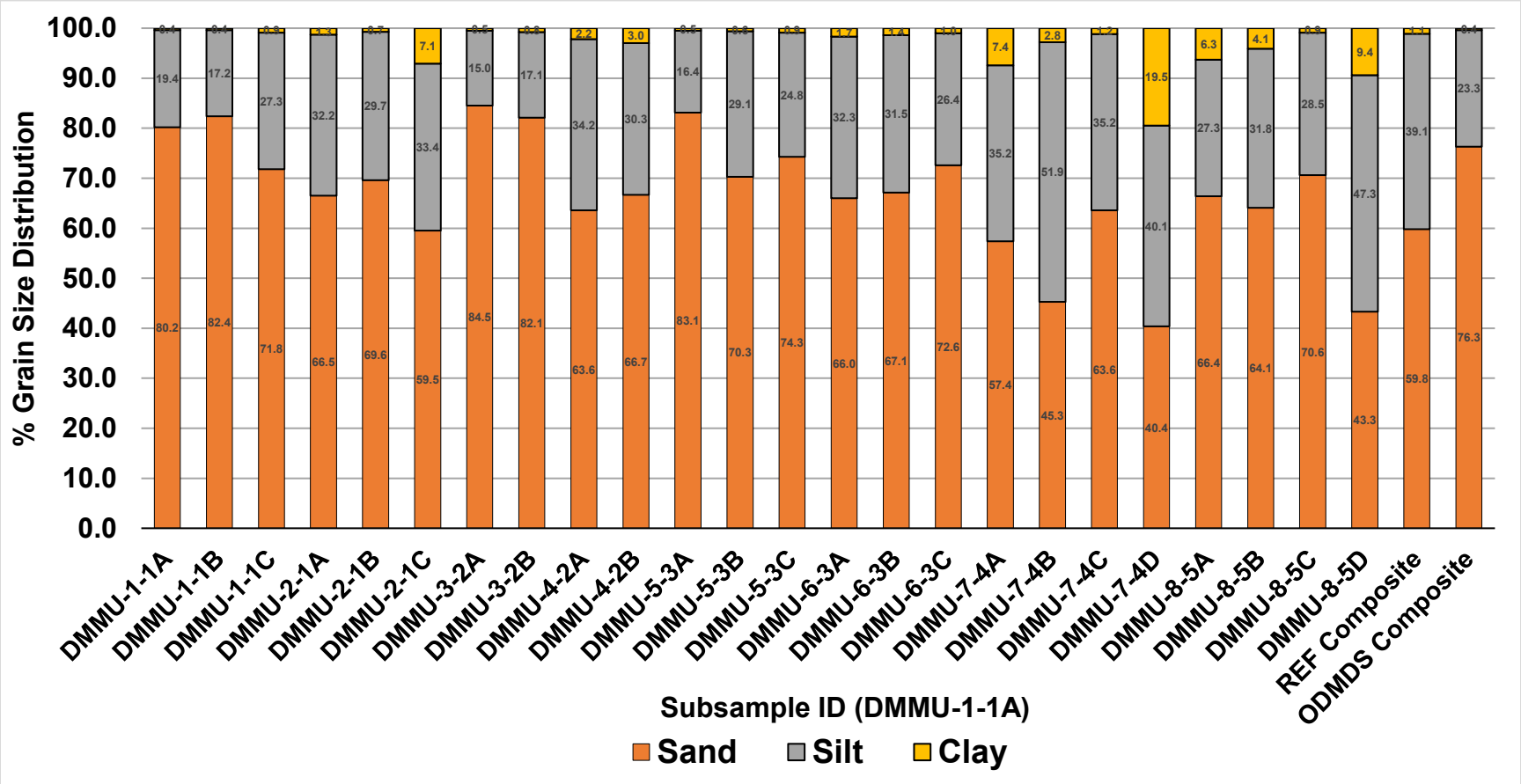
REF (Reference)

- Reference Area composite was predominantly sand (59.8%), with silt (39.1%), and clay (1.1%).

ODMDS (Corpus Christi New Work ODMDS)

- New Work ODMDS was predominantly sand (76.3%), with silt (23.3%), and trace clay (0.4%).

Exhibit 3-1. Percent Grain Size Distribution by Subsample



Notes: sand = 0.075–4.749 mm, silt = 0.0005–0.074 mm, clay <0.005 mm

3.3 Sediment Chemistry

Analytical results for sediment chemistry are provided in Tables 4 through 7. Sediment chemistry analyses were performed on each DMMU discrete subsample, the Reference composite sample, and the New Work ODMDS composite sample. Analyses consisted of metals, ammonia (as nitrogen), trivalent and hexavalent chromium, total cyanide, TPH, total solids, TOC, pesticides, total PCBs, PAHs, organotins, and SVOCs. Total LPAHs and total HPAHs were calculated from the sum of individual PAHs and are defined following Table 4-1 of the SAP. Analytical results were compared to published sediment screening criteria TEL and ERL, which are defined in Subsection 2.6.1.

3.3.1 Metals, Ammonia, Cyanide, TPH, TOC, Total Solids and Butyltins

Most of the 13 metals analyzed were detected in concentrations above the MDL (J-qualified) or the LRL in the subsamples tested except for antimony, which was U-qualified. Metals detected above the LRL were below the respective TEL and ERL. Copper was V-qualified in the samples tested and chromium was V-qualified in subsamples DMMU-3-2A, and DMMU-8-5A through -5C. V-qualified values indicate the analyte was detected in both the sample and the method blank.

Trivalent chromium ranged from <0.139 milligrams per kilogram (mg/kg) to 6.55 mg/kg among samples tested and was highest in DMMU-7-4B. Hexavalent chromium ranged from <0.132 mg/kg to 1.78 mg/kg among samples tested and was highest in DMMU-7-4B.

Ammonia (as nitrogen) concentrations ranged from <6.60 mg/kg to 261 mg/kg among samples tested sample and was highest in DMMU-7-4B.

Total cyanide was not detected above the MDL (U-qualified) in the samples tested.

TPH ranged from <1.86 mg/kg (New Work ODMDS) to 2,068 mg/kg among samples tested and was highest in DMMU-3-2A.

Total solids ranged from 54.2% to 85.5% (V-qualified) among samples tested. DMMU-8-5D, the Reference, and the ODMDS samples were H-qualified. H-qualified values indicate the analyte was analyzed outside the method specified holding time.

- As specified in Appendix B of the RIA, the holding time for total solids is undetermined. The H qualifier is due to the Laboratory Information Management System (LIMS) which automatically assigns qualifiers based on the test and specific criteria maintained in the LIMS for analysis. Since other procedures have a required holding time for total solids, the LIMS defaults to the time from sampling to analysis and assigns a qualifier if it exceeds that time.

TOC concentrations ranged from <0.0512% to 1.29% among samples tested, which were H-qualified.

- Sediment samples were archived and frozen from the time of receipt at the laboratory until the samples were shipped to the subcontract laboratory for analysis. As indicated in Appendix B of the RIA, the samples may be frozen for extended storages, and for this reason the sample holding times were acceptable.

Organotin compounds dibutyltin, monobutyltin, and tributyltin were not detected above the LRLs in any of the project samples tested except for monobutyltin in DMMU-1-1C (1.6 6 micrograms per kilogram [µg/kg]).

pH ranged from 7.88 to 9.04 S.I. units and was H-qualified among samples tested.

- Please note that numerous results were reported with an H qualifier is a direct result of the LIMS which automatically assigns qualifiers based on the test and specific criteria maintained in the LIMS for analysis. The pH holding times from SW 846 are not specified but have been recommended for as little as 15 minutes. Because of the procedure for sample collection from a vessel including sample prep and delivery to the laboratory, sample analysis was performed as soon as possible, even though it did not meet the suggested holding time.

Exhibit 3-2 summarizes the analytical results for these analytes in sediment compared to the TEL and ERL. Complete results are provided in Table 4.

Exhibit 3-1. Analytical Results for Metals, Ammonia, Cyanide, TPH, Total Solids, TOC, and Organotins in Sediment

Analyte	Concentration (mg/kg or as otherwise indicated)															
	Composite ID															
	DMMU-1-1A	DMMU-1-1B	DMMU-1-1C	DMMU-2-1A	DMMU-2-1B	DMMU-2-1C	DMMU-3-2A	DMMU-3-2A (Dup)	DMMU-3-2B	DMMU-4-2A	DMMU-4-2B	DMMU-5-3A	DMMU-5-3B	DMMU-5-3C	TEL	ERL
METALS																
Antimony	<0.0277	<0.0276	<0.0279	<0.0298	<0.0302	<0.0350	<0.0285	<0.0279	<0.0276	<0.0313	<0.0285	<0.0268	<0.0277	<0.0285	x	x
Arsenic	0.891	0.666	1.05	3.07	1.69	2.40	0.741	0.269	0.793	2.78	1.17	0.867	0.790	0.744	7.24	8.2
Beryllium	0.0436	0.0394	0.0692	0.167	0.151	0.211	0.0341	0.0189	0.0373	0.131	0.117	0.0412	0.0626	0.0410	x	x
Cadmium	0.0132	0.0105	0.0443	0.0607	0.0570	0.0585	0.0141	0.0108	0.0220	0.100	0.0312	0.0319	0.0220	0.0131	0.676	1.2
Chromium	1.10	0.886	1.52	3.85	3.74	4.63	0.748	0.402	0.939	2.73	2.63	1.10	1.12	0.868	52.3	81
Chromium (III)	0.953	<0.139	1.19	3.61	3.74	3.72	0.228	0.402	<0.141	2.50	2.39	1.10	0.612	0.868	x	x
Chromium (IV)	0.150	1.50	0.334	0.248	<0.144	0.909	0.520	<0.132	0.966	0.230	0.249	<0.134	0.510	<0.133	x	x
Copper	0.568	0.502	1.39	3.22	2.64	2.91	0.459	0.326	0.633	2.00	2.06	0.652	0.812	0.437	18.7	34
Lead	1.23	1.19	1.36	3.11	2.46	2.80	1.32	0.438	0.983	2.36	2.17	1.06	1.18	0.866	30.24	46.7
Mercury	0.00962	<0.00966	<0.00902	<0.00940	<0.00947	<0.00936	<0.00929	<0.00994	<0.00964	<0.00979	<0.00991	<0.00926	<0.00945	<0.00913	0.13	0.15
Nickel	0.998	0.818	1.57	3.40	2.54	3.59	0.679	0.418	0.819	3.64	2.03	0.918	1.18	0.768	15.9	20.9
Selenium	0.312	0.266	0.375	0.703	0.755	0.612	0.269	0.0829	0.288	0.550	0.422	0.320	0.302	0.286	x	x
Silver	0.00472	0.00415	0.00844	0.0125	0.00847	0.0113	0.00730	0.00229	0.00630	0.0121	0.0105	0.00820	0.00697	0.00479	0.73	1
Thallium	0.0241	0.0220	0.0404	0.0499	0.0382	0.0515	0.0235	0.00916	0.0285	0.0570	0.0328	0.0311	0.0298	0.0241	x	x
Zinc	3.48	2.69	3.34	8.13	5.43	7.30	2.28	0.955	2.20	5.61	4.51	2.52	3.15	2.68	124	150
OTHERS																
Ammonia (as N)	8.26	6.74	12.8	8.71	15.1	17.3	<6.91	<6.71	6.78	9.86	8.01	<6.71	9.91	7.26	x	x
Cyanide, Total	<0.0320	<0.0325	<0.0323	<0.0363	<0.0358	<0.0423	<0.0333	<0.0330	<0.0334	<0.0384	<0.0355	<0.0331	<0.0336	<0.0341	x	x
TPH	78.4	71.8	75.5	74.5	76.6	78.4	2068	144.1	77.9	83.1	74.6	79.5	292.4	71.5	x	x
Solids, Total (%)	74.4	74.6	74.4	67.5	67.8	58.0	72.2	74.3	74.2	65.1	69.7	74.0	72.9	73.2	x	x
TOC (%)	<0.0594	<0.0514	<0.0569	0.0584	<0.0529	<0.0598	<0.0547	<0.0517	<0.0596	<0.0567	<0.0522	<0.0518	<0.0522	<0.0578	x	x
Monobutyltin (µg/kg)	0.39	0.63	1.6	<0.52	0.39	1.1	0.70	<0.37	0.67	0.41	0.40	0.63	0.51	0.53	x	x
Dibutyltin (µg/kg)	<0.26	<0.26	1.4	<0.29	<0.28	<0.32	<0.26	<0.27	<0.26	<0.30	<0.27	<0.26	<0.28	<0.24	x	x
Tributyltin (µg/kg)	<0.58	<0.58	<0.62	<0.65	<0.63	<0.72	<0.57	<0.61	<0.59	<0.68	<0.61	<0.58	<0.63	<0.53	x	x

Exhibit 3-2. Analytical Results for Metals, Ammonia, Cyanide, TPH, Total Solids, TOC, and Organotins in Sediment

Analyte	Concentration (mg/kg or as otherwise indicated)														
	Composite ID														
	DMMU-6-3A	DMMU-6-3B	DMMU-6-3C	DMMU-7-4A	DMMU-7-4B	DMMU-7-4C	DMMU-7-4D	DMMU-8-5A	DMMU-8-5B	DMMU-8-5C	DMMU-8-5D	HI-REF	HI-ODMDS	TEL	ERL
METALS															
Antimony	<0.0273	<0.0276	<0.0274	<0.0265	<0.0375	<0.0277	<0.0241	<0.0242	<0.0246	<0.0279	<0.0286	<0.0297	<0.0270	x	x
Arsenic	0.740	1.10	1.16	2.53	3.96	2.13	0.657	0.295	1.23	6.20	1.71	1.71	1.39	7.24	8.2
Beryllium	0.0698	0.127	0.121	0.240	0.521	0.105	0.191	0.217	0.145	0.130	0.224	0.176	0.0655	x	x
Cadmium	0.0212	0.0900	0.0227	0.0518	0.133	0.00902	0.0104	0.00315	0.0214	0.0353	0.0336	0.0152	0.00909	0.676	1.2
Chromium	1.37	2.18	2.79	3.60	7.36	1.29	1.65	2.32	2.24	1.52	4.16	2.91	1.27	52.3	81
Chromium (III)	1.04	0.948	1.01	2.19	6.55	1.08	1.42	2.13	1.86	1.19	4.16	2.32	1.13	x	x
Chromium (IV)	0.326	1.23	1.78	1.41	0.810	0.209	0.229	0.187	0.379	0.326	<0.138	0.587	0.144	x	x
Copper	1.04	2.56	1.60	2.71	5.90	1.11	1.11	0.962	1.28	1.45	4.44	1.68	0.435	18.7	34
Lead	1.20	2.94	2.15	4.41	9.37	1.42	1.82	2.27	2.62	2.33	2.94	2.73	1.70	30.24	46.7
Mercury	<0.00891	<0.00977	<0.00932	<0.00924	0.0296	0.0158	<0.00839	0.0141	0.0139	<0.00995	<0.00987	0.0121	<0.00999	0.13	0.15
Nickel	1.35	2.24	1.81	4.18	6.82	1.26	1.19	1.64	2.22	1.74	5.00	3.03	1.17	15.9	20.9
Selenium	0.285	0.422	0.466	0.832	1.41	0.303	0.805	0.377	0.699	0.449	0.626	0.458	0.363	x	x
Silver	0.00459	0.0169	0.00747	0.0163	0.0394	0.00249	0.00463	<0.00121	0.00403	<0.00140	0.008	0.00851	0.00411	0.73	1
Thallium	0.0178	0.0576	0.0302	0.0467	0.0790	0.0128	0.0277	0.0223	0.0212	0.024	0.0397	0.0295	0.0218	x	x
Zinc	2.41	7.78	5.56	12.9	27.9	3.27	4.27	3.41	4.49	4.83	10.2	11.3	5.47	124	150
OTHERS															
Ammonia (as N)	6.99	7.28	<6.76	124	261	14.1	50.3	6.53	6.65	<6.71	15.9	13.4	<6.60	x	x
Cyanide, Total	<0.0314	<0.0342	<0.0322	<0.0321	<0.0439	<0.0319	<0.0289	<0.0290	<0.0294	<0.0331	<0.0349	<0.0362	<0.0331	x	x
TPH	73.1	79.3	71.8	80.4	69.2	78.9	75.0	76.3	75.2	73.2	71.7	81.7	<1.86	x	x
Solids, Total (%)	75.8	73.1	73.8	74.8	54.2	75.3	83.2	85.5	84.2	74.1	71.7	69.0	75.6	x	x
TOC (%)	<0.0569	<0.0544	<0.0594	1.29	<0.0528	<0.0545	<0.0579	<0.0542	<0.0512	<0.0593	<0.0583	<0.0597	<0.0548	x	x
Monobutyltin (µg/kg)	<0.36	<0.36	<0.38	<0.39	1.4	0.63	<0.33	0.59	<0.30	<0.37	<0.39	<0.40	<0.34	x	x
Dibutyltin (µg/kg)	<0.26	<0.26	<0.28	<0.28	<0.30	<0.24	<0.24	<0.23	<0.22	<0.27	<0.28	<0.29	<0.25	x	x
Tributyltin (µg/kg)	<0.59	<0.59	<0.63	<0.64	1.3	<0.53	<0.54	<0.50	<0.50	<0.61	<0.63	<0.66	<0.56	x	x

"<" Less-than symbol indicates that the analyte concentration was not detected above the MDL (U-qualified). Value indicates the MDL.
x = No TEL or ERL published for that parameter. Qualifiers (omitted) are defined on page 452 of the laboratory report (Appendix E).
See Table 4 for complete results.

3.3.2 Pesticides and Total PCBs

Pesticide analytes were not detected above the MDLs (U-qualified) for the DMMU subsamples or composites tested. Pesticide analyte MDLs were reported below the applicable TELs and (or) ERLs in the samples tested except for dieldrin, γ-BHC (lindane), and toxaphene. The MDLs for Chlordane (technical) in samples DMMU-2-1C and DMMU-7-4B exceeded the ERL of 0.5 µg/kg. The laboratory included data qualifier C+ for the pesticide analytes α-BHC and toxaphene in specific subsamples and composites, which indicates the associated calibration quality control is higher than the established quality control criteria for accuracy. The analytes were not detected above the MDLs and the data was not affected and acceptable to report.

Total PCBs were not detected above the MDL (U-qualified) for the DMMU subsamples or composites tested. Project sediment samples had MDLs ranging between 1.15 µg/kg to 1.84 µg/kg, which slightly exceeded the TDL for Total PCBs (1.0 µg/kg) in the SAP. The MDLs for total PCBs were below the TEL (21.6 µg/kg) and ERL (22.7 µg/kg) for the samples tested. The elevated detection limits for total PCBs are well below the TEL and ERL thresholds; therefore, impact to data quality is considered minimal. The laboratory included data qualifier C+ for total PCBs in specific subsamples analyzed.

Complete results for pesticides and total PCBs are in Table 5.

3.3.3 PAHs

Several PAH analytes tested were detected above the LRL in some of the subsamples, as summarized below:

- DMMU 1: In subsamples 1B and 1C, PAH analytes were not detected above the LRL. In subsample 1A, two PAH analytes (fluorene and pyrene) were detected above the LRL.
- DMMU 2: In subsamples 1A, 1B, and 1C, PAHs were not detected above the MDL (U-qualified).
- DMMU 3: In subsample 2B, PAHs were not detected above the MDL (U-qualified). In subsamples 2A and 2A Duplicate, seven and six PAH analytes were detected above the LRL respectively. Subsample 2A had four PAH analytes with concentrations that exceeded the TEL and/or ERL. Subsample 2A had one PAH analyte (dibenzo[a,h]anthracene) with a MDL that exceeded the TEL.
- DMMU 4: In subsample 2A, fluorene was detected above the LRL. In subsample 2B, PAHs were not detected above the MDL (U-qualified).
- DMMU 5: In subsamples 3A and 3C, PAHs were not detected above the MDL (U-qualified). In subsample 3B, ten PAH analytes were detected above the LRLs. The detected concentrations for PAHs in subsample 3B did not exceed applicable TELs or ERLs.
- DMMU 6: In subsamples 3A, 3B, and 3C, PAHs were not detected above the MDL (U-qualified).
- DMMU 7: In subsample 4C, PAHs were not detected above the MDL (U-qualified). In subsamples 4A, 4B, and 4D, between three and 12 PAH analytes were detected above the LRL. The PAH analyte concentrations were below the applicable TELs and ERLs with the exception of anthracene (276 µg/kg) in subsample 4A, which exceeded the respective TEL (46.9 µg/kg) and ERL (85.3 µg/kg).

- DMMU 8: In subsamples 5A, 5B, and 5D, PAHs were not detected above the MDL (U-qualified). In subsample 5C, two PAH analytes (naphthalene and phenanthrene) were detected above the LRL. The detected concentrations for naphthalene and phenanthrene in subsample 5C were below the respective TELs and ERLs.
- New Work ODMDS and Reference: PAHs were below the MDLs in the Reference composite sample and New Work ODMDS composite sample.

Total LPAHs ranged from 8.34 µg/kg to 2,485 µg/kg among samples tested. Total HPAHs ranged from 12.5 µg/kg to 329 µg/kg among samples tested. Total PAHs ranged from 20.9 µg/kg to 2,814 µg/kg among samples tested. Total LPAHs, total HPAHs, and total PAHs were highest in DMMU-3-2A. The concentration for total LPAHs in DMMU-3-2A (2,485 µg/kg) exceeded the TEL (312 µg/kg) and ERL (552 µg/kg), and the concentration for total PAHs (2,814 µg/kg) exceeded the TEL (1,684 µg/kg). The concentration for total LPAHs in DMMU-7-4A (460 µg/kg) exceeded the TEL of 312 µg/kg.

MDLs for the PAH compounds were below applicable TDLs from the SAP. The MDLs for acenaphthene, acenaphthylene, and dibenzo(a,h)anthracene in DMMU-3-2A (16.8 µg/kg) exceeded the analyte specific TELs 6.71 µg/kg, 5.87 µg/kg, and 6.22 µg/kg, respectively, and the ERL for acenaphthene (16 µg/kg).

Exhibit 3-3 summarizes the analytical results for the subsamples with PAH analytes detected above LRLs compared to the TEL and ERL, including the Reference composite and the New Work ODMDS composite sample results. Complete results are in Table 6.

Exhibit 3-3. Analytical Results for PAHs Detected in Sediment Subsamples Above LRLs in Sediment

Analyte	Concentration (mg/kg or as otherwise indicated)												
	Subsample or Composite ID												
	DMMU-1-1A	DMMU-3-2A	DMMU-3-2A (Dup)	DMMU-4-2A	DMMU-5-3B	DMMU-7-4A	DMMU-7-4B	DMMU-7-4D	DMMU-8-5C	HI-REF	HI-ODMDS	TEL	ERL
Acenaphthene[LPAH]	<1.64	**416**	3.71	<1.80	12.6	21.3	5.31	<1.48	2.24	<1.81	<1.55	6.71	16
Acenaphthylene[LPAH]	<1.64	**323**	5.87	2.03	4.35	3.66	<2.16	1.86	<1.62	<1.81	<1.55	5.87	44
Anthracene[LPAH]	<1.64	<16.8	3.65	<1.80	23.1	**276**	2.19	<1.48	<1.62	<1.81	<1.55	46.9	85.3
Benzo(a)anthracene[HPAH]	<1.64	31.3	<1.56	<1.80	17.2	12.8	2.17	2.23	<1.62	<1.81	<1.55	74.8	261
Benzo(a)pyrene[HPAH]	<1.64	<16.8	<1.56	<1.80	2.94	7.37	<2.16	2.85	<1.62	<1.81	<1.55	88.8	430
Benzo(b&k)fluoranthene[HPAH]	<3.28	<16.8	<1.56	<1.80	5.10	13.2	5.29	5.04	<1.62	<3.62	<3.10	x	x
Benzo(g,h,i)perylene[HPAH]	<1.64	22.3	<1.56	<1.80	1.78	3.22	<2.16	2.97	<1.62	<1.81	<1.55	x	x
Chrysene[HPAH]	<1.64	36.7	<1.56	<1.80	7.95	14.8	2.30	2.52	<1.62	<1.81	<1.55	108	384
Dibenzo(a,h)anthracene[HPAH]	<1.64	**<16.8**	<1.56	<1.80	<1.64	<1.59	<2.16	<1.48	<1.62	<1.81	<1.55	6.22	63.4
Fluoranthene[HPAH]	5.04	81.3	2.52	<1.80	3.80	78.9	10.3	6.37	<1.62	<1.81	<1.55	113	600
Fluorene[LPAH]	<1.64	**1,190**	11.1	4.00	5.38	28.5	<2.16	<1.48	<1.62	<1.81	<1.55	21.2	19
Indeno(1,2,3-cd)pyrene[HPAH]	<1.64	<16.8	<1.56	<1.80	<1.64	2.53	<2.16	2.22	<1.62	<1.81	<1.55	x	x
Naphthalene[LPAH]	<1.64	<16.8	<1.56	<1.80	<1.64	1.63	<2.16	<1.48	5.83	<1.81	<1.55	34.6	160
Phenanthrene[LPAH]	<1.64	**522**	4.39	2.74	20.1	129	<2.16	<1.48	3.79	<1.81	<1.55	86.7	240
Pyrene[HPAH]	3.75	90.3	3.22	<1.80	11.1	59.1	9.39	5.39	<1.62	<1.81	<1.55	153	665
Total LPAHs	9.84	**2,485**	30.3	14.2	67.2	**460**	16.1	9.26	16.7	10.9	9.30	312	552
Total HPAHs	21.9	329	16.7	16.2	53.2	194	38.1	31.1	14.6	18.1	15.5	655	1700
Total PAHs	31.8	**2,814**	46.9	30.4	120	654	54.2	40.3	31.3	29.0	24.8	1684	4022

LPAH = Low molecular weight PAH as defined in the Regional Implementation Agreement by USEPA/USACE (2003).
HPAH = High molecular weight PAH as defined in the Regional Implementation Agreement by USEPA/USACE (2003).
Bolded values meet or exceed the TEL and (or) ERL.
For calculating total PAHs, U-qualified results use the MDL and J-qualified results use the value reported by the laboratory.
"<" Less-than symbol indicates that the analyte concentration was not detected above the MDL (U-qualified). Value indicates the MDL.
x = No TEL or ERL published for that parameter.
Qualifiers (omitted) are defined on page 463 of the laboratory report (Appendix E).
See Table 6 for complete results.

3.3.4 SVOCs

Most SVOCs were reported below MDLs (U-qualified) among the samples tested, with specific SVOCs detected in J-qualified concentrations or above the LRL in one or more subsamples tested. Di-n-butyl phthalate was detected above the LRL in the majority of the DMMU subsamples tested while specific SVOCs were detected above the LRL in the following DMMU subsamples tested.

- 2,4-dichlorophenol and 2,6-dinitrotoluene (2,6-DNT) were detected above the LRL in DMMU-3-2A Duplicate sample.
- Diethyl phthalate was detected above the LRL in the three subsamples from DMMU 5 (3A, 3B, and 3C), and hexachlorocyclopentadiene was detected above the LRL in DMMU-5-3B.
- Bis(2-ethylhexyl) phthalate was detected above the LRL in DMMU-8-5C.

TEL or ERL criteria values were not listed for the SVOC analytes except for bis(2-ethylexyl) phthalate. The concentrations for bis(2-ethylexyl) phthalate for the samples ranged from <1.48 µg/kg to 18.8 µg/kg and were below the TEL concentration value of 182 µg/kg. Data qualifiers A, B, C+, CQ, H, and V were listed for various SVOC analytes in the samples tested. Data qualifiers were previously defined. Complete results are in Table 7.

3.4 Elutriate and Water Chemistry

Analytical results for site water samples and elutriates generated from the DMMU sediment composite samples are presented in Tables 8 through 11 along with results for the Reference composite and the New Work ODMDS composite. Elutriates for terrestrial composite samples from DMMUs 1 through 4 were generated from site water collected from station DMMU 7-4A. Elutriates for terrestrial composite samples from DMMUs 5 and 6 were generated from site water collected from station DMMU 7-4B. Elutriates for marine composite samples from DMMUs 7 and 8 were generated from site water collected from station DMMU 7-4B and DMMU-8-5B, respectively. Results for water and elutriate samples are compared to applicable CMC and TWQS (acute) values. The CMC is defined in Subsection 2.6.2. The elutriate and water chemistry laboratory case narrative and data are in Appendix E.

3.4.1 Metals, Ammonia, Cyanide, TOC, TSS, TPH, Organotins, and Salinity

Two or more metals were detected above the MDL in either J-qualified concentrations or above the LRLs in site water and elutriate samples tested except for mercury, selenium, silver, and thallium, which were U-qualified. Beryllium was U-qualified in the samples tested except for DMMU-7-4B water. Detected concentrations of the 13 metals analyzed did not exceed applicable CMCs or TWQS.

The laboratory included data qualifiers A, B, B2, V, V2 for specific metals in most of the DMMU elutriate and site water samples. The MDLs did not exceed the CMC or TWQS, therefore impact to data quality is minimal. Data qualifiers A, B, B2, V, and V2 were listed for specific metals in site water and elutriate samples tested.

Trivalent chromium was below the MDL in the samples tested. Hexavalent chromium ranged from 0.00208 micrograms per liter (µg/L) to 58.4 µg/L and was greatest in DMMU-8 water. Hexavalent chromium concentrations were V2-qualified in tested samples and below the CMC or TWQS.

Monobutyltin was detected above the LRL in elutriate samples DMMU-2 and DMMU-4, and site water samples DMMU-7-4B, DMMU-8-5B, and the ODMDS. Dibutyltin and tributyltin were not detected above the MDLs in any of the elutriate and site water samples tested.

Ammonia (as nitrogen) ranged from 0.133 mg/L to 7.62 mg/L among the samples tested and was highest in DMMU-7 elutriate. Ammonia concentrations in DMMU-7 elutriate exceeded the calculated CMC of 6.50 mg/L.

Total cyanide not detected above the MDL in any of the elutriate and site water samples tested.

TOC ranged from 2.0 mg/L to 9.9 mg/L among samples tested.

TSS ranged from 1.68 mg/L to 249 mg/L among samples tested.

Salinity ranged from 28.6 mg/L to 30.4 mg/L among the site water samples tested.

TPH concentrations ranged from <0.484 mg/L to 8.94 mg/L among samples tested and was highest in elutriate sample DMMU-3.

Elutriate and water sample results for analytes reported greater than the MDLs in one or more samples tested are summarized in Exhibits 3-4 and 3-5, respectively. Complete results are in Table 8.

Exhibit 3-4. Results for Metals, Monobutyltin, Ammonia, TOC, TSS, and TPH Detected Above LRLs in One or More Elutriate Samples

Analyte	ELUTRIATE SAMPLES									CMC	TWQS Acute
	DMMU-1	DMMU-2	DMMU-3	DMMU-3 (Dup)	DMMU-4	DMMU-5	DMMU-6	DMMU-7	DMMU-8		
Concentration (µg/L)											
Antimony	1.54	<1.00	<1.00	<1.00	<1.00	<1.00	1.07	<1.00	<1.00	x	x
Arsenic	4.46	3.22	5.53	5.18	2.39	3.09	0.943	9.28	2.88	69	149
Cadmium	0.267	0.263	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	40	40.0
Chromium	<0.400	0.670	<0.400	<0.400	<0.400	<0.400	0.941	<0.400	<0.400	x	x
Chromium, Hexavalent	0.0251	0.0248	0.0258	0.0126	0.00208	0.0297	0.0239	0.0103	0.00286	1090	1100
Copper	<1.00	<1.00	1.08	<1.00	<1.00	<1.00	<1.00	<1.00	1.12	4.8	13.5
Nickel	3.03	1.78	2.90	0.849	1.27	0.895	2.16	2.41	2.02	74	118
Zinc	4.89	2.15	5.24	3.20	1.76	2.26	2.09	2.12	2.28	90	92.7
Monobutyltin	<0.029	0.13	<0.029	0.044	0.064	0.031	<0.029	<0.029	<0.029	x	x
Concentration (mg/L)											
Ammonia (as N)	0.797	0.456	0.912	0.586	0.864	0.877	0.133	**7.62**	0.698	6.50	x
TOC	9.9	5.2	4.9	4.0	4.6	4.6	4.1	3.9	2.5	x	x
TSS	5.16	2.84	5.89	6.60	3.04	5.64	1.68	2.32	6.59	x	x
TPH	0.867	1.25	8.94	1.90	1.73	0.654	0.649	1.58	0.676	x	x

Bolded value exceeded the CMC.
x = No CMC and (or) Texas water quality standard values published for this parameter.
<#.## = The analyte was not detected at or above the MDL (= U-qualified). The value after the less-than symbol represents the MDL.
Acronyms and qualifiers (omitted) are defined in the front of the tables section, in Section 3.4.1, and on page 463 of the laboratory report in Appendix E.
See Table 8 for complete results.

Exhibit 3-5. Results for Metals, Monobutyltin, Ammonia, TOC, TSS, and TPH Detected Above LRLs in One or More Site Water Samples

Analyte	SITE WATER SAMPLES					CMC	TWQS Acute
	DMMU-7-4A	DMMU-7-4B	DMMU-8-5B	HI-REF	HI-ODMDS		
Metals	**Concentration (µg/L)**						
Antimony	<1.00	<1.00	1.32	<1.00	<1.00	x	x
Arsenic	1.89	1.66	1.60	1.21	1.56	69	149
Cadmium	<0.250	0.278	<0.250	0.312	<0.250	40	40.0
Chromium	0.979	0.655	1.03	0.448	<0.400	x	x
Chromium, Hexavalent	18.8	7.48	58.4	7.62	9.69	1100	1090
Copper	2.09	1.40	1.73	<1.00	<1.00	4.8	13.5
Lead	1.16	0.722	0.866	<0.500	<0.500	210	133
Nickel	1.03	0.858	1.02	0.302	<0.250	74	118
Zinc	4.16	3.74	6.59	<1.00	1.11	90	92.7
Monobutyltin	<0.029	0.13	0.72	0.049	0.067	x	x
Others	**Concentration (mg/L)**						
Ammonia (as N)	0.618	0.615	0.617	0.520	0.621	6.50	x
TOC	3.1	3.1	3.0	2.3	2.0	x	x
TSS	249	133	124	9.47	6.95	x	x

x = No CMC and (or) Texas water quality standard values published for this parameter.
<#.## = The analyte was not detected at or above the MDL (= U-qualified). The value after the less-than symbol represents the MDL.
Acronyms and qualifiers (omitted) are defined in the front of the tables section, in Section 3.4.1, and on page 463 of the laboratory report in Appendix E.
See Table 8 for complete results.

3.4.2 Pesticides and Total PCBs

Pesticide analytes were reported below MDL (U-qualified) in site water and elutriate samples tested except for p,p'(4,4')-DDE in DMMU-1-E (0.00790 µg/L) and methoxychlor in DMMU-3-E (0.0101 µg/L). There are not CMC or TWQS values listed for p,p'(4,4')-DDE or methoxychlor. The MDLs for toxaphene were 0.300 µg/L among samples tested, which exceeded the CMC (0.21 µg/L) and TWQS (0.21 µg/L). The MDLs reported for toxaphene were below the TDL of 0.5 µg/L in accordance with the SAP (Appendix A). The laboratory included data qualifier C+ for pesticide analyte α-BHC in the samples tested. The laboratory included data qualifier B2 for pesticide analyte δ-BHC in elutriate sample DMMU-3 Duplicate and data qualifier P for pesticide analyte methoxychlor in elutriate sample DMMU-3.

Total PCBs were not detected above the MDL (U-qualified) in any sample.

Complete results for pesticides and Total PCBs are in Table 9.

3.4.3 PAHs

PAH analytes were not detected above the MDLs in elutriate samples from DMMU-1, DMMU-2, DMMU-4, DMMU-5, and DMMU-6. PAH analytes were not detected above the MDLs in site waters from DMMU-7, DMMU-8, the Reference, or the ODMDS. Four PAH analytes were detected in concentrations above the LRLs in elutriate sample DMMU-3. Two PAH analytes were detected in concentrations above the LRLs in elutriate sample DMMU-3 Duplicate. One PAH analyte was detected in concentrations above the MDL in elutriate samples DMMU-7 and DMMU-8. There are not CMC or TWQS values for the PAH analytes except phenanthrene. The concentration for phenanthrene in DMMU-3 elutriate (1.08 µg/L) was below the TWQS (7.7 µg/L).

Total LPAHs ranged from 1.66 µg/L to 7.06 µg/L among samples tested. Total HPAHs ranged from 2.49 to 2.81µg/L among samples tested. Total PAHs ranged from 4.16 µg/L to 9.87 µg/L among samples tested.

Complete results are presented in Table 10.

3.4.4 Semi-volatile Organic Compounds

Two of the 41 SVOC analytes (diethyl phthalate and di-n-butyl phthalate) were detected above the LRLs in the tested samples except for diethyl phthalate in site water samples DMMU-7-4A and DMMU-8-5B which were J-qualified. Bis(2-ethylhexyl) phthalate was detected above the MDL (J-qualified) in elutriate samples DMMU-1 and DMMU-7. Total phenol was detected above the MDL (J-qualified) in elutriate samples DMMU-3 Duplicate, DMMU-6, DMMU-7, and DMMU-8, and site water samples. There are not CMC or TWQS for the SVOC analytes tested except for pentachlorophenol. Concentrations for pentachlorophenol were below the MDLs (U-qualified) in the samples tested, and the MDLs were below the CMC (13 mg/L) and TWQS (15.1 mg/L). The laboratory included data qualifiers B, B2, C+, V, and (or) V2 for specific SVOC analytes in elutriate and site waters tested.

Complete results are in Table 11.

3.5 Water Column (Suspended Particulate Phase) Bioassays

SPP tests were performed with the atherinoid fish *Menidia beryllina* (inland silverside) and planktonic and juvenile life stages of the mysid crustacean *Americamysis bahia* (opossum shrimp). Elutriate test results were compared to results of the control (laboratory-prepared artificial seawater [Hawaiian Marine Mix]). The complete toxicity testing report by NWDLS is in Appendix G.

Results of the SPP tests are used to determine if STFATE modeling is required. For the eight project samples analyzed, survival in dilutions for the samples across all test species was greater than 50% in all SPP tests. As stated in the project SAP, "if less than 50% mortality occurs in the SPP treatments, it is not possible to calculate an LC_{50}. In such cases, the LC_{50} is assumed to be >100%." Based on the results the LC_{50} was >100 in the SPP tests.

Based on elutriate chemistry results, STFATE modeling was performed on sample DMMU-7 (prepared as the composite of sediment subsamples DMMU-7A through DMMU-7D). The elutriate concentration for ammonia of 7.62 mg/L exceeded the calculated CMC of 6.50 mg/L. Other sample results did not exceed the CMC for any other contaminant.

3.5.1 *Americamysis bahia* 96-Hour Bioassay

The 96-hour SPP tests with *A. bahia* were initiated on February 14, 2023 and terminated February 18, 2023. Survival in the site water controls for each project sample ranged from 96% to 100%, meeting the acceptability criterion of greater than or equal to (≥) 90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 100% among the project elutriates and was 98% in the Reference. The estimated LC_{50} was >100% for the eight project samples. Survival rates for the samples are summarized in Exhibit 3-6.

Summaries of the test conditions including survivorship raw data bench sheets, water quality measurements, and ammonia concentrations are provided in PDF pages 48 through 54 of the toxicity testing report (Appendix G). The results of the Reference toxicant test with *A. bahia* using potassium chloride are provided as PDF pages 55 through 68 of the NWDLS' toxicity testing report (Appendix G).

Exhibit 3-6. Summary of Survival Data for 96-hour SPP Tests Using *Americamysis bahia*

Sample ID	Concentration (%)	Mean Survival (% [± SD])	Statistically Significantly Less Than Control? (yes/no)	LC_{50} (%)
REF (site water control)		98 (±4.5)		
DMMU 1 (site water control)		100 (±0.0)		
DMMU 2 (site water control)		98 (±4.5)		
DMMU 3 (site water control)		96 (±8.9)		
DMMU 4 (site water control)		100 (±0.0)		
DMMU 5 (site water control)		100 (±0.0)		
DMMU 6 (site water control)		100 (±0.0)		
DMMU 7 (site water control)		100 (±0.0)		
DMMU 8 (site water control)		100 (±0.0)		
REF (elutriate)	100	98 (±4.5)	No	>100
DMMU 1 (elutriate)	100	98 (±4.5)	No	>100
DMMU 2 (elutriate)	100	98 (±4.5)	No	>100
DMMU 3 (elutriate)	100	98 (±4.5)	No	>100
DMMU 4 (elutriate)	100	100 (±0.0)	No	>100
DMMU 5 (elutriate)	100	94 (±8.9)	No	>100
DMMU 6 (elutriate)	100	100 (±0.0)	No	>100
DMMU 7 (elutriate)	100	100 (±0.0)	No	>100
DMMU 8 (elutriate)	100	100 (±0.0)	No	>100

Source: PDF Page 4 to 8 and pages 35 to 54 of the toxicology laboratory report by NWDLS (Appendix G)

3.5.2 *Menidia beryllina* 96-Hour Bioassay

The 96-hour SPP tests with *M. beryllina* were initiated on February 14, 2023 and terminated on February 18, 2023. Survival in the site water controls for each project sample ranged from 94% to 100%, meeting the acceptability criterion of ≥90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 98% among the project elutriates and was 92% in the Reference. The estimated LC_{50} values were >100% for the eight project samples. The mean survival results for these tests are summarized in Exhibit 3-7.

Summaries of the test conditions including survivorship raw data bench sheets, water quality measurements, and ammonia concentrations are provided in PDF pages 69 through 88 of the toxicity testing report (Appendix G). Results of the potassium chloride Reference toxicant test with *M. beryllina* are provided as PDF pages 89 through 100 of the toxicity testing report (Appendix G).

Exhibit 3-7. Summary of Survival Data for 96-hour SPP Tests Using *Menidia beryllina*

Sample ID	Concentration (%)	Mean Survival (% [± SD])	Statistically Significantly Less Than Control? (yes/no)	LC_{50} (%)
REF (site water control)		94 (±5.5)		
DMMU 1 (site water control)		98 (±4.5)		
DMMU 2 (site water control)		98 (±4.5)		
DMMU 3 (site water control)		94 (±8.9)		
DMMU 4 (site water control)		96 (±5.5)		
DMMU 5 (site water control)		100 (±0.0)		
DMMU 6 (site water control)		96 (±8.9)		
DMMU 7 (site water control)		96 (±8.9)		
DMMU 8 (site water control)		96 (±8.9)		
REF (elutriate)	100	92 (±8.4)	No	>100
DMMU 1 (elutriate)	100	96 (±5.5)	No	>100
DMMU 2 (elutriate)	100	98 (±4.5)	No	>100
DMMU 3 (elutriate)	100	98 (±4.5)	No	>100
DMMU 4 (elutriate)	100	98 (±4.5)	No	>100
DMMU 5 (elutriate)	100	98 (±4.5)	No	>100
DMMU 6 (elutriate)	100	94 (±13.4)	No	>100
DMMU 7 (elutriate)	100	96 (±8.9)	No	>100
DMMU 8 (elutriate)	100	96 (±8.9)	No	>100

Source: PDF Pages 4 to 8 and pages 69 to 88 of the toxicology laboratory report by NWDLS (Appendix G)

3.5.3 *Americamysis bahia* Plankton 48-Hour Bioassay

The 48-hour SPP tests with planktonic life stage *A. bahia* were initiated on February 14, 2023 and terminated on February 16, 2023. Survival in the controls for each project sample ranged from 96% to 100%, meeting the acceptability criterion of ≥90% survival. Mean survival in the 100% elutriate concentration ranged from 94% to 100% among the project elutriates and was 100% in the Reference. The estimated LC_{50} values were >100% for the eight project samples. The mean survivorship results for the samples are summarized in Exhibit 3-8.

Summaries of the test conditions including survivorship raw data bench sheets, water quality measurements, and ammonia concentrations are provided in PDF pages 9 through 28 in the toxicity testing report (Appendix G). Results of the 48-hour acute potassium chloride Reference toxicant test with *A. bahia* are provided as PDF pages 29 through 34 of the toxicity report (Appendix G).

Exhibit 3-8. Summary of Survival Data for 48-hour SPP Tests Using Planktonic Life Stage *Americamysis bahia*

Sample ID	Concentration (%)	Mean Survival (% [± SD])	Statistically Significantly Less Than Control? (yes/no)	LC_{50} (%)
REF (site water control)		98 (±4.5)		
DMMU 1 (site water control)		100 (±0.0)		
DMMU 2 (site water control)		96 (±5.5)		
DMMU 3 (site water control)		100 (±0.0)		
DMMU 4 (site water control)		98 (±4.5)		
DMMU 5 (site water control)		100 (±0.0)		
DMMU 6 (site water control)		100 (±0.0)		
DMMU 7 (site water control)		98 (±4.5)		
DMMU 8 (site water control)		100 (±0.0)		
REF (elutriate)	100	100 (±0.0)	No	>100
DMMU 1 (elutriate)	100	98 (±4.5)	No	>100
DMMU 2 (elutriate)	100	100 (±0.0)	No	>100
DMMU 3 (elutriate)	100	98 (±4.5)	No	>100
DMMU 4 (elutriate)	100	100 (±0.0)	No	>100
DMMU 5 (elutriate)	100	100 (±0.0)	No	>100
DMMU 6 (elutriate)	100	96 (±8.9)	No	>100
DMMU 7 (elutriate)	100	94 (±8.9)	No	>100
DMMU 8 (elutriate)	100	100 (±0.0)	No	>100

Source: PDF Pages 4 to 28 of the toxicology laboratory report by NWDLS (Appendix G)

3.6 Whole Sediment (Solid Phase) Bioassays

The SP toxicity tests were performed with the amphipod crustacean *Leptocheirus plumulosus* and the mysid crustacean *Americamysis bahia*.

3.6.1 *Leptocheirus plumulosus* 10-Day Bioassay

The 10-day SP tests with *L. plumulosus* were initiated on February 24, 2023 and terminated March 6, 2023. Mean survival in the control was 94%, which met the RIA recommended acceptability criterion of ≥90%. Mean survival in the project sediments ranged from 87% to 92% and was 91% in the Reference. Mean survival across project samples was less than 20% below the Reference, indicating that the samples met the LPC for benthic toxicity as defined in the RIA. Mean survival for the samples is summarized in Exhibit 3-9.

Summaries of the test conditions including raw survivorship data bench sheets, water quality parameters, and ammonia concentrations are summarized in PDF pages 101 through 116 of the toxicity report (Appendix G). The results of the 48-hour Reference toxicant test using cadmium chloride with *L. plumulosus* are provided as PDF page 117 of the toxicity report (Appendix G).

Exhibit 3-9. Summary of Survival Data for the 10-Day SP Tests Using *Leptocheirus plumulosus*

Sample ID	Mean Survival (%)	Standard Deviation (±%)	Significant Effect? (>20% Effect?)	Statistically Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
Control	94	6.5	-3.30; No		
REF (Reference)	91	4.2	0.00; No		
DMMU 1 Composite	92	2.7	-1.10; No	No	No
DMMU 2 Composite	89	7.4	2.20; No	No	No
DMMU 3 Composite	91	4.2	0.00; No	No	No
DMMU 4 Composite	90	3.5	1.10; No	No	No
DMMU 5 Composite	88	5.7	3.30; No	No	No
DMMU 6 Composite	87	5.7	4.40; No	No	No
DMMU 7 Composite	90	5.0	1.10; No	No	No
DMMU 8 Composite	91	4.2	0.00; No	No	No

LPC = limiting permissible concentration

Source: PDF Pages 101 to 116 of the toxicology laboratory report by NWDLS (Appendix G)

3.6.2 *Americamysis bahia* 10-Day Bioassay

The 10-day SP tests with *A. bahia* were initiated February 17, 2023 and terminated on February 27, 2023. The tests were validated by 91% mean survival in the control, meeting the acceptability criterion of ≥90%. Mean survival in the project sediments ranged from 87% to 93% and was 91% in the Reference. Project samples did not result in mean survival that was greater than 10% different from that of the Reference, indicating that the samples met the LPC for benthic toxicity as defined in the RIA. Mean survival for test samples is summarized in Exhibit 3-10.

Summaries of the test conditions including raw survivorship data bench sheets, water quality parameters, and ammonia concentrations are summarized in PDF pages 118 through 139 of the toxicity report (Appendix G). The results of the 7-day potassium chloride Reference toxicant test with *A. bahia* are provided as PDF pages 141 through 154 of the toxicity report (Appendix G).

Exhibit 3-10. Summary of Survival Data for the 10-Day SP Tests Using *Americamysis bahia*

Sample ID	Mean Survival (%)	Standard Deviation (±%)	Significant Effect? (>10% Effect?)	Statistically Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
Control	91	4.2	0.0; No		
REF (Reference)	91	4.2	0.0; No		
DMMU 1 Composite	93	5.7	-2.2; No	No	No
DMMU 2 Composite	90	6.1	1.1; No	No	No
DMMU 3 Composite	89	4.2	2.2; No	No	No
DMMU 4 Composite	90	5.0	1.1; No	No	No
DMMU 5 Composite	89	4.2	2.2; No	No	No
DMMU 6 Composite	87	5.7	4.4; No	No	No
DMMU 7 Composite	88	4.5	3.3; No	No	No
DMMU 8 Composite	90	3.5	1.1; No	No	No

LPC = limiting permissible concentration

Source: PDF Page101 and pages 118 to 139 of the toxicology laboratory report by NWDLS (Appendix G)

3.7 Bioaccumulation Potential Tests

The bioaccumulation potential tests were performed with the mollusk *Mercenaria mercenaria* (quahog clam) and polychaete *Alitta virens* (sand worm).

The 28-day bioaccumulation tests with *M. Mercenaria* and *A. virens* were initiated on March 3, 2023 and March 31, 2023, respectively. Mean survival in the control was 99% for *M. mercenaria* and 87% for *A. virens*. Mean survival in the Reference was 99% for *M. Mercenaria* and 96% for *A. virens*. Survival in the project sediment samples ranged from 91% to 100% in *M. Mercenaria* and from 89% to 100% for *A. virens*. Mean survival results for the samples are summarized in Exhibit 3-11.

Summaries of the test conditions including raw survivorship data bench sheets, water quality measurements, ammonia concentrations, and tissue weight for *M. mercenaria* and *A. virens* are provided as PDF pages 142 through 157, and pages 159 through 174, respectively, in the toxicity report (Appendix G).

Exhibit 3-11. Summary of Survival Data for *Mercenaria mercenaria* and *Alitta virens*

Sample ID	Mean Survival (% [± SD])	
	M. mercenaria	***A. virens***
Control	99 (±2.2)	87 (±10.4)
HI-REF (Reference)	99 (±2.2)	96 (±4.2)
DMMU 1 Composite	98 (±2.7)	100 (±0.0)
DMMU 2 Composite	99 (±2.2)	99 (±2.2)
DMMU 3 Composite	100 (±0.0)	95 (±3.5)
DMMU 4 Composite	97 (±4.5)	97 (±4.5)
DMMU 5 Composite	99 (±2.2)	100 (±0.0)
DMMU 6 Composite	99 (±2.2)	93 (±7.6)
DMMU 7 Composite	91 (±4.2)	89 (±7.4)
DMMU 8 Composite	96 (±4.2)	95 (±3.5)

Source: PDF Pages 140 to 175 of the toxicology laboratory report by NWDLS (Appendix G)

3.8 Tissue Chemistry

Wet and dry weight tissue chemistry results for *M. mercenaria* and *A. virens a*re presented in Tables 12 through 26. Tissue chemistry results for project samples are compared to the Reference and to applicable screening benchmarks. The laboratory reports for tissue chemistry analyses are in Appendix E. Complete results of statistical analyses and transformations for *M. mercenaria* and *A. virens* are in Appendices F-1 and F-2, respectively.

Please note that numerous results were reported with an H qualifier, which indicates a holding time exceedance. This is due to the LIMS which automatically assigns qualifiers based on the test and specific criteria maintained in the LIMS for analysis. The LIMS in this case did not distinguish the matrix of the samples tested, which were frozen tissue samples. As stated in Appendix B, footnote “h” of the Regional Implementation Agreement specifies that frozen tissues may be held for up to one year at -20 Deg C, and for this reason, the sample hold times were met as specified in the guidance.

3.8.1 Total Solids

Total solids were analyzed in *M. mercenaria* and *A. virens* tissues from the eight project samples along with the Reference and pre-exposure tissues. Analytical results for dry weight total solids in *M. mercenaria* and *A. virens* tissue are presented in Table 12.

Total solids in *M. mercenaria* ranged from 10.4% to 15.6% among project samples, the Reference, and pre-exposure tissue. Total solids in *A. virens* ranged from 9.43% to 15.0% among project samples, the Reference, and pre-exposure tissue.

3.8.2 Metals and TPH

Thirteen metals and TPH were tested in *M. mercenaria* and *A. virens* tissues from eight project samples along with the Reference and pre-exposure tissue.

Mercenaria mercenaria

Most metals tested in *M. mercenaria* tissue were detected in concentrations greater than the MDL (in one or more replicates) in one or more project samples. Mean concentrations for antimony, arsenic, chromium, copper, lead, selenium, thallium, and zinc were statistically significantly greater than those of the Reference tissue (as listed below).

- DMMU-1: antimony, arsenic, lead, selenium, and thallium
- DMMU-2: antimony, arsenic, chromium, lead, selenium, and thallium
- DMMU-3: antimony, arsenic, chromium, lead, and selenium
- DMMU-4: arsenic, chromium, lead, selenium, and thallium
- DMMU-5: antimony, arsenic, chromium, copper, lead, selenium, and thallium
- DMMU-6: antimony, arsenic, chromium, lead, selenium, and thallium
- DMMU-7: arsenic, lead, and selenium
- DMMU-8: antimony, arsenic, lead, selenium, and zinc

The results did not exceed the FDA action levels. Mean concentrations for copper in DMMU-5, lead in DMMU-2 and DMMU-5, and zinc in DMMU-8 exceeded the applicable ecological effects threshold. Mean concentrations of zinc in DMMU-8 also exceed the northern Gulf of Mexico background concentration.

Specific metals were detected in the sample and the associated method blanks (V-qualified) in one or more replicates, in one or more project samples, the Reference, and pre-exposure tissues, as listed below.

- Chromium: All DMMUs (except DMMU-8 Replicates 4 and 5), the Reference, and pre-exposure tissue.
- Copper, Nickel, and Zinc: All DMMUs, the Reference, and pre-exposure tissues.
- Lead: DMMU-8 (Replicates 4 and 5), the Reference, and pre-exposure tissues
- Silver: DMMU-4 (Replicate 5), DMMU-5, DMMU-6, DMMU-7, and DMMU-8 (Replicates 1, 2, and 3)
- Thallium: DMMU-4 (Replicate 5), DMMU-5, DMMU-6 (Replicates 1, 2, 4, and 5), DMMU-7, and DMMU-8 (Replicates 1, 2, and 3)

TPH mean wet weight concentrations in *M. mercenaria* tissues ranged from 10.4 mg/kg to 2,404 mg/kg and were highest in DMMU-7. Mean concentrations for TPH in the project samples, except for DMMU-2, were statistically significantly greater than that of the Reference. There is not a FDA action level for TPH.

The fact sheet from the Agency for Toxic Substances and Disease Registry (ATSDR 1999) states that TPH is a term used to describe a large family of several hundred chemical compounds originally from crude oil. Crude oil is used to make petroleum products, which can contaminate the environment. Because there are so many different chemicals in crude oil and in other petroleum products, it is not practical to measure each one separately. However, it is useful to measure the total amount of TPH at a site to evaluate and screen potential constituents of concern and intensity. Scientists do this by dividing TPH into groups of petroleum hydrocarbons that act alike in soil or water. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual chemicals, including both volatile and extractable petroleum hydrocarbons (VPHs and EPHs), encompassing the gasoline range organics (>C_6–C_{12}), diesel range organics (>C_{12}–C_{28}), and oil range organics (>C_{28}–C_{35}).

Generally, TPH testing provides a means to quantify the magnitude (in relative terms) of petroleum contamination that remains in the environment. For dredging projects, this exposure would come from biomagnification starting at low level organisms and working up to humans through a food chain. Upon their discharge into the environment, petroleum hydrocarbons can pose risks to human health, ecosystems, and groundwater. Since there are not FDA action levels for TPH resulting from the lack of scientific studies that document the effects of TPH on local marine-based organisms due to its large chemical composition, where mean concentrations for TPH were statistically significantly greater than that of the Reference, the effects of the TPH were addressed through PAH and SVOC analyses which provide an estimate of more toxic components found within the TPH fractions (results discussed in Section 3.8.3). PAHs and SVOCs were not identified as a concern for *M. mercenaria*.

Alitta virens

Most metals tested in *A. virens* tissue were detected in concentrations greater than the MDL (in one or more replicates) in one or more project samples. Mercury was not detected above the MDL (U-qualified) in any sample. Mean concentrations for cadmium (all project samples except DMMU-8), nickel (all project samples), silver (DMMU-4, DMMU-6, and DMMU-8), and thallium (DMMU-2, DMMU-3, DMMU-4, and DMMU-6), were statistically significantly greater than those of the Reference tissues. Sample mean results did not exceed the FDA action levels or screening criteria concentrations in *A. virens* tissues.

Chromium and zinc were detected in the method blank (B-qualified) in DMMU-8 (Replicate 5). Chromium, copper, lead, nickel, and zinc were detected in both the sample and the method blank (V-qualified) in one or more replicates, in one or more project samples, the Reference, and pre-exposure tissues.

TPH mean wet weight concentrations in *A. virens* tissues ranged from 76.7 mg/kg to 2,566 mg/kg and were highest in the Reference. Mean concentrations for TPH in the project samples were not statistically significantly greater than that of the Reference tissues. There is not a FDA action level for TPH.

Mean wet weight concentrations of metals and TPH in *M. mercenaria* and *A. virens* tissues are summarized in Exhibits 3-12 and 3-13, respectively. Analytical results for wet and dry weight metals and TPH in *M. mercenaria* and *A. virens* tissues are in Tables 13 through 16, respectively. Complete results of the ToxCalc runs for *M. mercenaria* and *A. virens* tissues are in Appendix F.

Exhibit 3-12. *Mercenaria mercenaria* Tissue: Summary of Mean Wet Weight Metals and TPH Results Detected above the MDL in One or More Samples

Analyte	Mean Concentration of Replicates (mg/kg)										FDA Action Level (mg/kg)	EET (mg/kg)	N. Gulf of Mexico Bkgd. (mg/kg)
	DMMU 1	DMMU 2	DMMU 3	DMMU 4	DMMU 5	DMMU 6	DMMU 7	DMMU 8	HI-REF	Pre-exposure			
Antimony	**0.00320 (199%)**	**0.00239 (149%)**	**0.00247 (153%)**	0.00233	**0.00373 (232%)**	**0.00341 (212%)**	0.00196	**0.00221 (137%)**	0.00161	0.00161	x	x	0.22-0.47
Arsenic	**2.60 (215%)**	**2.34 (194%)**	**2.06 (171%)**	**2.11 (175%)**	**1.99 (165%)**	**1.94 (161%)**	**1.87 (155%)**	**2.04 (169%)**	1.21	1.18	86	12.6	3.4-5.4
Beryllium	0.00095	0.00082	0.00052	0.00081	0.00122	0.00105	0.00054	0.00055	0.00135	0.00146	x	x	<0.14
Cadmium	0.0352	0.0382	0.0293	0.0325	0.0277	0.0304	0.0276	0.0252	0.0464	0.0441	4	1.0	0.15-0.83
Chromium	0.114	**0.145 (457%)**	**0.088 (278%)**	**0.158 (498%)**	**0.366 (1149%)**	**0.217 (681%)**	0.0556	0.0484	0.0318	0.0476	13	6.3	0.49-5.2
Copper	1.33	1.22	1.08	1.16	***2.38* (200%)**	1.04	1.06	1.02	1.19	1.29	x	0.2	0.58-2.8
Lead	**0.094 (246%)**	***0.104* (270%)**	**0.096 (251%)**	**0.097 (254%)**	***0.145* (378%)**	**0.0864 (225%)**	**0.094 (244%)**	**0.0827 (216%)**	0.0384	0.0448	1.7	0.1	<0.47
Mercury	0.00601	0.00530	0.00554	0.00546	0.00486	0.00574	0.00490	0.00500	0.00473	0.00480	1	0.3	<0.028
Nickel	0.218	0.217	0.176	0.260	0.233	0.288	0.152	0.138	0.358	0.377	80	2.2	0.7-3.1
Selenium	**0.325 (184%)**	**0.306 (173%)**	**0.312 (177%)**	**0.271 (153%)**	**0.268 (151%)**	**0.264 (149%)**	**0.271 (153%)**	**0.264 (149%)**	0.177	0.203	x	14.2	0.5-1.5
Silver	0.0172	0.0108	0.0138	0.0135	0.0142	0.0177	0.0143	0.0125	0.0159	0.0177	x	1.0	0.11-0.56
Thallium	**0.000643 (212%)**	**0.000641 (211%)**	0.000411	**0.000564 (186%)**	**0.000499 (164%)**	**0.000572 (188%)**	0.000291	0.000391	0.000304	0.000319	x	0.3	<0.47
Zinc	13.7	35.3	14.7	18.2	25.4	15.2	32.3	***35.6* (304%)**	11.7	13.5	x	11.6	7.0-30.0
TPH	**170 (475%)**	335	**960 (2,685%)**	**218 (609%)**	**1886 (5,278%)**	**1951 (5,459%)**	**2404 (6,726%)**	**1955 (5,470%)**	35.7	10.4	x	x	x

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the Reference tissue and includes at least one replicate result greater than the MDL. The concentration of a given analyte in project tissue relative to that of the Reference is given as a percent within parentheses (###%).

Bolded and italicized values indicate a mean concentration of project tissue that is statistically significantly greater than that of the Reference tissues and also exceed the ecological effects threshold (EET) or the upper boundary of the N. Gulf of Mexico background concentration.

x = No FDA action level and (or) ecological effects threshold/North Gulf of Mexico background criteria published for the given parameter. See Table 13 for complete results.

Exhibit 3-13. *Alitta virens* Tissue: Summary of Mean Wet Weight Metals and TPH Results Detected above the MDL in One or More Samples

Analyte	Mean Concentration of Replicates (mg/kg)										FDA Action Level (mg/kg)	EET (mg/kg)	N. Gulf of Mexico Bkgd. (mg/kg)
	DMMU 1	DMMU 2	DMMU 3	DMMU 4	DMMU 5	DMMU 6	DMMU 7	DMMU 8	HI-REF	Pre-exposure			
Antimony	0.00161	0.00161	0.00161	0.00161	0.00161	0.00290	0.00160	0.00166	0.00330	0.00265	x	x	<0.31
Arsenic	1.31	1.32	1.30	1.12	1.32	1.28	1.22	1.07	2.03	2.08	76	12.6	7.4-37.0
Beryllium	0.00135	0.00127	0.00121	0.00142	0.00135	0.00143	0.00133	0.00138	0.00107	0.00132	x	x	<0.09
Cadmium	**0.0461 (184%)**	**0.0493 (197%)**	**0.0529 (212%)**	**0.0471 (188%)**	**0.0470 (188%)**	**0.0523 (209%)**	**0.0507 (203%)**	0.0448	0.0250	0.0241	3	27.8	0.34-1.4
Chromium	0.0416	0.0335	0.0391	0.0403	0.0383	0.0382	0.0392	0.0388	0.208	0.129	12	10.0	0.89-4.6
Copper	1.25	1.28	1.19	1.25	1.33	1.25	1.14	1.55	2.74	1.65	x	0.4	2.3-5.3
Lead	0.0390	0.0325	0.0392	0.0392	0.0354	0.0427	0.0407	0.0405	0.136	0.093	1.5	0.1	0.31-1.2
Nickel	**0.383 (192%)**	**0.355 (178%)**	**0.373 (187%)**	**0.384 (193%)**	**0.349 (175%)**	**0.384 (193%)**	**0.346 (174%)**	**0.376 (188%)**	0.199	0.189	70	2.2	0.53-3.5
Selenium	0.155	0.173	0.174	0.146	0.179	0.159	0.156	0.139	0.257	0.340	x	14.2	0.61-0.99
Silver	0.0184	0.0177	0.0175	**0.0193 (109%)**	0.0191	**0.0222 (126%)**	0.0185	**0.0210 (119%)**	0.0177	0.0229	x	1.0	<0.15
Thallium	0.000424	**0.000483 (133%)**	**0.000507 (140%)**	**0.000471 (130%)**	0.000335	**0.000589 (162%)**	0.000311	0.000429	0.000363	0.000466	x	0.3	<0.31
Zinc	11.5	11.8	12.4	10.7	11.7	11.5	11.7	9.4	13.5	27.2	x	0.3	14-16
TPH	76.7	617	947	609	563	332	527	349	2566	214	x	x	x

Bolded value indicates a mean concentration in project tissue that is statistically significantly greater than that of the Reference and includes one or more replication results greater than the LRL. The concentration of a given analyte in project tissue relative to that of the Reference is given as a percent within parentheses (###%).

x = No FDA action level and (or) ecological effects threshold/North Gulf of Mexico background criteria published for the given parameter.

See Table 14 for complete results.

3.8.3 PAHs

PAHs were tested in *M. mercenaria* and *A. virens* tissues from DMMU 1, DMMU 3, DMMU-4, DMMU-5, DMMU 7, and DMMU 8, along with the Reference, and pre-exposure tissues.

Mercenaria mercenaria

One to four PAH analytes were detected in concentrations greater than the LRL in *M. mercenaria* tissues in one or more replicates in project tissues as follows:

- DMMU-3 – fluorene
- DMMU-7 – acenaphthene, fluoranthene, phenanthrene, and pyrene
- DMMU-8 – anthracene

Mean adjusted concentrations of acenaphthene, fluoranthene, phenanthrene and pyrene in DMMU-7 and anthracene in DMMU-8, statistically significantly exceeded those of the Reference tissues. Mean concentrations of total LPAHs, total HPAHs, and total PAHs in DMMU-7, calculated from results of individual PAHs, also statistically significantly exceeded those of the Reference. These results did not exceed the ecological effects threshold except for acenaphthene and fluoranthene in DMMU-7. Additionally, the results did not exceed the northern Gulf of Mexico background concentration except for total HPAHs in DMMU-7. There are not applicable FDA action levels for the PAHs tested. The complete results of the ToxCalc runs for *M. mercenaria* are provided in Appendix F-1.

Alitta virens

One to four PAH analytes were detected in concentrations greater than the LRL in *A. virens* tissues in one or more replicates in project tissues, and adjusted mean concentrations of these analytes statistically significantly exceeded those of the Reference tissues as follows:

- DMMU-3 – fluorene, phenanthrene, pyrene
- DMMU-5 – benzo(a)pyrene
- DMMU-7 – anthracene, fluoranthene, phenanthrene, pyrene

Mean concentrations of total LPAHs (DMMU-7), total HPAHs (DMMU-7), and total PAHs (DMMU-3 and DMMU-7), calculated from results of individual PAHs, also statistically significantly exceeded those of the Reference tissues. There are not applicable FDA action levels for the PAHs tested. These results did not exceed the ecological effects threshold or northern Gulf of Mexico background concentration. The complete results of the ToxCalc runs for *N. virens* are provided in Appendix F-2.

Mean wet weight concentrations of PAHs greater than the LRL in *M. mercenaria* and *A. virens* tissues are summarized in Exhibits 3-14 and 3-15. Analytical results for wet and dry weight PAHs in *M. mercenaria* and *A. virens* tissues are in Tables 17 through 20, respectively.

Exhibit 3-14. *Mercenaria mercenaria* Tissues: Summary of Mean Adjusted Wet Weight PAH Analytes Results Detected above the LRL in One or More Samples

Analyte	Mean Concentration of Replicates (µg/kg)					EET (µg/kg)	N. Gulf of Mexico Background (µg/kg)
	DMMU-3	DMMU-7	DMMU-8	HI-REF	Pre-exposure		
Acenaphthene	2.42*	***7.88*** **(335%)**	2.40*	2.35*	2.41*	7.3	<20
Anthracene	2.42*	6.37*	**2.98 (127%)**	2.35*	2.41*	x	<20
Fluoranthene	2.66*	***13.0*** **(502%)**	2.64*	2.59*	2.41*	8.8	<20
Fluorene	4.04	6.37*	2.40*	2.35*	2.41*	x	<20
Phenanthrene	2.42*	**8.02 (341%)**	2.40*	2.35*	2.41*	x	<20
Pyrene	2.66*	**8.18 (316%)**	2.64*	2.59*	2.41*	x	<20
Total LPAHs	13.0	**37.8 (268%)**	15.0	14.1*	14.5*	x	60.00
Total HPAHs	24.2*	***75.0*** **(319%)**	24.0	23.5*	27.3*	x	64.00
Total PAHs	37.2	**113 (300%)**	39.1	37.6*	41.8*	40000.0	178

Bolded values indicate a mean adjusted concentration of project tissue that is statistically significantly greater than that of the Reference tissue and includes at least one replicate result greater than the MDL. The concentration of a given analyte in project tissue relative to that of the Reference is given as a percent within parentheses (###%).
Italicized and **bolded values** indicate results that are statistically significantly greater than that of the Reference tissues and also exceed the ecological effects threshold and (or) the upper boundary of the N. Gulf of Mexico background concentration (see Section 7.5.3 of SERIM for details).
* Indicates the analyte was not detected above the MDL, all replicates were U-qualified.
x = No ecological effects threshold published for the given parameter.
See Tables 17 and 18 for complete results.

Exhibit 3-15. *Alitta virens* Tissues: Summary of Mean Adjusted Wet Weight PAH Analytes Results Detected above the LRL in One or More Samples

Analyte	Mean Concentration of Replicates (µg/kg)					EET (µg/kg)	N. Gulf of Mexico Background (µg/kg)
	DMMU-3	DMMU-5	DMMU-7	HI-REF	Pre-exposure		
Anthracene	2.33*	2.33*	**3.42 (144%)**	2.38*	2.45*	x	<20
Benzo(a)pyrene	4.89*	**5.32 (107%)**	5.05*	4.99*	4.89*	x	<20
Fluoranthene	2.56*	2.56*	**10.7 (410%)**	2.62*	4.89*	12.8	<20
Fluorene	**4.43 (186%)**	2.33*	2.41*	2.38*	2.45*	x	<20
Phenanthrene	**7.40 (311%)**	2.33*	**8.86 (372%)**	2.38*	2.45*	14-17	<20
Pyrene	**3.57 (137%)**	2.56*	**13.2 (504%)**	2.62*	4.89*	x	<20
Total LPAHs	21.2	13.9	**21.9 (153%)**	14.3*	25.4	x	60.00
Total HPAHs	24.2	23.5	**41.0 (149%)**	27.6*	48.9*	x	64.00
Total PAHs	**45.4 (108%)**	37.4	**62.9 (150%)**	41.9*	74.3	40000	178

Bolded values indicate a mean adjusted concentration of project tissue that is statistically significantly greater than that of the Reference tissue and includes at least one replicate result greater than the MDL. The concentration of a given analyte in project tissue relative to that of the Reference is given as a percent within parentheses (###%).
* Indicates the analyte was not detected above the MDL, all replicates were U-qualified.
concentration for the analyte was statistically significantly greater than that of the Reference tissue.
x = No ecological effects threshold published for the given parameter.
See Tables 18 for complete wet weight results.

Monobutyltin and SVOCs

Monobutyltin was tested in project sample DMMU 1, the Reference, and pre-exposure tissues. SVOCs including bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, 2,4-dichlorophenol, 2,6-dinitrotoluene (2,6 DNT), diethyl phthalate, and hexachlorocyclopentadiene were tested in *M. mercenaria* and *A. virens* tissues in one or more project samples along with the Reference and pre-exposure tissues.

Monobutyltin

Monobutyltin was not detected above the MDL (U-qualified) in DMMU-1, the Reference, or the pre-exposure tissues for both species. There are not applicable FDA action levels, ecological effect threshold, or north Gulf of Mexico background concentrations for monobutyltin in either species.

Although tissue samples were previously frozen by NWDLS following the termination of the 28-day bioaccumulation test, and received frozen by the subcontract laboratory, the replicates were H- and H3-qualified, which indicates the samples were received, prepped, and analyzed beyond the specified holding time and does not meet regulatory requirements. Frozen samples are considered acceptable as retained or received by the laboratory, until the date and time the samples are thawed and prepped for analysis within the method specific holding time (refer to Section 3.8 for additional information). Specific replicates were F1 and F2-qualified which indicates the MS and MSD recovery exceeds control limits. Specific replicates were * qualified which indicates the laboratory calibration standard (LCS) and/or LCS Duplicate is outside acceptance limits, low biased.

Analytical results for wet and dry weight monobutyltin in *M. mercenaria* and *A. virens* tissue are in Tables 21 and 22.

SVOCs

Mercenaria mercenaria

The following SVOC analytes were detected in *M. mercenaria* tissues above the LRL in one or more replicates of the project samples tested:

- DMMU-2 – di-n-butyl phthalate
- DMMU-3 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- DMMU-5 – di-n-butyl phthalate, diethyl phthalate, hexachlorocyclopentadiene
- DMMU-6 – di-n-butyl phthalate
- DMMU-8 – di-n-butyl phthalate
- Reference – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate
- Pre-Exposure – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate

Adjusted mean concentrations for these SVOCs did not statistically significantly exceed those of the Reference. There are not applicable FDA action levels or north Gulf of Mexico background concentrations for these SVOCs. Adjusted mean concentrations for bis(2-ethylhexyl) phthalate in *M. mercenaria* were below the ecological effects threshold.

Three SVOC analytes were detected in both the sample and the method blank (V-qualified) in specific project samples, the Reference samples, and the pre-exposure tissues. Bis(2-ethylhexyl)

phthalate was detected in the method blank (B-qualified) in DMMU-8, and specific replicates in the Reference and pre-exposure tissues.

Alitta virens

The following SVOC analytes were detected in *A. virens* tissues above the LRL in one or more replicates of the project samples tested:

- DMMU-2 – di-n-butyl phthalate
- DMMU-3 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- DMMU-4 – di-n-butyl phthalate
- DMMU-5 – di-n-butyl phthalate, diethyl phthalate
- DMMU-6 – di-n-butyl phthalate
- DMMU-7 – di-n-butyl phthalate
- DMMU-8 – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate
- Reference – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate
- Pre-Exposure – bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, diethyl phthalate

Adjusted mean concentrations for bis(2-ethylhexyl) phthalate (DMMU-8), di-n-butyl phthalate (DMMU-2, DMMU-4, and DMMU-7), and diethyl phthalate (DMMU-5) statistically significantly exceeded those of the Reference tissue. There are not applicable FDA action levels or screening criteria concentrations for these SVOCs in *A. virens* tissues.

Three SVOC analytes were V-qualified in one or more replicates in specific project samples, the Reference, and pre-exposure tissues. Bis(2-ethylhexyl) phthalate was B-qualified in the Reference Replicate 5, and pre-exposure tissue Replicates 1 and 2. Di-n-butyl phthalate was B-qualified in DMMU-5 except Replicate 2.

Mean wet weight concentrations of SVOC analytes greater than the LRL in *M. mercenaria* and *A. virens* tissues are summarized in Exhibit 3-16. Analytical results for wet and dry weight SVOCs in *M. mercenaria* and *A. virens* tissues are presented in Tables 23 through 26.

Exhibit 3-16. *Mercenaria mercenaria* and Alitta virens Tissues: Summary of Mean Adjusted Wet Weight SVOCs Results Detected Above the LRL

Analyte	Mean Concentration of Replicates (µg/kg)										EET (µg/kg)	N. Gulf of Mexico Background (µg/kg)
	DMMU-1	DMMU-2	DMMU-3	DMMU-4	DMMU-5	DMMU-6	DMMU-7	DMMU-8	HI-REF	Pre-exposure		
M. mercenaria												
Bis(2-ethylyhexyl) phthalate	--	--	25.2	--	--	--	--	6.73*	21.5	8.87	847.0	x
Di-n-butyl phthalate	4.85*	10.5	6.70	4.87*	5.44	8.66	6.37*	6.27	5.57	4.42	x	x
Diethyl phthalate	--	--	--	--	5.04	--	--	--	3.50	2.41*	x	x
Hexachlorocyclopentadiene	--	--	--	--	4.80	--	--	--	2.35*	2.41*	x	x
A. virens												
Bis(2-ethylyhexyl) phthalate	--	--	32.0	--	--	--	--	**45.1 (194%)**	23.3	18.5	x	x
Di-n-butyl phthalate	6.12	**10.6 (228%)**	5.09	**7.23 (156%)**	4.23	4.67	**6.98 (151%)**	6.15	4.63	12.9	x	x
Diethyl phthalate	--	--	--	--	**5.97 (136%)**	--	--	--	4.39	3.14	x	x

Bolded values indicate a mean adjusted concentration of project tissue that is statistically significantly greater than that of the Reference tissue and includes at least one replicate result greater than the MDL. The concentration of a given analyte in project tissue relative to that of the Reference is given as a percent within parentheses (###%).

x = No ecological effects threshold and northern Gulf of Mexico background concentration published for the given parameter.

* Indicates the analyte was not detected above the MDL, all replicates were U-qualified.

-- = No Data/Not Analyzed

See Tables 21 through 24 for complete results.

3.9 General Risk-Based Evaluations

When analyte concentrations in project tissues statistically significantly exceed those of the Reference tissue, general risk-based evaluations must be conducted. Subsection 6.3 of the Green Book and Subsection 10.2.3 of the RIA provide eight factors to be considered in risk-based evaluations to evaluate compliance with 40 CFR § 227.13(c)(3). Analyte concentrations in tissues that exceed these benchmarks warrant further evaluation.

Factor 1. Statistical significance of the results from tests on sediment from the dredging site when compared to Reference sediment results.

Exhibit 3-17 summarizes mean concentrations in project tissues of *M. mercenaria* including those that statistically significantly exceeded mean concentrations in the Reference. Mean results that statistically significantly exceeded the Reference are shown in bold.

Exhibit 3-18 summarizes mean concentrations in project tissues of *A. virens* including those that statistically significantly exceeded mean concentrations in the Reference. Mean results that statistically significantly exceeded the Reference are shown in bold.

Full results in *M. mercenaria* and *A. virens* project tissues with percentages of Reference concentrations are in Tables 13 through 26.

Exhibit 3-17. Analytical Results for *Mercenaria mercenaria* Wet Weight Tissue Compared to the Reference and Screening Benchmarks

Analyte	Mean Concentration	Percent of Reference	REF (Reference)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
M. mercenaria					
DMMU-1					
Antimony	**0.00320**	199%	0.00161	x	0.22-0.47
Arsenic	**2.60**	215%	1.21	12.6	3.4-5.4
Lead	**0.094**	246%	0.0384	0.1	<0.47
Selenium	**0.325**	184%	0.177	14.2	0.5-1.5
Thallium	**0.000643**	212%	0.000304	0.3	<0.47
TPH	**170**	475%	35.7	x	x
DMMU-2					
Antimony	**0.00239**	149%	0.00161	x	0.22-0.47
Arsenic	**2.34**	194%	1.21	12.6	3.4-5.4
Chromium	**0.145**	457%	0.0318	6.3	0.49-5.2
Lead	***0.104***	270%	0.0384	0.1	<0.47
Selenium	**0.306**	173%	0.177	14.2	0.5-1.5
Thallium	**0.000641**	211%	0.000304	0.3	<0.47
DMMU-3					
Antimony	**0.00247**	153%	0.00161	x	0.22-0.47
Arsenic	**2.06**	171%	1.21	12.6	3.4-5.4
Chromium	**0.088**	278%	0.0318	6.3	0.49-5.2

Analyte	Mean Concentration	Percent of Reference	REF (Reference)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
M. mercenaria					
Lead	**0.096**	251%	0.0384	0.1	<0.47
Selenium	**0.312**	177%	0.177	14.2	0.5-1.5
TPH	**960**	2685%	35.7	x	x
DMMU-4					
Arsenic	**2.11**	175%	1.21	12.6	3.4-5.4
Chromium	**0.158**	498%	0.0318	6.3	0.49-5.2
Lead	**0.097**	254%	0.0384	0.1	<0.47
Selenium	**0.271**	153%	0.177	14.2	0.5-1.5
Thallium	**0.000564**	186%	0.000304	0.3	<0.47
TPH	**218**	609%	35.7	x	x
DMMU-5					
Antimony	**0.00373**	232%	0.00161	x	0.22-0.47
Arsenic	**1.99**	165%	1.21	12.6	3.4-5.4
Chromium	**0.366**	1149%	0.0318	6.3	0.49-5.2
Copper	***2.38***	200%	1.19	0.2	0.58-2.8
Lead	***0.145***	378%	0.0384	0.1	<0.47
Selenium	**0.268**	151%	0.177	14.2	0.5-1.5
Thallium	**0.000499**	164%	0.000304	0.3	<0.47
TPH	**1,886**	5,278%	35.7	x	x
DMMU-6					
Antimony	**0.00341**	212%	0.00161	x	0.22-0.47
Arsenic	**1.94**	161%	1.21	12.6	3.4-5.4
Chromium	**0.217**	681%	0.0318	6.3	0.49-5.2
Lead	**0.0864**	225%	0.0384	0.1	<0.47
Selenium	**0.264**	149%	0.177	14.2	0.5-1.5
Thallium	**0.000572**	188%	0.000304	0.3	<0.47
TPH	**1,951**	5,459%	35.7	x	x
DMMU-7					
Arsenic	**1.87**	155%	1.21	12.6	3.4-5.4
Lead	**0.094**	244%	0.0384	0.1	<0.47
Selenium	**0.271**	153%	0.177	14.2	0.5-1.5
TPH	**2404**	6,726%	35.7	x	x
Acenaphthene	***7.88***	335%	2.35	7.3	<20
Fluoranthene	***13.0***	502%	2.59	8.8	<20
Phenanthrene	**8.02**	341%	2.35	x	<20
Pyrene	**8.18**	316%	2.59	x	<20
Total LPAHs	**37.8**	268%	14.1	x	60.00
Total HPAHs	***75.0***	319%	23.5	x	64.00

Analyte	Mean Concentration	Percent of Reference	REF (Reference)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
M. mercenaria					
Total PAHs	**113**	300%	37.6	40000.0	178
DMMU-8					
Antimony	**0.00221**	137%	0.00161	x	0.22-0.47
Arsenic	**2.04**	169%	1.21	12.6	3.4-5.4
Lead	**0.0827**	216%	0.0384	0.1	<0.47
Selenium	**0.264**	149%	0.177	14.2	0.5-1.5
Zinc	***35.6***	304%	11.7	11.6	7.0-30.0
TPH	**1,955**	5,470%	35.7	x	x
Anthracene	**2.98**	127%	2.35	x	<20

Results in bold are statistically significantly greater than those of the Reference tissue.

Italicized and bolded results exceeded the ecological effects threshold and (or) the North Gulf of Mexico background concentration**.**

x = No background threshold published for the given analyte.

Exhibit 3-18. Analytical Results for *Alitta virens* Wet Weight Tissue Compared to the Reference and Screening Benchmarks

Analyte	Mean Concentration	Percent of Reference	HI-REF (Reference)	Ecological Effects Threshold: Polychaeta	Northern Gulf of Mexico Bkgd.: Polychaeta
A. virens					
DMMU-1					
Cadmium	**0.0461**	184%	0.0250	27.8	0.34-0.14
Nickel	**0.383**	192%	0.199	2.2	0.53-3.5
DMMU-2					
Cadmium	**0.0493**	197%	0.0250	27.8	0.34-0.14
Nickel	**0.355**	178%	0.199	2.2	0.53-3.5
Thallium	**0.000483**	133%	0.000363	0.3	<0.31
Di-n-butyl phthalate	**10.6**	228%	4.63	x	x
DMMU-3					
Cadmium	**0.0529**	212%	0.0250	27.8	0.34-0.14
Nickel	**0.373**	187%	0.199	2.2	0.53-3.5
Thallium	**0.000507**	140%	0.000363	0.3	<0.31
Fluorene	**4.43**	186%	2.38	x	<20
Phenanthrene	**7.40**	311%	2.38	x	14-17
Pyrene	**3.57**	137%	2.38	x	<20
Total PAHs	**45.4**	108%	41.9	40000.0	178
DMMU-4					
Cadmium	**0.0471**	188%	0.0250	27.8	0.34-1.4

Analyte	Mean Concentration	Percent of Reference	HI-REF (Reference)	Ecological Effects Threshold: Polychaeta	Northern Gulf of Mexico Bkgd.: Polychaeta
A. virens					
Nickel	**0.384**	193%	0.199	2.2	0.53-3.5
Silver	**0.0193**	109	0.0177	1.0	<0.15
Thallium	**0.000471**	130%	0.000363	0.3	<0.31
Di-n-butyl phthalate	**7.23**	156%	4.63	x	x
DMMU-5					
Cadmium	**0.0470**	188%	0.0250	27.8	0.34-1.4
Nickel	**0.349**	175%	0.199	2.2	0.53-3.5
Benzo(a)pyrene	**2.53**	107%	2.38	x	<20
Diethyl phthalate	**5.97**	136%	4.39	x	x
DMMU-6					
Cadmium	**0.0523**	209%	0.0250	27.8	0.34-1.4
Nickel	**0.384**	193%	0.199	2.2	0.53-3.5
Silver	**0.0222**	126	0.0177	1.0	<0.15
Thallium	**0.000589**	162%	0.000363	0.3	<0.31
DMMU-7					
Cadmium	**0.0507**	203%	0.0250	27.8	0.34-0.14
Nickel	**0.346**	174%	0.199	2.2	0.53-3.5
Anthracene	**3.42**	144%	2.38		<20
Fluoranthene	**10.7**	410%	2.38	12.8	<20
Phenanthrene	**8.86**	372%	2.38	x	14-17
Pyrene	**13.2**	504%	2.38	x	<20
Total LPAHs	**21.9**	153%	14.3	x	60.00
Total HPAHs	**41.0**	149%	27.6	x	64.00
Total PAHs	**62.9**	150%	41.9	40000.0	178
Di-n-butyl phthalate	**6.98**	151%	4.63	x	x
DMMU-8					
Nickel	**0.376**	188%	0.199	2.2	0.53-3.5
Silver	**0.0210**	119	0.0177	1.0	<0.15
Bis(2-ethylhexyl) phthalate	**45.1**	194%	23.3	x	x

Results in bold are statistically significantly greater than those of the Reference tissue.
x = No background threshold published for the given analyte.

Factor 2. Magnitude by which the bioaccumulation in organisms exposed to sediment from the dredging site exceeds bioaccumulation in organisms exposed to the Reference sediment.

Exhibit 3-19 compares mean concentrations of contaminants in *M. mercenaria* project tissues with applicable screening benchmarks. Of the analyte mean concentrations in tissues exposed to project sediment that statistically significantly exceeded those of the Reference, the following analytes also exceeded applicable screening benchmarks:

- DMMU-2 – lead exceeded the EET
- DMMU-5 – copper and lead exceeded the EET
- DMMU-7 – acenapthene and fluoranthene exceeded the EET and Total HPAH exceeded the Northern Gulf of Mexico Background concentration
- DMMU-8 – zinc exceeded the EET and the upper limit of the Northern Gulf of Mexico Background concentration.

Exhibit 3-20 compares mean concentrations of contaminants in *A. virens* project tissues with applicable screening benchmarks. Of the analyte mean concentrations in tissues exposed to project sediment that statistically significantly exceeded those of the Reference, none exceeded applicable screening benchmarks (Exhibit 3-20).

Exhibit 3-19. *Mercenaria mercenaria* Tissue Mean Concentrations Statistically Significantly Greater Than Those of the Reference, Expressed as a Percent of Screening Benchmarks

Analyte	Mean Concentration Relative to the EET and to the Northern Gulf of Mexico Background Concentration (% of EET || % of background)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
DMMU-1			
Antimony (0.00320 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (2.60 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Lead (0.094 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0.325 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
Thallium (0.000643 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.47
TPH (170 mg/kg)	(not applicable) || (not applicable)	x	x
DMMU-2			
Antimony (0.00239 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (2.34 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Chromium (0.145 mg/kg)	(does not exceed) || (does not exceed)	6.3	0.49-5.2
Lead (***0.104*** mg/kg)	(104%) || (does not exceed)	0.1	<0.47
Selenium (0.306 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5

Analyte	Mean Concentration Relative to the EET and to the Northern Gulf of Mexico Background Concentration (% of EET || % of background)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
Thallium (0.000641 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.47
DMMU-3			
Antimony (0.00247 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (2.06 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Chromium (0.088 mg/kg)	(does not exceed) || (does not exceed)	6.3	0.49-5.2
Lead (0.096 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0. 312 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
TPH (960 mg/kg)	(not applicable) || (not applicable)	x	x
DMMU-4			
Arsenic (2.11 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Chromium (0.158 mg/kg)	(does not exceed) || (does not exceed)	6.3	0.49-5.2
Lead (0.097 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0.271 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
Thallium (0.000564 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.47
TPH (218 mg/kg)	(not applicable) || (not applicable)	x	x
DMMU-5			
Antimony (0.00373 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (1.99 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Chromium (0.366 mg/kg)	(does not exceed) || (does not exceed)	6.3	0.49-5.2
Copper (***2.38*** mg/kg)	(1190%) || (does not exceed)	0.2	0.58-2.8
Lead (***0.145*** mg/kg)	(145%) || (does not exceed)	0.1	<0.47
Selenium (0.268 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
Thallium (0.000499 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.47
TPH (1,886 mg/kg)	(not applicable) || (not applicable)	x	x
DMMU-6			
Antimony (0.00341 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (1.94 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Chromium (0.217 mg/kg)	(does not exceed) || (does not exceed)	6.3	0.49-5.2
Lead (0.0864 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0.264 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5

Analyte	Mean Concentration Relative to the EET and to the Northern Gulf of Mexico Background Concentration (% of EET || % of background)	Ecological Effects Threshold: Bivalves	Northern Gulf of Mexico Bkgd.: Bivalves
Thallium (0.000572 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.47
TPH (1,951 mg/kg)	(not applicable) || (not applicable)	x	x
DMMU-7			
Arsenic (1.87 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Lead (0.094 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0.271 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
TPH (2404 mg/kg)	(not applicable) || (not applicable)	x	x
Acenaphthene (***7.88*** µg/kg)	(108%) || (does not exceed)	7.3	<20
Fluoranthene (***11.8*** µg/kg)	(151%) || (does not exceed)	8.8	<20
Phenanthrene (8.02 µg/kg)	(not applicable) || (does not exceed)	x	<20
Pyrene (7.43 µg/kg)	(not applicable) || (does not exceed)	x	<20
Total LPAHs (37.8 µg/kg)	(not applicable) || (does not exceed)	x	60.00
Total HPAHs (***75.0*** µg/kg)	(not applicable) || (117%)	x	64.00
Total PAHs (113 µg/kg)	(does not exceed) || (does not exceed)	40000.0	178
DMMU-8			
Antimony (0.00221 mg/kg)	(not applicable) || (does not exceed)	x	0.22-0.47
Arsenic (2.04 mg/kg)	(does not exceed) || (does not exceed)	12.6	3.4-5.4
Lead (0.0827 mg/kg)	(does not exceed) || (does not exceed)	0.1	<0.47
Selenium (0.264 mg/kg)	(does not exceed) || (does not exceed)	14.2	0.5-1.5
Zinc (***35.6*** mg/kg)	(307%) || (117%)	11.6	7.0-30.0
TPH (1955 mg/kg)	(not applicable) || (not applicable)	x	x
Anthracene (2.98 mg/kg)	(not applicable) || (does not exceed)	x	<20

Italicized and bolded results exceeded the ecological effects threshold and (or) the North Gulf of Mexico background concentration.

x = No ecological effects threshold or Northern Gulf of Mexico Background published for the given analyte.

Exhibit 3-20. *Alitta virens* Tissue Mean Concentrations Statistically Significantly Greater Than Those of the Reference, Expressed as a Percent of Screening Benchmarks

Analyte	Mean Concentration Relative to the EET and to the Northern Gulf of Mexico Background Concentration (% of EET || % of background)	Ecological Effects Threshold: Polychaeta	Northern Gulf of Mexico Bkgd.: Polychaeta
DMMU-1			
Cadmium (0.0461 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.383mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
DMMU-2			
Cadmium (0.0493 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.355 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Thallium (0.000483 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.31
Di-n-butyl phthalate (10.6 µg/kg)	(not applicable) || (not applicable)	x	x
DMMU-3			
Cadmium (0.0529 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.373 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Thallium (0.000507 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.31
Fluorene (4.43 µg/kg)	(not applicable) || (does not exceed)	x	<20
Phenanthrene (7.40 µg/kg)	(not applicable) || (does not exceed)	x	<20
Pyrene (3.57 µg/kg)	(not applicable) || (does not exceed)	x	<20
Total PAHs (45.4 µg/kg)	(does not exceed) || (does not exceed)	40000.0	178
DMMU-4			
Cadmium (0.0471 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.384 µg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Silver (0.0193 mg/kg)	(does not exceed) || (does not exceed)	1.0	<0.15
Thallium (0.000471 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.31
Di-n-butyl phthalate (7.23 µg/kg)	(not applicable) || (not applicable)	x	x
DMMU-5			
Cadmium (0.0470 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.349 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Benzo(a)pyrene (5.32 µg/kg)	(not applicable) || (does not exceed)	x	<20
Diethyl phthalate (5.97 µg/kg)	(not applicable) || (not applicable)	x	x

Analyte	Mean Concentration Relative to the EET and to the Northern Gulf of Mexico Background Concentration (% of EET || % of background)	Ecological Effects Threshold: Polychaeta	Northern Gulf of Mexico Bkgd.: Polychaeta
DMMU-6			
Cadmium (0.0523 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.384 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Silver (0.0222 mg/kg)	(does not exceed) || (does not exceed)	1.0	<0.15
Thallium (0.000589 mg/kg)	(does not exceed) || (does not exceed)	0.3	<0.31
DMMU-7			
Cadmium (0.0507 mg/kg)	(does not exceed) || (does not exceed)	27.8	0.34-1.4
Nickel (0.346 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Anthracene (3.42 µg/kg)	(not applicable) || (does not exceed)	x	<20
Fluoranthene (10.7 µg/kg)	(does not exceed) || (does not exceed)	12.8	<20
Phenanthrene (8.86 µg/kg)	(not applicable) || (does not exceed)	x	<20
Pyrene (13.2 µg/kg)	(not applicable) || (does not exceed)	x	<20
Total LPAHs (21.9 µg/kg)	(not applicable) || (does not exceed)	x	60.00
Total HPAHs (41.0 µg/kg)	(not applicable) || (does not exceed)	x	64.00
Total PAHs (62.9 µg/kg)	(does not exceed) || (does not exceed)	40000.0	178
Di-n-butyl phthalate (6.98 µg/kg)	(not applicable) || (not applicable)	x	x
DMMU-8			
Nickel (0.376 mg/kg)	(does not exceed) || (does not exceed)	2.2	0.53-3.5
Silver (0.0210 mg/kg)	(does not exceed) || (does not exceed)	1.0	<0.15
Bis(2-ethylhexyl) phthalate (45.1 µg/kg)	(not applicable) || (does not exceed)	x	x

x = No ecological effects threshold or Northern Gulf of Mexico Background published for the given analyte.

Factor 3. Number of contaminants for which bioaccumulation in organisms exposed to sediment from the dredging site is statistically greater than bioaccumulation in organisms exposed to the Reference sediment.

M. mercenaria project tissues from DMMU-1 through DMMU-8 had three to seven metals each and TPH (all DMMUs except DMMU 2) that statistically significantly exceeded those of the Reference. *M. mercenaria* project tissues from DMMU-7 also had seven PAH analytes and one SVOC that statistically significantly exceeded those of the Reference. DMMU-8 had one PAH analyte that statistically significantly exceeded that of the Reference.

A. virens project tissue from DMMU 1 through DMMU-8 had mean concentrations of two to four metals each that statistically significantly exceeded those of the Reference. *A. virens* project tissue from DMMU-3, DMMU-5, and DMMU-7 had adjusted mean concentrations of two to seven PAH analytes each that statistically significantly exceeded those of the Reference. *A. virens* project tissue from DMMU-2, DMMU-4, DMMU-5, DMMU-7, and DMMU-8 had adjusted mean concentrations of one SVOC analyte each that statistically significantly exceeded those of the Reference.

Exhibit 3-21 lists the numbers of project tissue analytes per sample that statistically significantly exceeded those of the Reference.

Exhibit 3-21. Number of Tissue Analyte Concentrations Statistically Significantly Greater than Reference Concentrations

Sample ID	Number of Mean Concentrations for Analytes That Were Statistically Greater Than Those of the Reference
Mercenaria mercenaria	
DMMU-1	6 (Antimony, Arsenic, Lead, Selenium, Thallium, TPH)
DMMU-2	6 (Antimony, Arsenic, Chromium, Lead, Selenium, Thallium)
DMMU-3	6 (Antimony, Arsenic, Chromium, Lead, Selenium, TPH)
DMMU-4	6 (Arsenic, Chromium, Lead, Selenium, Thallium, TPH)
DMMU-5	8 (Antimony, Arsenic, Chromium, Copper, Lead, Selenium, Thallium, TPH)
DMMU-6	7 (Antimony, Arsenic, Chromium, Lead, Selenium, Thallium, TPH)
DMMU-7	11 (Arsenic, Lead, Selenium, TPH, Acenaphthene, Fluoranthene, Phenanthrene, Pyrene, Total LPAHs, Total HPAHs, Total PAHs)
DMMU-8	7 (Antimony, Arsenic, Lead, Selenium, Zinc, TPH, Anthracene)
Alitta virens	
DMMU-1	2 (Cadmium, Nickel)
DMMU-2	4 (Cadmium, Nickel, Thallium, Di-n-butyl phthalate)
DMMU-3	7 (Cadmium, Nickel, Thallium, Fluorene, Phenanthrene, Pyrene, Total PAHs)
DMMU-4	5 (Cadmium, Nickel, Silver, Thallium, Di-n-butyl phthalate)
DMMU-5	4 (Cadmium, Nickel, Benzo(a)pyrene, Diethyl phthalate)
DMMU-6	4 (Cadmium, Nickel, Silver, Thallium)
DMMU-7	10 (Cadmium, Nickel, Anthracene, Fluoranthene, Phenanthrene, Pyrene, Total LPAHs, Total HPAHs, Total PAHs, Di-n-butyl phthalate)
DMMU-8	3 (Nickel, Silver, Bis(2-ethylhexyl) phthalate)

Factor 4. Number of species in which bioaccumulation organisms exposed to sediment from the dredging site is statistically greater than bioaccumulation in organisms exposed to the Reference sediment.

M. mercenaria project tissue from the project samples had mean concentrations of one to seven metals each and TPH (except DMMU-2) that statistically significantly exceeded those of the Reference. *M. mercenaria* project tissue from DMMU-7 also had seven PAHs and one SVOC that statistically significantly exceeded those of the Reference. DMMU-8 also had one PAH with an adjusted mean concentration that statistically significantly exceeded that of the Reference.

A. virens project tissue from the project samples had mean concentrations of two to four metals each that statistically significantly exceeded those of the Reference. *A. virens* project tissue from DMMU-3, DMMU-5 and DMMU-7 had adjusted mean concentrations of one to seven PAHs that statistically significantly exceeded those of the Reference. *A. virens* project tissue from DMMU-2, DMMU-4, DMMU-5, DMMU-7, and DMMU-8 had one SVOC each with adjusted mean concentrations that statistically significantly exceeded those of the Reference.

Factor 5. Toxicological importance of the contaminants whose bioaccumulation in organisms exposed to sediment from the dredging site statistically exceeds that from the Reference sediment.

A literature search was conducted between July 12, 2023, and July 31, 2023, that included review documents by the Agency for Toxic Substances Disease Registry ([ATSDR] 2001) and EPA (2000) as well as a search of the U.S. Army Engineer Research and Development Center's (ERDC) Environmental Residue Effects Database (ERED; https://ered.el.erdc.dren.mil/). Results of the data-mining effort are summarized in the following paragraphs. Analyte concentrations in tissues are given as wet weight values.

Antimony

The available literature on the effects of antimony on marine life is limited. For example, EPA's (2000) synopsis of contaminants of importance to bioaccumulation in benthic fauna does not address antimony. Further, a search of the ERED database revealed that none of the over 5,000 individual aquatic fauna endpoints were for antimony toxicity in invertebrates or other taxa.

Gough et al. (1979) summarized a past study that found that marine organisms concentrate antimony in their muscle tissue and that studies had indicated certain levels in the tissue that were toxic to some fish species. Gough et al. (1979) went on to state that, based on previous studies, 400 mg/kg of antimony may be considered an approximate lethal threshold in sea birds.

A comparison to antimony concentrations measured in tissues of wild marine taxa caught off Jacksonville, Florida, suggests that the antimony concentrations observed in *M. mercenaria* tissue in the present study are below the ranges of concentrations found in wild populations of benthic invertebrates (Exhibit 3-22).

Exhibit 3-22. Mean Antimony Concentrations in Project Tissue Samples Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissue That Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of the Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = 0.00320 DMMU-2 = 0.00239 DMMU-3 = 0.00247 DMMU-5 = 0.00373 DMMU-6 = 0.00341 DMMU-8 = 0.00221 (*M. mercenaria*)	No (mantis shrimp) No (penaeid shrimp)	<0.004–0.005 (composited samples)	<0.004–<0.004 (*n* = 6 samples)

Source: Table 13 and concentrations in wild populations from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Arsenic

Arsenic is a widely distributed element that occurs naturally in the marine environment as various chemical forms (Fattorini et al. 2006). These authors found that several marine taxonomic groups, including bivalves, generally bioaccumulate arsenic as complex organic compounds such as arsenobetaine, arsenocholine, and arsenoribosides. These forms of arsenic are non-toxic and

represent the result of transformation of toxic forms of arsenic to detoxified forms in the tissues of marine organisms. Fattorini et al. (2006) concluded their study of arsenic bioaccumulation in marine organisms by stating that although "*an elevated variability of natural arsenic concentrations can be expected in* [various taxa including mollusks]*, however,* [their study] *confirmed the predominance of organically non-toxic compounds*."

The mean concentrations of arsenic in *M. mercenaria* tissue that exceeded concentrations in the Reference sample were less than any of the no-observed-adverse-effect levels (NOAELs) reported to produce population-level impacts in invertebrates (Exhibit 3-23). A search of over 5,000 toxicity endpoints in ERED produced the results shown in Exhibit 3-23.

Exhibit 3-23. Arsenic Concentrations in Project Tissue Samples Compared to Toxicity Values from Literature Review

Mean Concentrations in Tissue Samples That Exceeded a Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater Than Toxicity Value	Relevant Species & Reference
	NOAEL		
DMMU-1 = 2.60 DMMU-2 = 2.34 DMMU-3 = 2.06 DMMU-4 = 2.11 DMMU-5 = 1.99 DMMU-6 = 1.94 DMMU-7 = 1.87 DMMU-8 = 2.04 (*M. mercenaria*)	3.6	(*does not exceed)*	Mortality in mature *Mytilus edulis* (blue mussel) Spehar et al. (1980) and St. Jean et al. (2003) in ERED
	3.6	(*does not exceed)*	Growth in mature *Mytilus edulis* (blue mussel) St. Jean et al. (2003) in ERED
	3.6	(*does not exceed)*	Mortality in mature *Stagnicola emarginatus* (St. Lawrence pondsnail) Spehar et al. (1980) in ERED
	1.15–6.39	(*does not exceed)*	Growth in juvenile *Palaemonetes pugio* (daggerblade grass shrimp) Lindsey (1990) in ERED
	3.8–9.8	(*does not exceed)*	Mortality in mature *Daphnia magna* (waterflea) Spehar et al. (1980) in ERED

Only population-level effects (growth, reproduction, development, mortality) on bivalves and other mollusks are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)

Source: Table 13 and NOAELs as listed above from ERED. See ERED at https://ered.el.erdc.dren.mil/references.cfm for more information on the references listed above.

A comparison to arsenic concentrations measured in tissues of wild marine taxa caught off Jacksonville and Fort Lauderdale, Florida, suggests that the arsenic concentrations observed in *M. mercenaria* tissue in the present study are at or below the ranges of concentrations found in wild populations of benthic invertebrates (Exhibits 3-24 and 3-25).

Exhibit 3-24. Mean Arsenic Concentrations in Project Tissue Samples Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissue That Exceeded a Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of the Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = 2.60 DMMU-2 = 2.34 DMMU-3 = 2.06 DMMU-4 = 2.11 DMMU-5 = 1.99 DMMU-6 = 1.94 DMMU-7 = 1.87 DMMU-8 = 2.04 (*M. mercenaria*)	No (mantis shrimp) No (penaeid shrimp)	12.90–15.70 (composited samples)	1.890–11.00 (*n* = 6 samples)

Source: Table 13; concentrations in wild populations from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Exhibit 3-25. Mean Arsenic Concentrations in Project Tissue Samples Compared to Concentrations in Wild Aquatic Species Caught off Fort Lauderdale, Florida

Mean Concentration in Project Tissue That Exceeded a Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2011 Concentrations in the Edible Tissues of the Following Species Caught off Fort Lauderdale, Florida
		Jonah Crab (*Cancer borealis*) (mg/kg)
DMMU-1 = 2.60 DMMU-2 = 2.34 DMMU-3 = 2.06 DMMU-4 = 2.11 DMMU-5 = 1.99 DMMU-6 = 1.94 DMMU-7 = 1.87 DMMU-8 = 2.04 (*M. mercenaria*)	No	106–122 (1 composited and 2 individual samples)

Source: Table 13; concentrations in wild populations from Subsection 4.8 and Table 31 of ANAMAR (2012)

Cadmium

Cadmium occurs naturally as a mineral and can be found in most soils, rock, and sediments. Cadmium is emitted to soil, water, and air during mining and refining and through the manufacture and application of fertilizers, during the combustion of fossil fuels, and via the incineration and disposal of wastes (ATSDR 2012). The mobility of cadmium through soils and sediments is controlled by such factors as pH and the amount of organic matter present. In general, cadmium binds strongly with carbon molecules but can enter the food web via uptake by plants and microbes. In water, cadmium exists as a hydrated ion or as ionic complexes with other inorganic or organic substances. Soluble forms are motile in water; insoluble forms are immobile and will adsorb to organic matter, especially humic acid (ATSDR 2012).

Cadmium bioaccumulates in all levels of the food web, including plants, oligochaete worms, birds, and mammals. Concentrations in vertebrates appear higher in organ tissues such as kidneys and liver than in muscle tissue. These organs can have concentrations as much as 20 times higher than the whole-body concentration. Organisms may sequester the metal in their tissues, but much of the total concentration of cadmium in organisms may actually be stored in unavailable forms as a possible method of detoxification (Klerks and Bartholomew 1991).

Cadmium uptake in *Mytilus edulis* (blue mussel) and *Palaemonetes pugio* (grass shrimp) showed a strong positive correlation with increased cadmium concentrations in sediment as reported in a study by Rule and Alden (1996). The uptake of cadmium by the northern quahog, *Mercenaria*, was lower compared to that of the mussel and shrimp during the Rule and Alden (1996) study. The mean concentration of cadmium in *A. virens* tissue samples DMMU-1 through DMMU-7 that exceeded that of the Reference were less than any of the NOAELs and lowest observed adverse effects levels (LOAELs) reported to produce population-level impacts in other marine invertebrates (Exhibit 3-26). A search of over 5,100 toxicity endpoints in ERED produced the results shown below.

Exhibit 3-26. Cadmium Concentrations in Project Tissue That Statistically Significantly Exceeded Those of the Reference Compared to Toxicity Values from Literature Review

Mean Concentrations in Project Tissue Sample That Exceeded Those of the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater than Toxicity Value	Relevant Species & Reference
NOAEL			
DMMU-1 = 0.0461 DMMU-2 = 0.0493 DMMU-3 = 0.0529 DMMU-4 = 0.0471 DMMU-5 = 0.0470 DMMU-6 = 0.0523 DMMU-7 = 0.0507 (*A. virens*)	0.5	(does not exceed)	Mortality in *Moina macrocopa* (a cladoceran crustacean) Hatakeyama and Yasuno (1981) in ERED
	0.9	(does not exceed)	Mortality in mature *Palaemonetes pugio* (daggerblade grass shrimp) Rule and Alden (1996) in ERED
	1	(does not exceed)	Growth in mature *Haliotis diversicolor* (small abalone) Haung et al. (2010) in ERED
	4	(does not exceed)	Mortality in *Crassostrea gigas* (Pacific oyster) Ettajani et al. (2001) in ERED
	20	(does not exceed)	Mortality in *Corbicula fluminea* (Asian clam) Barfield et al. (2001) in ERED
	28.7	(does not exceed)	Mortality in *Mytilus galloprovincialis* (Mediterranean mussel) Pavicic and Jarvenpaa (1974) in ERED
	30	(does not exceed)	Growth effects in *Mytilus edulis* (blue mussel) Poulsen et al. (1996) in ERED
	46	(does not exceed)	Growth in *Saccostrea glomerata* (Sydney rock oyster) Dillon (1984) (USACE Tech. Report D-82-2) in ERED
	50	(does not exceed)	Mortality in *Crassostrea virginica* (eastern oyster) Zaroogian (1980) in ERED
	114	(does not exceed)	Mortality in *Dreissena polymorpha* (zebra mussel) Kraak et al. (1992) in ERED

Mean Concentrations in Project Tissue Sample That Exceeded Those of the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater than Toxicity Value	Relevant Species & Reference
LOAEL			
DMMU-1 = 0.0461 DMMU-2 = 0.0493 DMMU-3 = 0.0529 DMMU-4 = 0.0471 DMMU-5 = 0.0470 DMMU-6 = 0.0523 DMMU-7 = 0.0507 (*A. virens*)	0.708	(does not exceed)	Mortality in *Moina macrocopa* (a cladoceran crustacean) Hatakeyama and Yasuno (1981) in ERED
	1.29	(does not exceed)	Growth in *Americamysis bahia* (opossum shrimp) Carr et al. (1985) in ERED
	2.6	(does not exceed)	Mortality in mature *Palaemonetes pugio* (daggerblade grass shrimp) Vernberg et al. (1977) in ERED
	18	(does not exceed)	Reproduction in *Crassostrea virginica* (eastern oyster) Dillon (1984) (USACE Tech. Report D-82-2) in ERED
	25	(does not exceed)	Growth in *Saccostrea glomerata* (Sydney rock oyster) Dillon (1984) (USACE Tech. Report D-82-2) in ERED

Only population-level effects (growth, reproduction, mortality) on marine or estuarine invertebrates are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)
Sources: Table 14 and as listed above from ERED

The mean concentration of cadmium in *A. virens* tissue samples DMMU-1 through DMMU-7 that exceeded that of the Reference were less than the concentrations of this metal found in wild populations of mantis shrimp (*Gibbesia neglecta*), and the upper limit concentration for wild penaeid shrimp (Exhibit 3-27). Samples from these wild populations were collected by trawl in 2010 by ANAMAR (2011) and tested for cadmium and other contaminants in their edible tissues (muscle tissues) as part of a site designation survey.

The mean concentration of cadmium *in A. virens* tissue in three of the seven samples (DMMU-3, DMMU-6, and DMMU-7) that exceeded that of the Reference were greater than the upper limit concentrations of this metal found in wild Jonah crab (*Cancer borealis*) caught off Fort Lauderdale, Florida, in 2011 by ANAMAR (2012) as part of a site expansion designation survey (Exhibit 3-28).

The mean concentration of cadmium in *A. virens* tissue samples DMMU-1 through DMMU-7 were less than the concentrations found in wild northern quahog (*Mercenaria mercenaria*) sampled from the Indian River Lagoon (Florida) and analyzed by Trefry and Trocine (2011) (Exhibit 3-29).

Exhibit 3-27. Cadmium Concentration in Project Tissue Sample That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissue Sample That Exceeded That of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of the Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = 0.0461 DMMU-2 = 0.0493 DMMU-3 = 0.0529 DMMU-4 = 0.0471 DMMU-5 = 0.0470 DMMU-6 = 0.0523 DMMU-7 = 0.0507 (*A. virens*)	No (wild mantis shrimp) No (wild penaeid shrimp)	1.060–1.360 (*n* = 2 composited samples)	0.013–0.053 (*n* = 6 samples)

Sources: Table 14; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011).

Exhibit 3-28. Cadmium Concentration in Project Tissue Sample That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Fort Lauderdale, Florida

Mean Concentration in Project Tissue That Exceeded That of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2011 Concentrations in Edible Tissues of Wild Jonah Crab (*Cancer borealis*) Caught off Fort Lauderdale, Florida (mg/kg)
DMMU-1 = 0.0461 DMMU-2 = 0.0493 DMMU-3 = **0.0529** DMMU-4 = 0.0471 DMMU-5 = 0.0470 DMMU-6 = **0.0523** DMMU-7 = **0.0507** (*A. virens*)	Yes (DMMU-3, DMMU-6, and DMMU-7)	0.0170–0.0494 (*n* = 3 composited samples)

Sources: Table 14; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Exhibit 3-29. Cadmium Concentration in Project Tissue Sample That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Northern Quahog from Indian River Lagoon, Florida

Mean Concentration in Project Tissue That Exceeded That of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)	1992 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)
DMMU-1 = 0.0461 DMMU-2 = 0.0493 DMMU-3 = 0.0529 DMMU-4 = 0.0471 DMMU-5 = 0.0470 DMMU-6 = 0.0523 DMMU-7 = 0.0507 (*A. virens*)	No	0.28 ± 0.15 (mean ± SD) 0.08–0.62 (range) (*n* = 22)	0.17 ± 0.25 (mean ± SD) 0.01–0.75 (range) (*n* = 22)

SD = standard deviation

Source: Table 14; concentrations in wild clams from Trefry and Trocine (2011)

Chromium

Chromium is relatively insoluble in water and has limited mobility under typical aquatic conditions because the trivalent form tends to bind with organic matter. Under typical pH (6 to 8) and oxygen conditions in aquatic habitats, the hexavalent form is dominant (75% to 85% of chromium), with the remaining form being trivalent chromium. There is little evidence of chromium bioaccumulation in aquatic food webs, even though sediments often contain elevated levels of the metal (USEPA 2000). The relationship between tissue concentration and chromium toxicity is complex because organisms can sequester chromium in a variety of forms, some being more toxic than others. Much of the total chromium concentration in organisms may be stored in unavailable forms as a possible method of detoxification (Klerks and Bartholomew 1991). Relevant NOAELs or LOAELs could not be found for comparison to the mean concentrations of total chromium, and hexavalent chromium, in *M. mercenaria* tissue.

The mean concentration of total chromium in *M. mercenaria* tissue project samples (DMMU-2 through DMMU-6) that exceeded those of the Reference were greater than the concentrations of total chromium found in wild populations of mantis shrimp (*Gibbesia neglecta*) and in penaeid shrimp caught off Jacksonville, Florida (Exhibit 3-30) in 2010 by ANAMAR (2011). The mean concentrations of chromium in *M. mercenaria* tissue samples were also greater than the concentrations of total chromium found in wild Jonah crab (*Cancer borealis*) caught off Fort Lauderdale, Florida, in 2011 by ANAMAR (2012) (Exhibit 3-31). However, the mean concentrations of total chromium in *M. mercenaria* tissue samples were much lower than the concentrations of total chromium found in wild northern quahog (*Mercenaria mercenaria*) sampled from the Indian River Lagoon and analyzed by Trefry and Trocine (2011) (Exhibit 3-32).

Exhibit 3-30. Chromium Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-2 = **0.145** DMMU-3 = **0.088** DMMU-4 = **0.158** DMMU-5 = **0.366** DMMU-6 = **0.217** (*M. mercenaria*)	Yes (mantis shrimp and penaeid shrimp)	0.02–0.04 (*n* = 2 composited samples)	0.03–0.08 (*n* = 6 samples)

Sources: Table 13; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011).

Exhibit 3-31. Chromium Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Fort Lauderdale, Florida

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2011 Concentrations in Edible Tissues of Wild Jonah Crab (*Cancer borealis*) Caught off Fort Lauderdale, Florida (mg/kg)
DMMU-2 = **0.145** DMMU-3 = **0.088** DMMU-4 = **0.158** DMMU-5 = **0.366** DMMU-6 = **0.217** (*M. mercenaria*)	Yes	0.06–0.07 (*n* = 3 composited samples)

Sources: Table 13; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Exhibit 3-32. Chromium Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Northern Quahog from Indian River Lagoon, Florida

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)	1992 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)
DMMU-2 = 0.145 DMMU-3 = 0.088 DMMU-4 = 0.158 DMMU-5 = 0.366 DMMU-6 = 0.217 (*M. mercenaria*)	No	58 ± 20 (mean ± SD) 13–84 (range) (*n* = 22)	24 ± 17 (mean ± SD) 5–64 (range) (*n* = 22)

SD = standard deviation

Sources: Table 13; Concentrations in wild clams from Trefry and Trocine (2011)

Copper

Copper is found at low concentrations in many marine and estuarine habitats. Copper is a trace element that is essential to many aquatic organisms, but toxic concentrations are not much higher than those that allow optimum growth of organisms (Anzecc and Armcanz 2000). It is generally believed that the free hydrated copper ion (Cu^{2+}), together with copper hydroxy species, are the most toxic inorganic species to aquatic organisms (Anzecc and Armcanz 2000).

Copper is readily accumulated by plants and animals. Toxic effects of metals occur when the rate of uptake exceeds the rates of physiological or biochemical detoxification and excretion. This is more important than absolute body burden. Ahsanullah and Williams (1991) reported that the marine amphipod *Allorchestes compressa* exposed to 10 µg/L of copper for 28 days accumulated 100 mg/kg of copper and experienced reduced growth.

Physiological effects cited in USEPA (2000) for copper in *Mytilus edulis*, a bivalve species similar to *M. mercenaria,* begin to occur at 12 mg/kg, which is more than four times the mean concentration found in project sample DMMU-5 (2.38 mg/kg).

The mean concentration of copper in *M. mercenaria* tissue exposed to project sample DMMU-5 that statistically significantly exceeded that of the Reference was less than the three NOAELs reported to produce population-level impacts in polychaetes (Exhibit 3-33). A search of over 5,000 toxicity endpoints in ERED produced the results shown in Exhibit 3-33.

Exhibit 3-33. Copper Mean Concentration in Project Tissue That Statistically Significantly Exceeded the Reference Compared to Toxicity Values from Literature Review

Mean Concentration in Project Tissue Samples DMMU-5 that Exceeded the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater Than Toxicity Value	Species & Reference
NOAEL			
DMMU-5 = 2.38 (*M. mercenaria*)	6.422	(does not exceed)	Mortality in the polychaete *Cirriformia spirabrancha* Milanovich et al. (1976) in ERED
	36	(does not exceed)	Mortality in the polychaete *Australonereis ehlersi* King et al. (2004) in ERED
	38	(does not exceed)	Mortality in the polychaete *Aglaophamus australiensis* King et al. (2004) in ERED

Only population-level effects (growth, reproduction, mortality) on bivalves are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)

Sources: Tables 13 and as listed above from ERED

Lead

Lead is a poisonous contaminant with substantial research available on its effects on aquatic species. Endpoint values for eastern oyster (*Crassostrea virginica*) and zebra mussel (*Dreissena polymorpha*) were found in the literature and are relevant for comparison to lead concentrations in *A. virens* tissue. The mean concentrations of lead in *M. mercenaria* tissue samples DMMU-1 through DMMU-8 are below the relevant NOAELs and LOAELs obtained from the literature (Exhibit 3-34).

Exhibit 3-34. Lead Concentrations in Project Tissue That Statistically Significantly Exceeded Those of the Reference Compared to Toxicity Values from Literature Review

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater Than Toxicity Value	Relevant Species & Reference
NOAEL			
DMMU-1 = 0.094 DMMU-2 = 0.104 DMMU-3 = 0.096 DMMU-4 = 0.097 DMMU-5 = 0.145 DMMU-6 = 0.0864 DMMU-7 = 0.094 DMMU-8 = 0.0827 (*M. mercenaria*)	2.28	(does not exceed)	Growth and mortality in *Crassostrea virginica* (Eastern Oyster) Zaroogian et al 1979 in ERED
	2.6	(does not exceed)	Reproduction in *Crassostrea virginica* (Eastern Oyster) Zaroogian et al 1979 in ERED
	34	(does not exceed)	Mortality in *Dreissena polymorpha* (Zebra Mussel) Kraak 1994 in ERED
	35	(does not exceed)	Growth in *Dreissena polymorpha* (Zebra Mussel) Kraak 1994 in ERED
LOAEL			
DMMU-1 = 0.094 DMMU-2 = 0.104 DMMU-3 = 0.096 DMMU-4 = 0.097 DMMU-5 = 0.145 DMMU-6 = 0.0864 DMMU-7 = 0.094 DMMU-8 = 0.0827 (*M. mercenaria*)	200	(does not exceed)	Mortality in *Dreissena polymorpha* (Zebra Mussel) Kraak 1994 in ERED

Only population-level effects (growth, reproduction, mortality) on marine or estuarine invertebrates are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)
Sources: Table 13 and as listed above from ERED

The mean concentrations of lead in *M. mercenaria* tissue samples DMMU-1 through DMMU-8 that exceeded those of the Reference were greater than the concentrations of lead found in wild populations of mantis shrimp (*Gibbesia neglecta*) and in penaeid shrimp caught off Jacksonville, Florida, in 2010 by ANAMAR (2011) (Exhibit 3-35). The mean concentrations of lead in *M. mercenaria* tissue samples also exceeded the concentrations of lead found in wild Jonah crab (*Cancer borealis*) caught off Fort Lauderdale, Florida, in 2011 by ANAMAR (2012) (Exhibit 3-36). However, the mean concentrations of lead in *M. mercenaria* tissue samples were lower than the concentrations of lead found in wild northern quahog (*Mercenaria mercenaria*) sampled from the Indian River Lagoon and analyzed by Trefry and Trocine (2011) (Exhibit 3-37).

Exhibit 3-35. Lead Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentrations in Project Tissue Samples That Exceeded Those of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = **0.094** DMMU-2 = **0.104** DMMU-3 = **0.096** DMMU-4 = **0.097** DMMU-5 = **0.145** DMMU-6 = **0.0864** DMMU-7 = **0.094** DMMU-8 = **0.0827** (*M. mercenaria*)	Yes (mantis shrimp and penaeid shrimp)	0.009–0.009 (*n* = 2 composited samples)	0.009–0.056 (*n* = 6 samples)

Sources: Table13; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011).

Exhibit 3-36. Lead Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Fort Lauderdale, Florida

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Does Mean Concentrations in Project Tissue Exceed Concentrations in Wild Taxa?	2011 Concentrations in Edible Tissues of Wild Jonah Crab (*Cancer borealis*) Caught off Fort Lauderdale, Florida (mg/kg)
DMMU-1 = **0.094** DMMU-2 = **0.104** DMMU-3 = **0.096** DMMU-4 = **0.097** DMMU-5 = **0.145** DMMU-6 = **0.0864** DMMU-7 = **0.094** DMMU-8 = **0.0827** (*M. mercenaria*)	Yes	0.0223–0.0257 (*n* = 3 composited samples)

Sources: Table 13; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Exhibit 3-37. Lead Concentrations in Project Tissue Samples That Statistically Significantly Exceeded Those of the Reference Compared to Concentrations in Wild Northern Quahog from Indian River Lagoon, Florida

Mean Concentrations in Project Tissue Samples that Exceeded Those of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)	1992 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)
DMMU-1 = 0.094 DMMU-2 = 0.104 DMMU-3 = 0.096 DMMU-4 = 0.097 DMMU-5 = 0.145 DMMU-6 = 0.0864 DMMU-7 = 0.094 DMMU-8 = 0.0827 (*M. mercenaria*)	No	33 ± 16 (mean ± SD) 10–70 (range) (*n* = 22)	8 ± 11 (mean ± SD) 1–42 (range) (*n* = 22)

SD = standard deviation

Sources: Table13; Concentrations in wild clams from Trefry and Trocine (2011)

Nickel

Nickel in the marine environment can partition to dissolved and particulate organic carbon. The bioavailability of nickel can also be influenced by the presence of calcium and magnesium (EPA 2000). The bioavailability of nickel in sediments is controlled by the concentration of acid-volatile sulfides. Bioaccumulation of nickel occurs to greatest extent in sediments when the ratio of simultaneously extracted metals to acid-volatile sulfide is greater than 1 (EPA 2000). Nickel is used in the production of stainless steel and is also used in other important industrial applications. In addition to point source releases from industrial practices, there are also nonpoint sources of nickel, such as natural weathering, atmospheric deposition, and surface runoff, that contribute to exposure to nickel in the aquatic environment (Brix et al. 2016).

The common cockle (*Cerastoderma edule*) is the only marine invertebrate species having NOAEL or LOAEL endpoint values that could be found in the literature. The mean concentration of nickel in *A. virens* tissue samples DMMU-1 through DMMU-8 were below the available NOAELs and LOAELs for bivalves obtained from the literature (Exhibit 3-38).

Exhibit 3-38. Nickel Concentration in Project Tissue That Statistically Significantly Exceeded That of the Reference Compared to Toxicity Values from Literature Review

Mean Concentration in Project Tissue Sample that Exceeded That of the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater Than Toxicity Value	Relevant Species & Reference
NOAEL			
DMMU-1 = 0.383 DMMU-2 = 0.355 DMMU-3 = 0.373 DMMU-4 = 0.384 DMMU-5 = 0.349 DMMU-6 = 0.384 DMMU-7 = 0.346 DMMU-8 = 0.376 (*A. virens*)	79	(does not exceed)	Mortality in mature *Cerastoderma edule* (common cockle) Wilson (1983) in ERED
	575	(does not exceed)	Growth in mature *Cerastoderma edule* (common cockle) Wilson (1983) in ERED
LOAEL			
DMMU-1 = 0.383 DMMU-2 = 0.355 DMMU-3 = 0.373 DMMU-4 = 0.384 DMMU-5 = 0.349 DMMU-6 = 0.384 DMMU-7 = 0.346 DMMU-8 = 0.376 (*A. virens*)	575	(does not exceed)	Mortality in mature *Cerastoderma edule* (common cockle) Wilson (1983) in ERED

Only population-level effects (growth, reproduction, mortality) on marine or estuarine invertebrates are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)
Sources: Table 14 and as listed above from ERED

The mean concentration of nickel in *A. virens* tissue samples DMMU-1 through DMMU-8 that exceeded that of the Reference were greater than the concentrations of nickel found in wild populations of mantis shrimp (*Gibbesia neglecta*) and in penaeid shrimp caught off Jacksonville, Florida, in 2010 by ANAMAR (2011) (Exhibit 3-39). The mean concentration of nickel in *A. virens* tissue samples also exceeded the concentrations of nickel found in wild Jonah crab (*Cancer borealis*) caught off Fort Lauderdale, Florida, in 2011 by ANAMAR (2012) (Exhibit 3-40). However, the mean concentration of nickel in *A. virens* tissue samples were lower than the concentrations of nickel found in wild northern quahog (*Mercenaria mercenaria*) sampled from the Indian River Lagoon and analyzed by Trefry and Trocine (2011) (Exhibit 3-41).

Exhibit 3-39. Nickel Concentration in Project Tissue Sample That Statistically Significantly Exceeded That of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissue Sample that Exceeded That of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of Following Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = **0.383** DMMU-2 = **0.355** DMMU-3 = **0.373** DMMU-4 = **0.384** DMMU-5 = **0.349** DMMU-6 = **0.384** DMMU-7 = **0.346** DMMU-8 = **0.376** (*A. virens*)	Yes (mantis shrimp and penaeid shrimp)	0.132–0.186 (*n* = 2 composited samples)	0.070–0.150 (*n* = 6 samples)

Sources: Table 14; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011).

Exhibit 3-40. Nickel Concentration in Project Tissue Sample That Statistically Significantly Exceeded That of the Reference Compared to Concentrations in Wild Aquatic Species Caught off Fort Lauderdale, Florida

Mean Concentration in Project Tissue Sample that Exceeded That of the Reference (mg/kg)	Does Mean Concentrations in Project Tissue Exceed Concentrations in Wild Taxa?	2011 Concentrations in Edible Tissues of Wild Jonah Crab (*Cancer borealis*) Caught off Fort Lauderdale, Florida (mg/kg)
DMMU-1 = **0.383** DMMU-2 = **0.355** DMMU-3 = **0.373** DMMU-4 = **0.384** DMMU-5 = **0.349** DMMU-6 = **0.384** DMMU-7 = **0.346** DMMU-8 = **0.376** (*A. virens*)	Yes	0.140–0.188 (*n* = 3 composited samples)

Sources: Table 14; concentrations in wild species from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Exhibit 3-41. Nickel Concentration in Project Tissue Sample That Statistically Significantly Exceeded That of the Reference Compared to Concentrations in Wild Northern Quahog from Indian River Lagoon, Florida

Mean Concentration in Project Tissue Sample that Exceeded That of the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)	1992 Concentrations in Wild Northern Quahog (*Mercenaria mercenaria*) (mg/kg)
DMMU-1 = 0.383 DMMU-2 = 0.355 DMMU-3 = 0.373 DMMU-4 = 0.384 DMMU-5 = 0.349 DMMU-6 = 0.384 DMMU-7 = 0.346 DMMU-8 = 0.376 (*A. virens*)	No	15 ± 6 (mean ± SD) 4–25 (range) (*n* = 22)	6 ± 5 (mean ± SD) 1–52 (range) (*n* = 22)

SD = standard deviation

Sources: Table 14; Concentrations in wild clams from Trefry and Trocine (2011)

Selenium

Selenium is a naturally occurring metal in the marine environment and plays an essential role as a trace element in a variety of enzymatic and non-enzymatic biochemical processes in marine organisms (Prince et al. 2007). Selenium also plays a role in making arsenic and mercury biologically unavailable for more toxic interactions in marine organisms (Prince et al. 2007, Yang et al. 2008, Raymond and Ralston 2009). The available literature on the effects of selenium on marine life is limited. A search of the ERED database revealed that none of the over 5,000 individual aquatic fauna endpoints were for selenium toxicity in bivalves or other marine invertebrates (there are several NOAELs applicable for various sea turtles only). A comparison to selenium concentrations measured in tissues of wild northern quahog (*Mercenaria mercenaria*) collected from Indian River Lagoon, Florida, during the early 1990s and the mid-2000s suggests that the selenium concentrations observed in *M. mercenaria* tissue in the present study are within the range of concentrations found in wild populations of marine bivalves (Exhibit 3-42). The selenium concentration in *M. mercenaria* tissue exposed to project sediments DMMU-1 through DMMU-8 were also less than the concentrations of selenium analyzed from tissues of wild mantis shrimp (*Gibbesia neglecta*) and wild penaeid shrimp caught off Jacksonville, Florida, in 2010 by ANAMAR (2011) (Exhibit 3-43).

Exhibit 3-42. Selenium Mean Concentration in Project Tissue That Statistically Significantly Exceeded That of the Reference Compared to Concentrations in Wild *Mercenaria mercenaria* (Northern Quahog) from Indian River Lagoon, Florida

Mean Concentration in Project Tissue Sample that Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Clams (mg/kg)	1992 Concentrations in Wild Clams (mg/kg)
DMMU-1 = 0.325 DMMU-2 = 0.306 DMMU-3 = 0.312 DMMU-4 = 0.271 DMMU-5 = 0.268 DMMU-6 = 0.264 DMMU-7 = 0.271 DMMU-8 = 0.264 (*M. mercenaria*)	No	0.96 ± 0.41 (mean ± SD) 0.10–1.9 (range) (*n* = 22)	0.75 ± 0.44 (mean ± SD) 0.04–1.5 (range) (*n* = 22)

Sources: Table 13; concentrations in wild clams from Trefry and Trocine (2011)

Exhibit 3-43. Mean Selenium Concentrations in Project Tissue Samples Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissue That Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Taxa?	2010 Concentrations in the Edible Tissues of Species Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-1 = 0.325 DMMU-2 = 0.306 DMMU-3 = 0.312 DMMU-4 = 0.271 DMMU-5 = 0.268 DMMU-6 = 0.264 DMMU-7 = 0.271 DMMU-8 = 0.264 (*M. mercenaria*)	No (mantis shrimp) No (penaeid shrimp)	0.410–0.494 (composited samples)	0.387–1.070 (*n* = 6 samples)

Source: Table 13; Concentrations in wild populations from Subsection 4.10 and Tables 58 and 59a through 59c of ANAMAR (2011)

Silver

Silver does not appear to be a highly mobile element under typical conditions in most aquatic habitats. Tissue residue-toxicity relationships can also vary because organisms may sequester metal in different forms that might be analytically measurable as tissue residue but might be stored in available forms within the organism as a form of detoxification. Whole-body residues also might not be indicative of effects of concentrations at the organ level because concentrations in target organs, such as the kidneys and liver, can be 20 times greater than whole-body residues (EPA 2000).

Studies with various shellfish show effects ranging from 1,650 to 2,500 mg/kg or more, with no effects as high as at least 800 mg/kg (EPA 2000). The mean concentration of silver found in the *A. virens* tissues that were statistically significantly greater than that of the Reference were 0.0193 mg/kg (DMMU-4), 0.0222 mg/kg (DMMU-6), and 0.0210 mg/kg (DMMU-8), and significant less than the concentrations referenced above. A search of over 5,100 toxicity endpoints in ERED did not produce results relevant to polychaete worms.

The mean concentration of silver in *A. virens* tissue samples DMMU-4, DMMU-6, and DMMU-8 that exceeded that of the Reference were less than the maximum concentrations of this metal found in wild populations of mantis shrimp and penaeid shrimp caught off Jacksonville, Florida, collected in 2010 by ANAMAR (2011) and tested for silver in their edible tissues (muscle tissues) as part of a site designation survey. The mean concentration of silver in the *A. virens* tissue was also less than the maximum concentration of this metal found in edible tissue of wild Jonah crab caught off Fort Lauderdale, Florida, in 2011 by ANAMAR (2012) as part of a site expansion designation survey. The mean concentration of silver in the *A. virens* tissue sample was also less than the concentrations found in wild northern quahog sampled from the Indian River Lagoon and analyzed by Trefry and Trocine (2011).

See Exhibits 3-44 and 3-45 for comparisons of concentrations of silver in wild taxa off Jacksonville and off Fort Lauderdale, respectively, compared to the mean concentrations in *A. virens* tissue. Exhibit 3-46 compares the mean silver concentration in the project tissue with those measured in wild northern quahogs from the Indian River Lagoon, Florida.

Exhibit 3-44. Mean Silver Concentration in Project Tissue Compared to Concentrations in Wild Aquatic Species Caught off Jacksonville, Florida

Mean Concentration in Project Tissues that Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Maximum Concentrations in Wild Taxa?	2010 Concentrations in Edible Tissues of Taxa Caught off Jacksonville, Florida	
		Wild Mantis Shrimp (*Gibbesia neglecta*) (mg/kg)	Wild Penaeid Shrimp (mg/kg)
DMMU-4 = 0.0193 DMMU-6 = 0.0222 DMMU-8 = 0.0210 (*A. virens*)	No	0.118–0.140 (composited samples)	0.007–0.029 (*n* = 6 samples)

Source: Table 14; Concentrations in wild species from Subsection 4.10 and Table 59c of ANAMAR (2011)

Exhibit 3-45. Mean Silver Concentration in Project Tissue Compared to Concentrations in Wild Jonah Crab Caught off Fort Lauderdale, Florida

Mean Concentration in Project Tissues that Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Maximum Concentrations in Wild Taxa?	2011 Concentrations in Edible Tissues of Wild Jonah Crab (*Cancer borealis*) Caught off Fort Lauderdale, Florida (mg/kg)
DMMU-4 = 0.0193 DMMU-6 = 0.0222 DMMU-8 = 0.0210 (*A. virens*)	No	0.162–0.240 (*n* = 2 composited samples)

Source: Table 14; Concentrations in wild species from Table 31 of ANAMAR (2012)

Exhibit 3-46. Mean Silver Concentration in Project Tissue Compared to Concentrations in Wild Northern Quahog from Indian River Lagoon, Florida

Mean Concentration in Project Tissues that Exceeded the Reference (mg/kg)	Does Mean Concentration in Project Tissue Exceed Concentrations in Wild Clams?	2006–2007 Concentrations in Wild Clams (mg/kg)	1992 Concentrations in Wild Clams (mg/kg)
DMMU-4 = 0.0193 DMMU-6 = 0.0222 DMMU-8 = 0.0210 (*A. virens*)	No	0.85 ± 0.70 (mean ± SD) 0.19–2.7 (range) (*n* = 22)	0.91 ± 0.75 (mean ± SD) 0.05–2.9 (range) (*n* = 22)

SD = standard deviation
Source: Table 14; Concentrations in wild clams from Trefry and Trocine (2011)

Thallium

Thallium is a naturally occurring metal with several important industrial uses. The available literature on the effects of thallium on marine life is limited. A search of the ERED database revealed that none of the over 5,000 individual aquatic fauna endpoints were for thallium toxicity in bivalves or other marine invertebrates. No relevant NOAELs or LOAELs could be found for comparison to the mean concentrations of thallium in *M. mercenaria* or *A. virens*. There are several NOAELs and LOAELs applicable for population-level effects in fishes and crustaceans in the ERED database, ranging in tissue concentrations from 12.06 for a LOAEL for reproduction in a freshwater amphipod to 82.78 for a LOAEL for mortality in a freshwater amphipod. *Element Concentrations Toxic to Plants, Animals, and Man* (Gough et al. 1979 [https://pubs.usgs.gov/bul/1466/report.pdf]) suggests that the limit for animals is 0.003 mg/kg body weight. The mean concentrations for thallium in *M. mercenaria* tissues from project samples DMMU-1, DMMU-2, DMMU-4, DMMU-5, and DMMU-6 ranged from 0.000499 mg/kg to 0.000643 mg/kg, which are much lower than that of the body weight limit for animals. The mean concentrations for thallium in *A. virens* tissues from project samples DMMU-2, DMMU-3, DMMU-4, and DMMU-6 ranged from 0.000471 mg/kg to 0.000589 mg/kg, which are much lower than that of the body weight limit for animals.

Zinc

Zinc is considered to have fairly limited mobility under typical conditions in most aquatic habitats Tissue residue-toxicity relationships can also be variable because organisms sequester metals in different forms that are measurable as tissue residue but that can instead be stored in unavailable forms within the organism, possibly as a form of detoxification. Whole-body residues also might not be indicative of effects concentrations at the organ level because concentrations in target organs, such as the kidneys and liver, can be 20 times greater than whole-body residues (EPA 2000). After evaluating the effects of sample preparation techniques on measured concentrations of metals in the edible tissue of fish, Schmitt and Finger (1987) concluded that there was little direct value in measuring zinc (or copper, iron, or manganese) tissue residues in fish because they do not bioaccumulate to any appreciable extent. It has also been suggested that there is not compelling evidence to support any significant concern about zinc as a putative toxin in the environment. Further, there is considerable evidence that zinc deficiency is a serious, worldwide human health problem that outweighs the potential problems associated with accidental, self-imposed, or environmental exposure to excess zinc (EPA 2000). A search of over 5,000 toxicity

endpoints in ERED and other literature produced the following endpoint values relevant to population-level effects on *M. mercenaria* and zinc (Exhibit 3-47).

Mean concentrations for zinc in *M. mercenaria* tissue sample DMMU-8 (35.6 mg/kg) exceeded the EET for bivalves (11.6 mg/kg) and the northern Gulf of Mexico background concentration for bivalves (7.0-30.0 mg/kg). Mean concentrations for zinc in *M. Mercenaria* tissue sample DMMU-8 did not exceed the ERL (150 mg/kg) or the ERM (410 mg/kg) reported by Long et al. (1995) for this metal.

Mean concentrations for zinc in *M. mercenaria* tissue sample DMMU-8 (35.6 mg/kg) that significantly exceed the levels found in the Reference sample was greater than 6 of the NOAELs and LOAELs reported to produce population-level impacts in bivalves (Exhibit 3-47). Mortality in the bivalve *Mysella anomala* was reported to begin above 5 mg/kg of zinc. The *M. mercenaria* tissue sample that exceeded the Reference had a concentration 712% greater than the NOAEL for mortality in *Mysella anomala*. In comparison, the mean concentration for zinc in the Reference (11.7 mg/kg) and pre-exposure tissues (13.5 mg/kg) also exceeded the NOAEL for the bivalve *Mysella anomala*, amounting to 234% and 270%, respectively, of this endpoint value (5 mg/kg). The mean concentration for zinc in DMMU-8 was 137% greater than the NOAELs for Mortality and Growth in *Mytilus edulis* (26 mg/kg, respectively) (Exhibit 3-47). The mean concentration for zinc in DMMU-8 was 142% greater than the LOAEL for Growth in *Mytilus edulis* (25 mg/kg), and 137% greater than the LOAELs for Mortality and Development in *Mytilus edulis* (26 mg/kg, respectively) (Exhibit 3-47).

Exhibit 3-47. Zinc Concentrations in Project Tissues That Statistically Significantly Exceeded Those of the Reference Compared to Toxicity Values from Literature Review

Mean Concentrations in Project Tissue Samples that Exceeded the Reference (mg/kg)	Toxicity Measure & Value (mg/kg)	Percent Sample Result Greater than Toxicity Value	Relevant Species & Reference
	NOAEL		
DMMU-8 = 35.6 (*M. mercenaria*)	5	(712%)	Mortality in adult *Mysella anomala* (a bivalve) King et al. (2004) in ERED
	26	(137%)	Mortality in *Mytilus edulis* (blue mussel) St Jean et al. (2003) in ERED
	26	(137%)	Growth in *Mytilus edulis* (blue mussel) St Jean et al. (2003) in ERED
	55.8	(does not exceed)	Survival in *Mytilus edulis* (blue mussel) Kaitala (1988) in ERED
	120	(does not exceed)	Mortality in *Dreissena polymorpha* (zebra mussel) Kraak et al. (1994) in ERED
	160	(does not exceed)	Lesions in *Scrobicularia plana* (peppery furrow shell) Riba et al. (2005) in ERED
	621	(does not exceed)	Growth in *Dreissena polymorpha* (zebra mussel) Kraak et al. (1994) in ERED
	1720.6	(does not exceed)	Lesions in *Crassostrea angulata* (Portuguese oyster) Riba et al. (2005) in ERED
	LOAEL		
DMMU-8 = 35.6 (*M. mercenaria*)	25	(142%)	Growth in *Mytilus edulis* (blue mussel) Grout and Levings (2001) in ERED
	26	(137%)	Mortality in *Mytilus edulis* (blue mussel) Grout and Levings (2001) in ERED
	26	(137%)	Development in *Mytilus edulis* (blue mussel) Grout and Levings (2001) in ERED
	621	(does not exceed)	Mortality in *Dreissena polymorpha* (zebra mussel) Kraak et al. (1994) in ERED

Only population-level effects (growth, reproduction, mortality) are included. (Biochemical and behavioral effects are excluded since they do not necessarily equate to population-level effects.)

Sources: Table 13 and as listed above from ERED

Acenaphthene and Anthracene

Acenaphthene and anthracene are two of several low-molecular-weight PAHs. The available data on toxicity effects are limited and do not include marine life. Acenaphthene administered through absorption to juvenile *Lepomis macrochirus* (Bluegill) resulted in a NOAEL of 3500 µg/kg of body weight (converted from mg/kg) for mortality according to a study by Barrows et al. (1980). The concentration for acenaphthene is much higher concentrations than the 7.88 µg/kg observed in *M. mercenaria* tissue sample DMMU-7.

A search of the online database ERED found anthracene endpoint data only for the *Elliptio complanate* (molluscs, Eastern Elliptio) and *Rhepoxynius abronius* (crustacean). Anthracene was detected at a concentration of 2.6 mg/kg (2600 µg/kg) in the excised gill tissue of the *Elliptio complanate* (molluscs, Eastern Elliptio) according to a study by Cheney MA, Birdsall K, Kukor JJ. (2001). A whole-body concentration of 15.31 mg/kg (15,310 µg/kg) caused behavior and mortality effects to *Rhepoxynius abronius* (crustacean) at a concentration according to a study by Boese et al. (2001). The concentrations for anthracene in *M. mercenaria* tissue sample DMMU-8 (2.98 µg/kg) and in *A. virens* tissue sample DMMU-7 (3.42 µg/kg) are much lower than the concentrations in *Elliptio complanate*, *Rhepoxynius abronius*, and the juvenile *Lepomis macrochirus* (Bluegill).

Benzo(a)pyrene

Bioavailability of sediment-associated PAHs, including benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, and benzo(k)fluoranthene, has been observed to decline with increased contact time. A relationship has been established between dissolved organic matter (including the percentage of hydrophobic acids) and accumulation of benzo(a)pyrene and other PAHs. It has been observed that the bioavailability of benzo(a)pyrene and other PAHs decreases in waters with dissolved organic carbon having more hydrophobic acids. The reduced bioavailability has been observed for benzo(a)pyrene accumulation from field-collected sediments compared with laboratory-spiked sediments. Mean accumulation of benzo(a)pyrene declined by a factor of three in *Chironomus riparius* exposed to sediment stored for 1 week versus sediment stored for 8 weeks. The concentrations of benzo(a)pyrene in whole sediment and pore water were 0.27 to 80.9 ng/g and 0.004 to 0.913 mg/mL, respectively. Short-term exposures (24 hours) to 1 mg/L benzo(a)pyrene averaged 8.27 nanomoles in fish tissue. Of this total, 67% was accumulated in the gallbladder or gut, indicating rapid metabolism and excretion (USEPA 2000).

The bioaccumulation of benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, and benzo(k)fluoranthene can be influenced by lipid reserves. In an experiment reviewed in USEPA (2000), chironomid larvae rapidly accumulated benzo(a)pyrene from spiked sediment, and tissue concentrations were directly proportional to sediment concentrations. However, the level of benzo(a)pyrene in Bluegill (*Lepomis macrochirus*) that were fed contaminated chironomids was generally low, indicating either low uptake or rapid metabolism. According to another study reviewed by USEPA (2000), accumulation of hydrophobic chemicals like benzo(a)pyrene in aqueous systems appears to depend on the amount of chemical in solution and on the amount sorbed to particles entering the food chain. Uptake and accumulation of benzo(a)pyrene was reduced by 97% due to sorption to organic matter (USEPA 2000).

Studies that report body burdens of the parent compound may, depending on the species, grossly underestimate total bioaccumulation of benzo(a)pyrene and its metabolites. A study reviewed and summarized by USEPA (2000) concluded that the body burden of the parent compound may represent less than 10% of the actual total body burden of the parent plus metabolites. The

accumulation kinetics of benzo(a)pyrene suggest that uptake occurs largely via the sediment interstitial water and is controlled by desorption from sediment particles and dissolved organic matter. Accumulation of benzo(a)pyrene from water was not affected by the simultaneous presence of naphthalene or PCBs. It has been shown that the concentration of benzo(a)pyrene equivalents in American Gizzard Shad (*Dorosoma cepedianum*) increases when the fish ventilate water turbid with benzo(a)pyrene-spiked sediments. Also, turbid water, not sediment ingestion, appears to be a significant source of benzo(a)pyrene for American Gizzard Shad (USEPA 2000).

Studies with various mollusks exposed to 161 µg/kg show only limited effects on mortality or development (USEPA 2000). The mean concentration found in the *A. virens* sample DMMU-5 was 2.53 µg/kg.

Fluorene

Fluorene is one of several low molecular weight (LMW) PAHs. The available data on toxicity effects are limited and do not include marine life. NOAELs for fluorene using the freshwater amphipod *Hyalella azteca* include a concentration of 54,610 µg/kg for mortality, 22,250 µg/kg for growth, and 8,090 µg/kg for reproduction (Schuler et al. 2007) (converted from mg/kg). Hellou et al. (2002) found a NOAEL for fluorene with *Oncorhynchus mykiss* (Rainbow Trout) at 1,800 µg/kg for mortality (Hellou et al. 2002). These are much higher concentrations than the 4.43 µg/kg observed in the *A. virens* tissue sample DMMU-3.

Fluoranthene

It is not clear if fluoranthene has carcinogenic effects on organisms according to Patnaik (1981). The International Agency for Research on Cancer stated that fluoranthene is "not classifiable as to its carcinogenicity to humans," although Busby et al. (1984) found that mice treated with fluoranthene exhibited a significantly higher incidence of lung tumors relative to a control. It is readily metabolized and excreted from live organisms (EPA 2000), although the rates of metabolism and excretion probably vary among taxa.

Eleven endpoint values, consisting of five NOAELs and six no LOAELs, for mortality and reproduction were obtained for fluoranthene from the literature search and applicable to this evaluation. These values resulted from studies on crustaceans and bivalves. The lowest individual NOAEL value was 40,450 µg/kg (for reproduction in the copepod *Schizopera knabeni*). The lowest individual LOAEL value was 220 µg/kg (for reproduction in the Blue Mussel, *Mytilus edulis*).

Project tissue sample from *M. mercenaria* and *A. virens* in DMMU-7 had mean concentrations of fluoranthene that statistically significantly exceeded that of the Reference. The mean concentration in both species is lower than the lowest endpoint value (LOAEL of 220 µg/kg for reproduction in *M. edulis*). Exhibits 3-48 and 3-49 compare the maximum concentration of fluoranthene in project tissue sample DMMU-7 with NOAEL and LOAEL values, respectively. These values were obtained from published literature.

Exhibit 3-48. Fluoranthene Mean Concentration in Project Tissues Compared to NOAEL Values from Literature Review

Mean Concentration in DMMU-7 (µg/kg)	NOAEL Concentration (µg/kg)	Percent Sample Result Greater Than Toxicity Value	Species & Reference
DMMU-7 = 13.0 (*M. mercenaria*)	1,190,000	(does not exceed)	Mortality in *Diporeia* spp. (amphipod) Driscoll and Landrum (1997) in ERED
DMMU-7 = 10.7 (*A. virens*)	586,600	(does not exceed)	Mortality and reproduction in *Schizopera knabeni* and *Coullana* sp. (copepods) Lotufo 1998 in ERED
	121,400	(does not exceed)	
	40,450	(does not exceed)	
	68,700	(does not exceed)	Mortality in *Leptocheirus plumulosus* (amphipod) Driscoll et al. 1998 in ERED

Source: Table 17 and 18; NOAELs as listed above from ERED

Exhibit 3-49. Fluoranthene Mean Concentrations in Project Tissues Compared to LOAEL Values from Literature Review

Mean Concentration in DMMU-7 (µg/kg)	LOAEL Concentration (µg/kg)	Percent Sample Result Greater Than Toxicity Value	Species & Reference
DMMU-7 = 13.0 (*M. mercenaria*)	788,800	(does not exceed)	Mortality and reproduction in *Schizopera knabeni* and *Coullana* sp. (copepods) Lotufo 1998 in ERED
	262,900	(does not exceed)	
	121,350	(does not exceed)	
DMMU-7 = 10.7 (*A. virens*)	252,800	(does not exceed)	Mortality in *Diporeia* spp. (amphipod) Driscoll et al. 1997 in ERED
	71,800	(does not exceed)	
	220	(does not exceed)	Reproduction in *Mytilus edulis* (Blue Mussel) Eertman et al. 1995 in ERED

Source: Table 17 and 18; LOAELs as listed above from ERED

Phenanthrene

Phenanthrene is one of several LMW PAHs. The available data on toxicity effects are limited and do not include marine life. NOAELs for phenanthrene include a LOAEL of 214,000 µg/kg for mortality in the freshwater amphipod *Diporeia* sp. and a NOAEL of 17,000 µg/kg (converted from mg/kg) for mortality of *Carassius auratus* (Goldfish) (Landrum et al. 1994, Kishino and Kobayashi 1995). These are much higher concentrations than those observed in *M. mercenaria* tissues from DMMU-7 (8.02 µg/kg) and *A. virens* tissues from DMMU-3 and DMMU-7 (7.40 µg/kg and 8.86 µg/kg, respectively).

Pyrene

The toxic effects of pyrene are dependent on attaining a certain molar concentration in the organism (Landrum et al. 1994). A comparison between the estimation of LC_{50} values for aquatic invertebrates based on laboratory bioassays and the estimation of LC_{50} values by means of

equilibrium-partitioning theory found that the equilibrium-partitioning approach greatly over-estimated the toxicity of pyrene in sediments (by more than a factor of 10 [Landrum et al. 1994]). The available data on toxicity effects are limited and do not include population-level effects on marine life. A NOAEL of 1,080 µg/kg pyrene was given by Roper et al. (1997) for survival in the Zebra Mussel (*Dreissena polymorpha*). The concentrations for pyrene found in *M. mercenaria* tissue sample DMMU-7 (8.18 µg/kg) and *A. virens* tissue samples DMMU-3 (3.57 µg/kg) and DMMU-7 (13.2 µg/kg) were less than those associated with the NOAEL for the Zebra Mussel reported by Roper et al. (1997).

Total LMW PAHs, Total HMW PAHs and Total PAHs

Although there does not appear to be any standard accepted criteria for levels of total PAHs ingested by humans (EPA has however suggested daily intake amounts of *individual* PAH compounds that have been deemed unlikely to cause harmful health effects) (ATSDR 2014), some previously proposed criteria for total PAHs were obtained from Eisler (1987) and are summarized in Exhibit 3-50. These levels are derived from laboratory experiments using mice and rats. These criteria are controversial due to the lack of a standard representative PAH mixture for test purposes, the difficulty in quantification of the health risks caused by the additive or synergistic effects of individual PAH analytes and other sources, and the paucity of data on the effects of chronic exposure. In addition, generalizations were made on the effects of total PAHs based heavily on data derived from the known effects of just one PAH analyte (benzo[a]pyrene). Lastly, wide variations exist in the capacity of humans and other animals to metabolize carcinogens using enzymes, and this interaction between enzymes and carcinogenic PAH analytes is the most significant process leading to carcinogenesis from PAHs (Eisler 1987). The proposed criteria for total PAHs in human health protection are given in Exhibit 3-50.

Exhibit 3-50. Proposed Criteria for Ingestion of Total PAHs in Human Health Protection Obtained from a Literature Search

Criterion	Value	Notes
Daily intake in food	1.6–16.0 grams/day	Assumes 1600 grams/day of food intake, adult body mass of 70 kg, and a total PAH concentration of 1 to 10 µg/kg (fresh weight) in diet
Yearly intake in food	4150.0 grams/year	

Sources: Table 8 in Eisler (1987) as summarized from Lee and Grant (1981) and Pucknat (1981)

Although laboratory experiments using mice and rats have shown that both short-term and long-term PAH exposure can cause negative effects on the skin, body fluids, and immune system, these effects have not been well documented in humans. Similarly, although reproductive problems and birth defects in mice have been linked to the ingestion of high levels of PAHs, the effects of PAHs on human reproductive processes remain poorly understood. Despite the paucity of evidence showing a direct link between exposure to PAHs and health effects in humans, a small percentage of people who have been chronically exposed to PAHs have developed cancer (ATSDR 1996), and it is reasonable to assume that a correlation exists. Of the incidences of cancer among people with a history of chronic exposure, most involve either inhalation or topical adsorption as the primary exposure route; thus, the effects of PAH ingestion on humans is even more poorly known.

Because fishes are typically able to rapidly metabolize PAHs, concentrations of PAHs in fish tissues are usually low (Lawrence and Weber 1984, Eisler 1987). A study of three native fish species captured from the Kuwait Bay area found the highest levels of PAH contamination in tonguesole, a bottom dwelling species, suggesting that such species may be used to gauge the

level of PAH contamination in the area's sediments (Beg et al. 2009). It appears that the consumption of fish may not be an important contributor of PAHs in humans. However, PAHs can be generated during the cooking or smoking process, and the ingestion of fish skin tissues may be a significant contributor of benzo(a)pyrene. It is important to note that the speed at which PAH metabolites are eliminated is dependent on water temperature and on the species of fish.

HPAHs do not appear to accumulate in fish tissue according to West et al. (1984), with the exception of benzo(a)pyrene, which is found in higher amounts in the skin tissue of fish than in other tissues (USEPA 1980). Thus, it appears that the consumption of fish may not be an important contributor of PAHs in humans as long as the skin is not consumed. However, PAHs can be generated during the cooking or smoking process, and the ingestion of fish skin tissues may be a significant contributor of benzo(a)pyrene. It is important to note that the speed at which PAH metabolites are eliminated is dependent on water temperature and on the species of fish.

PAHs are much more toxic to crustaceans than they are to teleost (bony) fishes. In general, shellfish tend to metabolize PAHs much more slowly and to eliminate PAHs and PAH metabolites (some of which are toxic to other organisms and to people) slowly compared to the speed of these processes in fishes. In most cases, PAH concentrations that are acutely toxic to aquatic organisms are several orders of magnitude higher than concentrations in sediments from most contaminated sites, and their limited bioavailability typically makes them significantly less toxic than PAHs in solution (Neff 1980).

Twenty-five NOAEL values for total PAHs that are applicable to this evaluation were obtained from the literature search and, since there is not an universally accepted list of HPAHs, NOAELs pertaining strictly to HPAHs were not found. Therefore, all NOAELs found in the literature for individual PAH compounds relate to total PAHs. The range of individual NOAEL values was 18 to 25,000 µg/kg.

M. mercenaria and *A. virens* tissue samples from DMMU-7 had mean concentrations of total LPAHs, total HPAHs, and total PAHs that were statistically significantly greater than those of the Reference. *A. virens* tissue sample DMMU-3 had a mean concentration of total PAHs that was statistically significantly greater than those of the Reference. The concentrations of total LPAHs, total HPAHs, and total PAHs in *M. mercenaria* tissue sample DMMU-7 exceeded only three (13%) of the 24 individual NOAELs. The concentrations of total PAHs in *A. virens* tissue samples DMMU-3 and DMMU-7 exceeded only three (13%) of the 24 individual NOAELs. The concentrations of total LPAHs and total HPAHs in *A. virens* tissue sample DMMU-7 exceeded only one (4%) and two (8%) of the 24 individual NOAELs, respectively. Exhibit 3-51 compares the mean concentrations of total LPAHs, total HPAHs, and (or) total PAHs in *M. mercenaria* (DMMU-7) and *A. virens* tissues (DMMU-3 and DMMU-7) with NOAEL values obtained from the literature.

Exhibit 3-51. Maximum Concentrations of Total HPAHs and Total PAHs in Project Tissues Compared to NOAEL Values Obtained from the Literature Review

Mean Concentrations in DMMU-3, DMMU-5, and DMMU-7 (µg/kg)	Toxicity Measure & Value (µg/kg)	Percent Sample Result Greater Than Toxicity Value	Species & Reference
	NOAEL		
	25000	(does not exceed)	Reproduction in eggs of *Oncorhynchus gorbuscha* (Pink Salmon) Heintz et al. 1999 in ERED
	1900	(does not exceed)	
	470	(does not exceed)	
	200	(does not exceed)	
(*M. Mercenaria*) DMMU-7 Total LPAHs = 37.8 DMMU-7 Total HPAHs = 75.0 DMMU-7 Total PAHs = 113	3400	(does not exceed)	Mortality in *Liza ramado* (Thinlipped Mullet) Milinkovitch et al. 2011 in ERED
	1626	(does not exceed)	
	1260	(does not exceed)	
	1140	(does not exceed)	
	848	(does not exceed)	
	668	(does not exceed)	
(*A. virens*) DMMU-3 Total PAHs = 45.4 DMMU-7 Total LPAHs = 21.9 DMMU-7 Total HPAHs = 41.0 DMMU-7 Total PAHs = 62.9	454	(does not exceed)	
	160	(does not exceed)	
	28	(*M. Mercenaria*) DMMU-7 Total LPAHs = 135%, Total HPAHs = 268%, Total PAHs =404% (*A. virens*) DMMU-3 Total PAHs = 162% DMMU-7 Total LPAHs = (does not exceed), DMMU-7 Total HPAHs = 146%, DMMU-7 Total PAHs = 225%	

Mean Concentrations in DMMU-3, DMMU-5, and DMMU-7 (µg/kg)	Toxicity Measure & Value (µg/kg)	Percent Sample Result Greater Than Toxicity Value	Species & Reference
	NOAEL		
	18	(*M. Mercenaria*) DMMU-7 Total LPAHs = 210%, Total HPAHs = 417%, Total PAHs = 628% (*A. virens*) DMMU-3 Total PAHs = 252% DMMU-7 Total LPAHs = 122% DMMU-7 Total HPAHs = 228% DMMU-7 Total PAHs = 349%	
	1900	(does not exceed)	Mortality or development in eggs of *Oncorhynchus gorbuscha* (Pink Salmon) Brannon et al. 2006 in ERED
	1560	(does not exceed)	
	1420	(does not exceed)	
	1060	(does not exceed)	
	380	(does not exceed)	
	300	(does not exceed)	
	200	(does not exceed)	
(*M. Mercenaria*) DMMU-7 Total LPAHs = 37.8 DMMU-7 Total HPAHs = 75.0 DMMU-7 Total PAHs = 113 (*A. virens*) DMMU-3 Total PAHs = 45.4 DMMU-7 Total LPAHs = 21.9 DMMU-7 Total HPAHs = 41.0 DMMU-7 Total PAHs = 62.9	380	(does not exceed)	Growth in eggs of *Oncorhynchus tshawytscha* (Chinook Salmon) Meador et al. 2006 in ERED
	108	(does not exceed)	Mortality, growth, and development in eggs of *Clupea pallasii* (Pacific Herring) Carls et al. 1999 in ERED
	22	(*M. Mercenaria*) DMMU-7 Total LPAHs = 172% DMMU-7 Total HPAHs = 341% DMMU-7 Total PAHs = 514% (*A. virens*) DMMU-3 Total PAHs = 206% DMMU-7 Total LPAHs = (does not exceed), DMMU-7 Total HPAHs = 186%, DMMU-7 Total PAHs = 286%	

Bis(2-ethylhexyl) phthalate

Bis(2-ethylhexyl) phthalate is the primary synonym for substance Di(2-ethylhexyl) phthalate and commonly referred to as DEHP. DEHP is not found naturally in the environment and was widely used as a plasticizer to help make polyvinyl chloride products soft and flexible (CPSC 2010a). DEHP enters the environment predominantly through disposal of wastes into landfills. To a much lesser extent, it is volatized into air (from industrial and end uses of DEHP), carried in wastewater from industrial sources, and in effluent from municipal wastewater treatment plants (Bauer and Herrmann 1997; Clara et al. 2010; EPA 1981). It tends to absorb strongly to soils and sediments and to bioconcentrate in aquatic organisms (Staples et al. 1997; Wolfe et al. 1980); however, potential for DEHP to biomagnify in the food chain is expected to be minimized by metabolism (EPA 1979; Johnson et al. 1977; Mackintosh et al. 2004; Staples et al. 1997; Wofford et al. 1981). Biodegradation can occur under aerobic conditions (Sugatt et al. 1984). Sorption, bioaccumulation, and biodegradation are likely to be competing processes, with the dominant fate determined by local environmental conditions. The available data on toxicity effects are limited to rodents, primates, and human exposure and do not include population-level effects on marine life.

Bioconcentration of DEHP has been observed in invertebrates, fish, and terrestrial organisms. Mean bioconcentration factors have been reported for algae (3,173±3,149, two species), mollusks (1,469±949, five species), crustacea (1,164±1,182, four species), insects (1,058±772, three species), polychaetes (422, one species), fish (280±230, five species), and amphibians (605, one species) have been compiled by Staples et al. (1997). Residues of DEHP have been found in the organs of terrestrial animals such as rats, rabbits, dogs, cows, and humans (EPA 1979). Uptake of DEHP from soil by plants has also been reported (EPA 1986; O'Connor 1996). There is not a biomagnification factor given by the EPA or applicable to DEHP.

Diethyl Phthalate

Diethyl phthalate is a man-made colorless liquid with a slight aromatic odor and a bitter, disagreeable taste. Trade names include neantine, peilatinol A, and solvanol. Diethyl phthalate is manufactured for many uses. It is commonly used to make plastics more flexible. Because diethyl phthalate is not a part of the chain of chemicals (polymers) which makes up the plastics, it can be released fairly easily from these products. These plastics are found in products such as toothbrushes, automobile parts, tools, toys, and food packaging. Diethyl phthalate is also used in cosmetics, insecticides, and aspirin.

A search of the online database ERED found diethyl phthalate endpoint data only for *Lepomis macrochirus* (Bluegill). A whole-body concentration of 1.1 mg/kg caused mortality in Bluegill according to a study by Barrows et al. (1980). The concentration of diethyl phthalate in *A. virens* tissue from DMMU-5 (5.97 µg/kg [= 0.00597 mg/kg]) is a fraction of the tissue concentration that caused negative effects in Bluegill as discussed above.

Di-n-butyl Phthalate

Di-n-butyl phthalate is an oily liquid that is odorless and can be clear to faintly yellow. This manmade compound is added to hard plastics to make them soft, especially in polyvinyl chloride plastics and nitrocellulose lacquers (ATSDR 2001). Di-n-butyl phthalate enters the air or sticks to dust particles from new carpets, drying paints, and nail polish. When the compound enters surface waters or soils, it tends to get broken down by bacteria and this process may take up to a month to complete, depending on temperature and other factors. Di-n-butyl phthalate appears to have a relatively low toxicity. Large amounts are needed to cause injury (ATSDR 2001).

A search of the online database ERED found di-n-butyl phthalate endpoint data only for crustaceans. A whole-body concentration of 0.5 mg/kg caused mortality in juvenile daggernose grass shrimp (*Palaemonetes pugio*) in a study by Laughlin et al. (1978). The mean concentration of di-n-butyl phthalate in *A. virens* tissue samples DMMU-2 (10.6 µg/kg [= 0.0106 mg/kg]), DMMU-4 (7.23 µg/kg [= 0.00723 mg/kg]), and DMMU-7 (6.98 µg/kg [= 0.00698 mg/kg]), are a fraction of the tissue concentration that caused negative effects in the grass shrimp as discussed above.

Di-n-butyl phthalates and other butyl phthalates are used as a plasticizer in industry, a solvent for organic compounds, an antifoaming agent, a textile fiber lubricant, a fixative for fragrances, and an insect repellent (ATSDR 2001). Di-n-butyl phthalate has been reported to biologically degrade in fresh and marine water, with 50% to 100% degradation within 28 days in aerobic conditions and over 90% degradation within 30 days in anaerobic freshwater conditions (ATSDR 2001).

Data indicate that di-n-butyl phthalate can partition from food and water into a variety of organisms (ATSDR 2001). Studies using radioactively labeled di-n-butyl phthalate have shown accumulation of radioactivity in aquatic invertebrates and fishes. Numerous experiments have shown that the accumulation of di-n-butyl phthalate in the aquatic and terrestrial food chain is limited by biotransformation (i.e., transformation of chemical compounds within a living system), which progressively increases with trophic level (Staples et al. 1997, ATSDR 2001). In general, bioconcentration factors decrease for organisms that possess more advanced metabolic systems. Examples of mean bioconcentration factors (mg/g wet weight) include 3,399 for algae, 662 (±229 SD) for crustaceans, 624 (±144 SD) for insects, and 167 for fishes (Staples et al. 1997, ATSDR 2001).

Relevant NOAELs or LOAELs could not be found for comparison to the mean concentration of di-n-butyl phthalate in *A. virens* tissue.

TPH

Factors that determine health effects from exposure to TPH involve the form of compounds in the TPH, the duration of exposure (acute versus chronic), and the number of chemical substances in contact with the organism (Farrington 2014). In severe cases, TPH can coat the body of an organism, causing suffocation. Other types of damage to organisms involve cancerous tumors.

The presence of smaller compounds within TPH, such as benzene, toluene, and xylene, can affect the central nervous system (Farrington 2014). Exposure to TPH can lead to decreased resistance in a marine organism's ability to deal with other environmental stressors, such as variations in temperature or water quality. This has been well documented in corals that have been found to be damaged or have died following petroleum hydrocarbon exposure (Farrington 2014).

Mean concentrations for TPH in in *M. mercenaria* tissue samples DMMU-1 (170 mg/kg), DMMU-3 (960 mg/kg), DMMU-4 (218 mg/kg), DMMU-5 (1,886 mg/kg), DMMU-6 (1,951 mg/kg), DMMU-7 (2,404 mg/kg), and DMMU-8 (1,955 mg/kg) statistically significantly exceeded that of the Reference (35.7 mg/kg). Relevant NOAELs or LOAELs could not be found for comparison to the mean concentration of TPH in *M. mercenaria* tissue.

Factor 6. Phylogenetic diversity of the species in which bioaccumulation in organisms exposed to sediment from the dredging site statistically exceeds bioaccumulation in organisms exposed to the Reference sediment.

This factor addresses and discusses the phylogenetic diversity of the species in which bioaccumulation from the dredged material statistically exceeds bioaccumulation from the Reference material.

The species tested, *M. mercenaria* and *A. virens* are recommended in Section 12 of the Green Book and labeled as "examples of appropriate test species for determining potential bioaccumulation from whole sediment tests." The basic recommendations require that a deposit-feeding bivalve mollusk and a burrowing polychaete worm be tested. *A. virens* is an ecologically important infaunal member of the western North Atlantic region, provides adequate biomass for tissue analysis, and is a detritivore. *M. mercenaria* inhabits the western North and Central Atlantic including the Gulf of Mexico (Abbott 1968, Turgeon 2009) and therefore represents a native species in and around the project area. Although *M. mercenaria* and other members of the genus feed using a siphon (as with most bivalves), it is possible that the proximity of the incurrent siphon to the sediment surface allows some fine particulates and contaminants associated with sediment to be ingested. Regardless, the use of *M. mercenaria* for bioaccumulation testing conforms to recommendations in the Green Book regarding the use of a deposit-feeder.

Factor 7. Propensity for the contaminants with statistically significant bioaccumulation to biomagnify within aquatic food webs.

Biomagnification, the ability of a compound to accumulate in upper-level consumers, is dependent on the propensity of a given compound to biomagnify in lower-level organisms. Compounds in project tissues having mean values less than or equal to two times the Reference values have a low magnitude of difference in bioaccumulation levels, which suggests that the toxicological relevance of the measured statistically significant difference is negligible and may not warrant further examination of the ecological significance (Lotufo et al. 2011). Analyte concentrations in project tissue samples that exceeded those of the Reference by more than a factor of two are evaluated against the ecological effects' thresholds, which are regionally specific thresholds formulated to evaluate potential bioaccumulation-related adverse effects of sediments proposed for ocean disposal. The thresholds are concentrations of given compounds in tissues that are not expected to have unacceptable effects in marine organisms (EPA and USACE 2008).

Mean concentrations of metals, TPH, and PAHs (acenaphthene, anthracene, fluoranthene, phenanthrene, pyrene, total LPAHs, total HPAHs, and total PAHs) in *M. mercenaria* tissue from project samples listed below were detected at levels that were statistically significantly greater than the Reference mean value.

- DMMU-1: antimony, arsenic, lead, selenium, thallium, TPH
- DMMU-2: antimony, arsenic, chromium, lead, selenium, thallium
- DMMU-3: antimony, arsenic, chromium, lead, selenium, TPH
- DMMU-4: arsenic, chromium, lead, selenium, thallium, TPH
- DMMU-5: antimony, arsenic, chromium, copper, lead, selenium, thallium, TPH
- DMMU-6: antimony, arsenic, chromium, lead, selenium, thallium, TPH

- DMMU-7: arsenic, lead, selenium, TPH, acenaphthene, fluoranthene, phenanthrene, pyrene, total LPAHs, total HPAHs, total PAHs
- DMMU-8: antimony, arsenic, lead, selenium, zinc, TPH, anthracene

Of the tissues that were found to be statistically significantly greater than that of the Reference, the mean concentrations for copper in DMMU-5, lead in DMMU-2 and DMMU-5, and zinc in DMMU-1 also exceeded the applicable ecological effects thresholds. These mean results did not exceed the northern Gulf of Mexico background concentrations except for zinc in DMMU-8. Acenaphthene and fluoranthene in DMMU-7 also exceeded the applicable ecological effects threshold, and total HPAHs in DMMU-7 exceed the northern Gulf of Mexico background concentration.

Mean concentrations of cadmium, nickel, silver, thallium, fluorene, fluoranthene, phenanthrene, pyrene, total LPAHs, total HPAHs, total PAHs, bis(2-ethylhexyl) phthalate, di-n-butyl phthalate, and diethyl phthalate in *A. virens* tissue from project samples listed below were detected at levels that were statistically significantly greater than the applicable Reference values.

- DMMU-1: cadmium, nickel
- DMMU-2: cadmium, nickel, thallium, di-n-butyl phthalate
- DMMU-3: cadmium, nickel, thallium, fluorene, phenanthrene, pyrene, total PAHs
- DMMU-4: cadmium, nickel, silver, thallium, di-n-butyl phthalate
- DMMU-5: cadmium, nickel, benzo(a)pyrene, diethyl phthalate
- DMMU-6: cadmium, nickel, silver, thallium
- DMMU-7: cadmium, nickel, anthracene, fluoranthene, phenanthrene, pyrene, total LPAHs, total HPAHs, total PAHs, di-n-butyl phthalate
- DMMU-8: nickel, silver, bis(2-ethylhexyl) phthalate

The mean concentrations of metals, PAHs, or SVOCs in *A. virens* tissue did not exceed applicable ecological effects threshold or northern Gulf of Mexico background concentrations.

Antimony, Arsenic, Cadmium, Chromium, Copper, Lead, Nickel and Zinc

Each of these eight metals was given a biomagnification risk factor of 1 by Battelle (2005) for use in bioaccumulation risk assessment modeling for EPA Region 1 projects and has since been adopted by EPA Region 4 (ANAMAR 2015). This risk factor may also be applicable to this EPA Region 6 project as region-specific alternative risk factor could not be found during a literature search.

Silver

Little evidence exists to support the general occurrence of biomagnification of silver within marine or freshwater food webs. Silver uptake by aquatic organisms appears to be almost entirely from the dissolved form. When silver was bound to algal cell membranes, it could not be dislodged by either mechanical disruption or leaching at low pH; therefore, silver bound to algal cells is likely unassimilable by higher organisms (EPA 2000).

Selenium and Thallium

Selenium and thallium were not given a biomagnification risk factor by EPA Region 4 for use in bioaccumulation risk assessment modeling (Battelle 2005, ANAMAR 2015). However, the results

of studies by Hermanutz et al. (1992) and Coyle et al. (1993) were evaluated by EPA (2000), and it was concluded that selenium can biomagnify within aquatic ecosystems (EPA 2000). It is possible that selenium and thallium have similar biomagnification risk as other metals. If this is the case, then the biomagnification risk factor of 1 may be appropriate here as this value was given by EPA Region 4 for 11 other metal analytes (Battelle 2005, ANAMAR 2015).

Individual PAHs

Food chain multipliers for anthracene, acenaphthene, benzo(a)pyrene, fluorene, fluoranthene, phenanthrene, and pyrene in aquatic organisms were not found in the literature, including EPA (2000). These and other PAHs are readily metabolized and excreted from living organisms, indicating low biomagnification effects in the environment. The rates of metabolism and excretion probably vary among taxa (EPA 2000). These contaminants were given biomagnification risk factors of 1.005 (fluorene 1.054 (fluoranthene), 1.007 (phenanthrene), and 1.017 (pyrene) by EPA Region 4 for use in bioaccumulation risk assessment modeling (Battelle 2005, ANAMAR 2015). These risk factors may also be applicable to EPA Region 6.

Total LPAHs, Total HPAHs and Total PAHs

Many of these PAHs are readily metabolized and excreted from living organisms, indicating low biomagnification effects in the environment. The rates of metabolism and excretion probably vary among taxa (USEPA 2000). These groups of PAHs were not assigned a biomagnification risk factor by EPA Region 4 for use in bioaccumulation risk assessment modeling (Battelle 2005, ANAMAR 2015).

Diethyl phthalate

Diethyl phthalate has been detected in aquatic organisms and has been found to bioconcentrate modestly in these organisms (Camanzo et al. 1983; DeVault 1985; McFall et al. 1985a). The database is, however, too limited to determine a representative range of bioaccumulation potential throughout the food chain. Further data on the accumulation potential for diethyl phthalate, including biomagnification in terrestrial and aquatic food chains, does not seem necessary (ATSDR 1995).

Diethyl phthalate was not given a biomagnification risk factor by EPA Region 1 for use in bioaccumulation risk assessment modeling (Battelle 2005, ANAMAR 2015). There is not a published biomagnification risk factor for this compound applicable to EPA Region 6.

Di-n-butyl phthalate

Available data indicate that di-n-butyl phthalate tends to be taken up and metabolized by invertebrates and fishes. Numerous studies have shown that the accumulation of di-n-butyl phthalate in the aquatic and terrestrial food chain is limited by biotransformation, which progressively increases with trophic level (Staples et al. 1997). Therefore, di-n-butyl phthalate will not biomagnify through the food chain (ATSDR 2001).

Di-n-butyl phthalate was not given a biomagnification risk factor by EPA Region 1 for use in bioaccumulation risk assessment modeling (Battelle 2005, ANAMAR 2015). There is not a published biomagnification risk factor for this compound applicable to EPA Region 6.

Bis(2-ethylhexyl) phthalate

A biomagnification risk could be not found for this analyte.

TPH

A biomagnification risk could not be found for this analyte.

Factor 8. Magnitude of toxicity and number and phylogenetic diversity of species exhibiting greater mortality in the sediment from the dredging site than in the Reference sediment.

Significant toxicity was not observed in the bioaccumulation tests performed on the Harbor Island New Dock and Facilities sediments.

The mean percent survival in the 100% elutriate concentration of the 96-hour water column bioassays with *A. bahia* ranged from 94% to 100% among the project elutriates, was 98% in the Reference, and was not significantly different from that of the control (96% to 100%). The estimated LC_{50} was >100% for the eight project samples.

The mean percent survival in the 100% elutriate concentration of the 96-hour water column bioassays with *M. beryllina* ranged from 94% to 98% among the project elutriates, was 92% in the Reference, and was not significantly different from that of the control (94% to 100%). The estimated LC_{50} values were >100% for the eight project samples.

The mean percent survival in the 100% elutriate concentration of the 48-hour water column bioassays with planktonic *A. bahia* ranged from 94% to 100% among the project elutriates, was 100% in the Reference, and was not significantly different from that of the control (96% to 100%). The estimated LC_{50} values were >100% for the eight project samples.

Mean survival in the project sediments using *L. plumulosus* ranged from 87% to 92% and was not statistically different from that of the Reference (91%). Mean survival across the project samples was either equal to the Reference or less than 20% below the Reference, indicating that the samples met the LPC for benthic toxicity as defined in the RIA.

Mean survival in the project sediments using *A. bahia* ranged from 87% to 93% and was 91% in the Reference. Project samples did not result in mean survival that was greater than 10% different from that of the Reference, indicating that the samples met the LPC for benthic toxicity as defined in the RIA.

Survival in the project sediment samples for the 28-day bioaccumulation test ranged from 91% to 100% in *M. Mercenaria* and from 89% to 100% for *A. virens*.

Summary

The bioaccumulation potentials of contaminants were evaluated through 28-day whole sediment exposure testing using *M. mercenaria* and *A. virens* followed by chemical analysis of the tissues. Sample results did not exceed any applicable FDA action level in FDA (2001, 2020). Mean concentrations of analytes in project tissue samples found to be statistically significantly greater than those of the Reference were further evaluated. Project samples having replicate results below the MDL (U-qualified) did not require assessment and were not compared against the Reference or screening criteria.

Contaminant mean concentrations in *M. mercenaria* tissues in project samples DMMU-1 through DMMU-8 that were statistically significantly greater than those of the Reference did not exceed any applicable screening benchmarks with the exception of copper in DMMU-5, lead in DMMU-2

and DMMU-5, zinc in DMMU-8, acenaphthene, fluoranthene, and total HPAHs in DMMU-7. Nonetheless, such contaminant mean concentrations were further compared to toxicity endpoint values relevant to populations if appropriate endpoint values were available. NOAEL and LOAEL endpoint data that were found to be relevant to comparisons with the tissue concentrations in the test species, *M. mercenaria*, were greater than the mean concentrations in the project samples in all instances except for zinc in DMMU-8, and total LPAHs, total HPAHs, and total PAHs in DMMU-7.

- Zinc in M. mercenaria tissue from DMMU-8 (35.6 mg/kg) that significantly exceed the levels found in the Reference sample was greater than 6 of the NOAELs and LOAELs reported to produce population-level impacts in bivalves (Exhibit 3-47). The mean concentration was greater than the Mortality in the bivalve *Mysella anomala* (5 mg/kg) (Exhibit 3-47); the NAOELs for Mortality and Growth in *Mytilus edulis* (26 mg/kg, respectively) (Exhibit 3-47); the LOAEL for Growth in *Mytilus edulis* (25 mg/kg) and the LOAELs for Mortality and Development in *Mytilus edulis* (26 mg/kg, respectively).
- Total LPAHs (37.8 µg/kg), total HPAHs (65.6 µg/kg) and total PAHs (103 µg/kg) in *M. mercenaria* tissue from DMMU-7 were less than 87% of the 24 NOAEL values obtained from the literature (Exhibit 3-51). Currently, there is not an accepted standard for relative concentrations of individual PAHs or even a universal agreement as to which individual PAH molecules are included in total HPAHs and total PAHs. Thus, NOAELs for these PAH groups are difficult to assess as to their appropriateness for comparisons with the project tissue results.

Contaminant mean concentrations in *A. virens* tissues in project samples DMMU-1 through DMMU-8 that were statistically significantly greater than those of the Reference did not exceed any applicable screening benchmarks.

Nonetheless, such contaminant mean concentrations were further compared to toxicity endpoint values relevant to populations, if appropriate endpoint values were available. NOAEL and LOAEL endpoint data that were found to be relevant to comparisons with the tissue concentrations in the test species, *A. virens*, were greater than the mean concentrations in the project samples in all instances except for the following:

- Total PAHs in DMMU-3 (45.4 µg/kg) was less than 87% of the 24 NOAEL values obtained from the literature (Exhibit 3-51).
- Total LPAHs in DMMU-7 (21.9 µg/kg) was less than 96% of the 24 NOAEL; total HPAHs (41.0 µg/kg) and total PAHs in DMMU-7 (62.9 µg/kg) were less than 87% of the 24 NOAEL values obtained from the literature (Exhibit 3-51).

A final step in the evaluative process goes beyond assessing the individual test results to look at the complete set of results to provide an opportunity for an integrated assessment of the contaminants.

Although some of the contaminants that bioaccumulated in the tests are toxicologically important, in no case did they accumulate to toxicologically important concentrations. The materials tested met the minimum acceptable levels for bioaccumulation criteria. Thus, considering the factors in the Green Book, an evaluation of the solid phase bioaccumulation test results for the dredge material taken as a whole would not indicate a different outcome from that shown by the individual test results, i.e., the material does not have the potential for significant undesirable effects due to bioaccumulation.

Accounting for the above information, a potential for significant undesirable effects due to bioaccumulation as a result of the presence of individual chemicals or of the solid phase of the dredged material as a whole does not exist. Therefore, it is concluded that the solid phase of the material proposed for disposal meets the ocean disposal requirements of 40 CFR § 227.6(c)(3) and § 227.27(b), and the LPC for bioaccumulation is met in accordance with RIA Subsection 10.2.3.

4 ADDAMS MODEL

Simulations of the STFATE module of the ADDAMS model were run to establish compliance of the water column toxicity for the CDP Inner Harbor project sediment samples.

Based on elutriate chemistry results, sample DMMU-7 (prepared as the composite of sediment subsamples DMMU-7A through DMMU-7D) was selected for modeling Tier II Water Quality Criteria. The elutriate concentration for ammonia of 7.62 mg/L exceeded the calculated CMC of 6.17 mg/L. The CMC was determined using a saltwater ammonia CMC calculator using pH, temperature and salinity readings from the site water following sample collection. Other sample results did not exceed the CMC for any contaminant.

Based on the LC_{50} results, the project samples had LC_{50} values that did not statistically exceed the corresponding site water control sample. Therefore, STFATE modeling for Tier III toxicology is not required for this project.

STFATE model input parameters used in the module are shown in Exhibits 4-1 through 4-7. The files used in the model runs are included in Appendix H.

Evaluation Type: Tier II Water Quality Results

Exhibit 4-1. Simulation Type: Descent, Collapse, and Diffusion

Coefficients		
Parameter	**Keyword**	**Value**
Settling Coefficient	BETA	0.000*
Apparent Mass Coefficient	CM	1.000*
Drag Coefficient	CD	0.500*
Form Drag for Collapsing Cloud	CDRAG	1.000*
Skin Friction for Collapsing Cloud	CFRIC	0.010*
Drag for an Ellipsoidal Wedge	CD3	0.100*
Drag for a Plate	CD4	1.000*
Friction Between Cloud and Bottom	FRICTN	0.010*
4/3 Law Horizontal Diffusion Dissipation Factor	ALAMDA	0.0225
Unstratified Water Vertical Diffusion Coefficient	AKYO	Pritchard Expression
Cloud/Ambient Density Gradient Ratio	GAMA	0.250*
Turbulent Thermal Entrainment	ALPHAO	0.235*
Entrainment in Collapse	ALPHAC	0.100*
Stripping Factor	CSTRIP	0.003*

* Model default value

Exhibit 4-2. Site Description for New Work ODMDS

Parameter	Value	Units
Number of Grid Points (left to right)	25	n/a
Number of Grid Points (top to bottom)	50	n/a
Spacing Between Grid Points (left to right)	250	ft
Spacing Between Grid Points (top to bottom)	250	ft
Constant Water Depth	50*	ft
Roughness Height at Bottom of Disposal Site	0.005**	ft
Slope of Bottom in X-Direction	0	deg.
Slope of Bottom in Z-Direction	0	deg.
Number of Points in Ambient Density Profile Point	3	n/a
Ambient Density at Depth = 0 ft	1.023	g/cc
Ambient Density at Depth = 25 ft	1.024	g/cc
Ambient Density at Depth = 50 ft	1.026	g/cc
Distance from the Top Edge of Grid (upper left corner of site)	1,000	ft
Distance from the Left Edge of Grid (upper left corner of site)	1,000	ft
Distance from the Top Edge of Grid (lower right corner of site)	11,000	ft
Distance from the Left Edge of Grid (lower right corner of site)	6,000	ft
Location of Disposal Point from Top of Grid	4,500	ft
Location of Disposal Point from Left Edge of Grid	3,400	ft
Number of Depths for Transport-Diffusion Output	2 (0 and 50)	#

* Mean water depth from Section 2.4.1 of the Corpus Christi SMMP (2018)

** Model default value

Exhibit 4-3. Current Velocity Data

Parameter	Value	Units
X-Direction Velocity	1.1	ft/sec
Z-Direction Velocity	0	ft/sec

Current velocity was taken from the Corpus Christi ODMDS EIS (EPA 1988).

Exhibit 4-4. Material Data

Parameter	Value	Units
Dredging Site Water Density (average)	1.024	g/cc
Number of Layers	1	n/a
Material Velocity at Disposal (X-Dir.)	6.2	ft/s
Material Velocity at Disposal (Z-Dir.)	6.2	ft/s

Exhibit 4-5. Output Options

Parameter	Value	Units
Duration of Simulation	14,400	Seconds
Long-Term Time Step	600	Seconds

Exhibit 4-6. Disposal Operation Data

Parameter	Value, Cutter/Hopper	Value, Mechanical	Units
Length of Disposal Vessel	390	315	ft
Width of Disposal Vessel	76	53	ft
Pre-Disposal Draft	28	25	ft
Post-Disposal Draft	15	10	ft
Time Needed to Empty the Disposal Bin (sec.)	60	60	sec
Dredging Disposal Volume	13,500	9,000	yd^3

Volumetric Fraction Determination and Water Quality Criteria

Volumetric fractions for samples from DMMU-7 were determined using a spreadsheet developed at ERDC. The spreadsheet is included in Appendix H along with the STFATE input and output files. The calculations are based on grain sizes (Table 3) and total solids (Table 4), as presented in Exhibit 4-7, along with specific gravity and Atterberg limits. For the grain size, the average of the four subsamples (DMMU-7A through DMMU-7D) were used in the spreadsheet to determine the volumetric fractions for entry into the STFATE model. Specific gravity and Atterberg limits were not determined from the Harbor Island samples. For specific gravity, a default value of 2.65 was entered in the STFATE model for silt and clay, which are the two predominant grain size classifications present. For Atterberg limits, a value of 0 was entered for the liquid limit, which is the most conservative value for modeling. In addition, calculations in the ERDC spreadsheet can be used for either mechanical or cutter dredging with sediment transport for disposal. Exhibit 4-7 contains a summary of the volumetric fractions and dilutions of the dredge material required to meet disposal criteria.

Exhibit 4-7. Volumetric Fractions and Water Quality Criteria of Dredge Material

Analyte	DMMU-7	
Gravel	*0*	
Sand	*51.7*	
Silt	*40.6*	
Clay	*7.7*	
Solids, %	*71.9*	
Specific gravity	2.65	
Liquid limit	0	
Type of Dredging	Hopper/Cutter	Mechanical
Volumetric Fraction - Clumps	*0.00000*	*0.00000*
Volumetric Fraction – Coarse	*0.06418*	*0.20573*
Volumetric Fraction - Silt	*0.05040*	*0.16156*
Volumetric Fraction – Clay	*0.00956*	*0.03064*
Volumetric Fraction – Water	*0.87587*	*0.60207*
Contaminant Concentration (Ammonia) mg/L	7.62	
Conc. required to meet CMC (Ammonia) µg/L	6.17	
Dilution required to meet CMC	1.1	

Italicized parameters were calculated from Table 3 of this report or entered as described in the previous paragraph.

Values underlined and shown with a yellow shaded background were provided by the chemistry or toxicology laboratory, and the dilution required was calculated to allow entry into the simulation.

Volumetric fractions were determined using a spreadsheet developed at ERDC. The spreadsheet is provided in Appendix H with the filename *PCCA HI Resample Volumetric Fractions.xlsx.*

Two Tier II models were conducted for sample DMMU-7 using a cutter dredge or mechanical dredge scenario and testing to determine whether the dredge material meets the 4-hour water quality criteria. Modeling inputs included using the ODMDS parameters and disposal operations detailed in Exhibits 4-1 through 4-7. Exhibit 4-8 includes graphs for Tier II models showing the CMC (pink line), the maximum concentration across the entire grid (red line), and the maximum concentration outside the ODMDS (blue line) for the project sample DMMU-7. Input and output files are provided electronically in Appendix H.

The results of the Tier II modeling indicate that the dredged material from DMMU-7 may be disposed of without restriction to a maximum of 13,500 cy per load for hopper or cutter dredging, or 9,000 cy per load for mechanical dredging. In addition, the material from the other dredging sites may also be disposed without restrictions up to the maximum volumes of 13,500 cy per load for hopper or cutter dredging, or 9,000 cy per load for mechanical dredging without restrictions of the disposal location. Exhibit 4-9 is a map of the Corpus Christi New Work ODMDS with boundaries and the modeled disposal point.

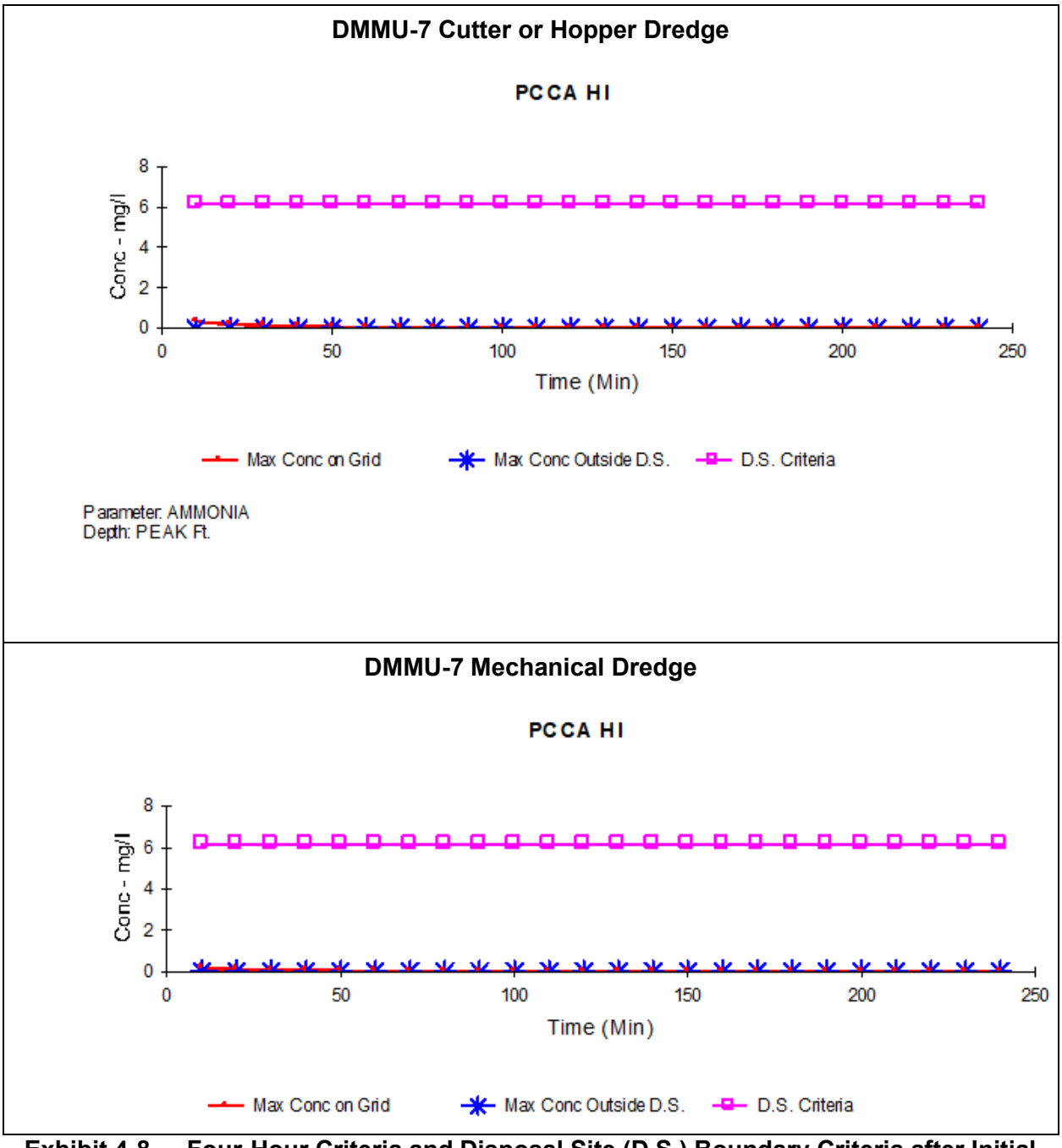


Exhibit 4-8. Four-Hour Criteria and Disposal Site (D.S.) Boundary Criteria after Initial Mixing

Exhibit 4-9. Corpus Christi New Work ODMDS Map with STFATE Modeled Disposal Point

5 REFERENCES

Note: References from the Environmental Residue Effects Database (ERED) can be found at https://ered.el.erdc.dren.mil/references.cfm.

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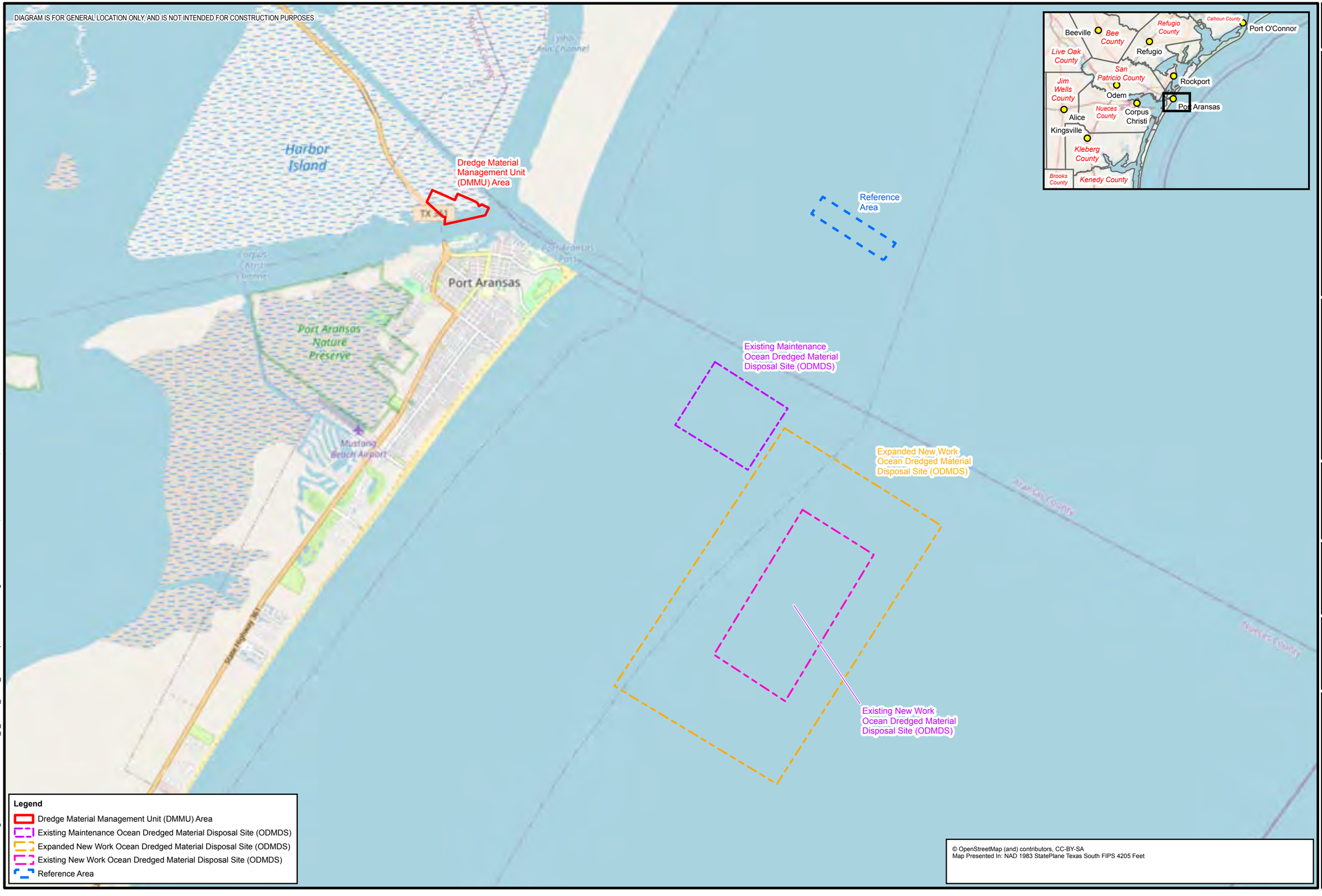
FIGURES

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES



Legend

- Dredge Material Management Unit (DMMU) Area
- Existing Maintenance Ocean Dredged Material Disposal Site (ODMDS)
- Expanded New Work Ocean Dredged Material Disposal Site (ODMDS)
- Existing New Work Ocean Dredged Material Disposal Site (ODMDS)
- Reference Area

Map Presented In: NAD 1983 StatePlane Texas South FIPS 4205 Feet

APPROXIMATE SCALE: 1" = 1 mile (0, 0.5, 1, 2)

FIGURE 1

Dredge Area Location Map

Harbor Island New Dock and Facilities Project
State Highway 361
Harbor Island, Port Aransas, Texas

terracon
11555 CLAY ROAD, SUITE 100 HOUSTON, TX 77043
PH. (713) 690-8989 FAX. (713) 690-8787

Project No:	92217C03.1
Scale:	1" = 1 mile
Report:	LSI
Date:	08-03-2023
Project Mngr:	GAP
Drawn By:	REW
Checked By:	GAP
Approved By:	PR

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DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Island Rd

Cemetery Rd

DMMU2-1A DMMU1-1A

DMMU2-1B DMMU1-1B

DMMU2-1C DMMU1-1C

DMMU3-2A DMMU3-2A DUP DMMU4-2A

DMMU3-2B DMMU3-2B DUP DMMU4-2B

Dredge Material Management Unit (DMMU) Area

DMMU6-3A DMMU5-3A

DMMU6-3B DMMU5-3B

DMMU6-3C DMMU5-3C

HI-DMMU-7-4B-SW

DMMU8 5D

DMMU7 4D

DMMU7 4B

DMMU8 5C

HI-DMMU-7-4A-SW

DMMU7 4A

DMMU7 4C

DMMU8 5B

HI-DMMU-8-5B-SW

DMMU8 5A

Roberts Point Park

Legend

- Dredge Material Management Unit (DMMU) Area
- Sediment Sample Location
- Water Sample Location

Map Presented In: NAD 1983 StatePlane Texas South FIPS 4205 Feet

FIGURE 2.1

Dredge Sample Locations

Dredge Material Management Unit (DMMU) Area
Harbor Island New Dock and Facilities Project
State Highway 361
Harbor Island, Port Aransas, Texas

Terracon
11555 CLAY ROAD, SUITE 100 HOUSTON, TX 77043
PH. (713) 690-8989 FAX. (713) 690-8787

N

Project No.	92217C03.1
Scale:	1" = 400'
Report:	LSI
Date:	08-03-2023
Project Mngr:	GAP
Drawn By:	REW
Checked By:	GAP
Approved By:	PR

0' 200' 400' 800'
APPROXIMATE SCALE: 1" = 400'

N:\ENV\2021\Drafting\92217C03\Task 1\92217C03_1_Harbor_Island_2023-08.aprx : 92217C03.1 Figure 2s Dredge Areas, Revised: 08-03-2023, 10:30 AM

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

S Station St
S 14th St
S 14th St
Highway 361
On the Beach

Existing Maintenance Ocean Dredged Material Disposal Site (ODMDS)

Expanded New Work Ocean Dredged Material Disposal Site (ODMDS)

Existing New Work Ocean Dredged Material Disposal Site (ODMDS)

ODMDS-A
ODMDS-B
HI-ODMDS-B-SW
ODMDS-C

Legend
- Existing Maintenance Ocean Dredged Material Disposal Site (ODMDS)
- Expanded New Work Ocean Dredged Material Disposal Site (ODMDS)
- Existing New Work Ocean Dredged Material Disposal Site (ODMDS)
- Sediment Sample Location
- Water Sample Location

Map Presented In: NAD 1983 StatePlane Texas South FIPS 4205 Feet

FIGURE 2.2

Dredge Sample Locations

Ocean Dredged Material Disposal Site (ODMDS) Area
Harbor Island New Dock and Facilities Project
State Highway 361
Harbor Island, Port Aransas, Texas

Terracon
11555 CLAY ROAD, SUITE 100 HOUSTON, TX 77043
PH. (713) 690-8989 FAX. (713) 690-8787

N

Project No.	92217C03.1
Scale:	1" = 3,000'
Report:	LSI
Date:	08-03-2023
Project Mngr:	GAP
Drawn By:	REW
Checked By:	GAP
Approved By:	PR

0' 1,500' 3,000' 6,000'
APPROXIMATE SCALE: 1" = 3,000'

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DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Reference Area

REF A
REF B
REF C
HI-REF-B-SW

Legend

- Reference Area
- Sediment Sample Location
- Water Sample Location

Map Presented In: NAD 1983 StatePlane Texas South FIPS 4205 Feet

FIGURE 2.3

Dredge Sample Locations
Reference Area
Harbor Island New Dock and Facilities Project
State Highway 361
Harbor Island, Port Aransas, Texas

terracon
11555 CLAY ROAD, SUITE 100 HOUSTON, TX 77043
PH. (713) 690-8989 FAX. (713) 690-8787

N

Project No.	92217C03.1
Scale:	1" = 500'
Report:	LSI
Date:	08-03-2023

Project Mngr:	GAP		
Drawn By:	REW	Checked By:	GAP
		Approved By:	PR

1,000' 500' 250' 0'
APPROXIMATE SCALE: 1" = 500'

N:\ENV\2021\Drafting\92217C03\Task 1\92217C03_1_Harbor_Island_2023-08.aprx : 92217C03.1 Figure 2s Dredge Areas, Revised: 08-03-2023, 10:30 AM

TABLES

TABLES
(continued)

TABLE 1A
Terrestrial Core Sample Summary and Field Data

DMMU	Composite ID	Subsample ID	Date	Sampling Start & End (CST)	Sediment Elevation* (ft, MLLW)	Latitude (NAD 83)	Longitude (NAD 83)	Sampling Method	Field Description of Sample	Weather
DMMU 1	DMMU 1	DMMU1-1A (0 to -30')	1/16/23	1330-1420	0 to -30	27.84750	-97.07075	Auger	Discarded +10' to 0'. Silty sand, gray, soft, wet, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	05-10 knots SE, sunny
		DMMU1-1B (0 to -30')	1/17/23	0910-0940	0 to -30	27.84653	-97.07135	Auger	Discarded +10' to 0'. Silty sand, gray, soft, wet, fine-grainw/ shell fragments. No living organisms, no debris observed, no odor detected.	5-10 knots E, cloudy
		DMMU1-1C (0 to -30')	1/17/23	1400-1440	0 to -30	27.84601	-97.07001	Auger	Discarded +10' to 0'. Silty sand, gray, soft, wet, fine-grain. No living organisms, no debris observed, no odor detected.	
DMMU 2	DMMU 2	DMMU2-1A (-30' to -60')	1/16/23	1600-1720	-30 to -60	27.84750	-97.07075	Auger	Sand, gray, wet, soft, fine-grain w/ shell fragments (-30' to -45'). Clayey sand, gray to tan, moist, firm, no to low plasticity, limonite modeling, glaucontic; shell fragments (-45' to -60'). No living organisms, no debris observed, no odor detected.	05-10 knots SE, sunny
		DMMU2-1B (-30' to -60')	1/17/23	1040-1130	-30 to -60	27.84653	-97.07135	Auger	Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	5-10 knots E, cloudy
		DMMU2-1C (-30' to -60')	1/17/23	1545-1630	-30 to -60	27.84601	-97.07001	Auger	Silty sand, gray, wet, fine-grain w/ shell fragments (-30' to -55'). Sandy clay, gray to tan, moist, firm, low plasticity w/ shell fragments (-55' to -60'). No living organisms, no debris observed, no odor detected.	
DMMU 3	DMMU 3	DMMU3-2A DUP (0 to -30')	1/19/23	1330-1400	0 to -30	27.84632	-97.06806	Auger	Discarded +10' to 0'. Silty sand, gray, wet,soft, fine-grain w/ shell fragments. No living organisms, no debris observed, hydrocarbon odor detected. Collected one 5-gallon bucket for duplicate lab analysis. Homogenized before containerizing.	5-10 knots West, sunny
		DMMU3-2A (0 to -30)	1/19/23	1445-1520	0 to -30	27.84629	-97.06808	Auger	Moved drill rig slightly from duplicate sample location to collect 2nd core for full testing. Discarded +10' to 0'. Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, hydrocarbon odor detected.	
		DMMU3-2B DUP (0 to -30')	1/20/23	0900-0930	0 to -30	27.84557	-97.06748	Auger	Discarded +10' to 0'. Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	>20 knots NE, cloudy
		DMMU3-2B (0 to -30')	1/20/23	1040-1100	0 to -30	27.84555	-97.06751	Auger	Moved drill rig slightly from duplicate sample location to collect 2nd core for full testing. Discarded +10' to 0'. Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	

TABLE 1A (*continued*)
Terrestrial Core Sample Summary and Field Data

DMMU	Composite ID	Subsample ID	Date	Sampling Start & End (CST)	Sediment Elevation* (ft, MLLW)	Latitude (NAD 83)	Longitude (NAD 83)	Sampling Method	Field Description of Sample	Weather
DMMU 4	**DMMU 4**	**DMMU4-2A (-30 to -60)**	1/19/23	1630-1700	-30 to -60	27.84629	-97.06808	Auger	Silty sand, gray, wet, soft, fine-grain w/ shell fragments (-30' to -45'). Sandy clay, tan,moist, firm, low to medium plasticityfine-grain w/ shell fragments (45' to -60'). No living organisms, no debris observed, no odor detected.	5-10 knots West, sunny
		DMMU4-2B (-30 to -60)	1/20/23	1200-1250	-30 to -60	27.84555	-97.06751	Auger	Silty sand, gray, low plasticity, wet, fine-grain w/ shell fragments. (-30' to -50'); Sandy clay, tan-gray, low to medium plasticity w/ shell fragments (-50' to -60'). No living organisms, no debris observed, no odor detected.	>20 knots NE, cloudy
DMMU 5	**DMMU 5**	**DMMU5-3A (0 to -30)**	1/18/23	0850-0940	0 to -30	27.84646	-97.06570	Auger	Discarded +10' to 0'. Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	10-15 knot winds from the NNE, sunny
		DMMU5-3B (0 to -30)	1/18/23	1310-1400	0 to -30	27.84594	-97.06344	Auger	Discarded +10' to 0'. Silty sand, gray, soft, wet, fine-grain w/ shell fragments. No living organisms, no debris observed, oily sheen present, hydrocarbon odor detected.	
		DMMU5-3C (0 to -30)	1/19/23	0845-0920	0 to -30	27.84564	-97.06524	Auger	Discarded +10' to 0'. Silty sand, gray, soft, wet, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected.	5-10 knots West, sunny
DMMU 6	**DMMU 6**	**DMMU6-3A (-30 to -60)**	1/18/23	1045-1115	-30 to -60	27.84646	-97.06570	Auger	Silty sand, gray, wet, soft, fine-grain w/ shell fragments. No living organisms, no debris observed, no odor detected (-30' to -60').	10-15 knot winds from the NNE, sunny
		DMMU6-3B (-30 to -60)	1/18/23	1505-1545	-30 to -60	27.84594	-97.06344	Auger	Silty sand, gray, wet, soft, fine-grain w/ shell fragments(-30' to -55'); Sandy clay, gray, moist, firm w/ shell fragments (-55' to -60'). No living organisms, no debris observed, no odor detected.	
		DMMU6-3C (-30 to -60)	1/19/23	1015-1110	-30 to -60	27.84564	-97.06524	Auger	Silty sand, gray, wet, soft w/ shell fragments (-30' to -45'); Sandy clay, tan-gray, moist, firm, low to moderate plasticity w/ shell fragments (-45' to -60'). No living organisms, no debris observed, no odor detected.	5-10 knots West, sunny

* feet mean lower low water is a pre-determined depth referenced in the SAP and relative to Harbor Island land elevation at the time of sampling.

Source: ANAMAR Environmental Consulting, Inc.

TABLE 1B
Marine Core Sample and Grab Sample Summary

DMMU / Subsample ID	Date	Time (CST)	Latitude (NAD 83)	Longitude (NAD 83)	Project Depth (feet, MLLW)	Metrics Per Core Sample								Weather/Tidal Cycle	Notes*
						Water Depth (feet)	Water Surface Elevation[1] (feet, MLLW)	Top of Core Elevation[2] (feet, MLLW)	Bottom of Core Elevation (feet, MLLW)	Core Number	Core Penetration (feet)	Average Recovery Length (feet)	Average Recovery per Core (%)		
DMMU7 4A	1/17/23	1412-1615	27.84423	-97.06849	-60	13.5	1.36	-12.1	-60	1	48.0	44.5	93	05-10 knots SE, calm to 1' sea state, mid-incoming tide, partly cloudy	Wet, unconsolidated, silty sand to silty clay (0 to 32'), olive gray; green/gray to tan/gray, sandy clay (33' to 38; silty sand, orange brown w/ shell hash (38' to 40'); tan silty sand to sandy clay (40' to 48').
DMMU7 4B	1/18/23	0925-1145	27.84452	-97.06590	-60	14.0	0.92	13.1	-60.0	1	47.0	39.0	83	10-15 knots NW, calm to 1' sea state, low to mid-incoming tide, partly cloudy	Very wet, unconsolidated, silty fine sediment with some shell, gray (0-15'); wet, gray fine sand to clayey sand (15' to 20'); silty clay to soft clay, gray (21'to 35'); tan to brown silty sand with shells (35' to 40'); fine sand, gray- green (40' to 46'); stiff clay gray to brown (46' to 47').
DMMU7 4C	1/16/23	1637-1800	27.84430	-97.06507	-60	45.5	1.50	-44.0	-60	1	16.0	13.8	86	05-10 knots SE, calm sea state, high-slack tide, sunny	Silty sand clay with shell hash, olive gray 0-5', sand to sandy-clay gray with shells 5' to 16'.
DMMU7 4D	1/17/23	0920-1115	27.84456	-97.06770	-60	16.4	0.89	-15.5	-60.5	1	45.0	37.0	82	5-10 knots E,calm to 1" sea state, mid-incoming, cloudy	Wet, unconsolidated silty sand, olive gray 0 to 5'; wet, soft silty clay, olive gray some shells, 5' to 25'; sandy clay to wet silty clay gray-green to tan 25' to 32.5'; gray silty clay 32.5 to 40'; tan, sandy clay 41' to 45', discarded 0.5' below project detph.
DMMU8 5A	1/18/23	1410-1620	27.84337	-97.06827	-60	42.9	1.60	-41.3	-60.3	1	19.0	19.0	100	0 to 5 knots N, calm sea state, mid to high-incoming, partly cloudy	Sandy clay, gray, tan to green (0 to 7'); fine sand with shell hash, tan (7' to 11'); silty sand, tan, brown to light gray, (11' to 19'). Discarded 0.3' below project depth.
DMMU8 5B	1/19/23	0815-0910	27.84384	-97.06617	-60	51.6	0.21	-51.4	-61.4	1	10.0	10.0	100	5-10 knots W, calm sea state, low-incoming, sunny	Wet, silty sand with shells, tan to gray, (0 to 4'); silty clay to fine sand, dense, gray (5' to 10'). Discarded 1.4' below project depth.
DMMU8 5B		0915-1000				51.6	0.21	-51.4	-61.4	2	10.0	10.0	100		Wet, silty sand with shells, tan to gray, (0 to 6'); silty clay to fine sand, dense, gray (6' to 10'). Discarded 1.4' below project depth. Collected second core for additional volume needed for composite and toxicology analysis.

TABLE 1B (*continued*)
Marine Core Sample and Grab Sample Summary

DMMU / Subsample ID	Date	Time (CST)	Latitude (NAD 83)	Longitude (NAD 83)	Project Depth (feet, MLLW)	Metrics Per Core Sample								Weather/Tidal Cycle	Notes*
						Water Depth (feet)	Water Surface Elevation[1] (feet, MLLW)	Top of Core Elevation[2] (feet, MLLW)	Bottom of Core Elevation (feet, MLLW)	Core Number	Core Penetration (feet)	Average Recovery Length (feet)	Average Recovery per Core (%)		
DMMU8 5C	1/20/23	0915-1020	27.84432	-97.06453	-60	44.6	0.23	-44.4	-60	1	16.0	16.0	100	>20 knots NE, 1-2' sea state, low-incoming, cloudy	Wet, unconsolidated, silty sand, gray-green to tan-brown (0 to 7'); fine sand with shell, gray to dark gray (8' tp 9'); silty sand to fine sand, tan-gray to light gray (9' to 16'). Discarded 4" below project depth.
DMMU8 5D	1/19/23	1115-1415	27.84476	-97.06197	-60	61.5	1.34	-60.4						0-15 knots NE, 1-2' sea state, mid to high incoming tide, sunny	Water depth measurement only. Water depth was greater than project depth (-60.4'). No sample collected.
			27.84490	-97.06226	-60	68.3	1.51	-66.8							Repositioned lift boat ~10' from original 5D station as possible. Water depth measurement only. Water depth was greater than project depth (-66.8'). No sample collected.
	1/27/23	1405-1433	27.84474	-97.06227	-60	61.0	0.70	-60.3							Grab samples with double van Veen sampler. Fine sand, shells, rocks, clay clumps, gray, orange to light brown; ~3-gallons collected.

[1] Water surface elevation is based on real-time tide height data at MLLW from NOAA Station ID 8775237 at the Port Aransas, Texas.

[2] Calculated as water surface elevation minus water depth.

*Unless otherwise noted, no living organisms or organic debris observed, no oil present, no odor detected.

Source: ANAMAR Environmental Consulting, Inc.

TABLE 1C
Reference and ODMDS Grab Sample Summary

Composite Sample ID	Subsample ID	Date	Sampling Start & End (CST)	Latitude[1] (°N, NAD 83)	Longitude[1] (°W, NAD 83)	Metrics Grab Sampling			
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Sediment Elevation[3] (feet, MLLW)	Description/ Notes
ODMDS	ODMDS- A	1/27/23	1230-1235	27.79054	-96.99917	45.0	0.68	-44.3	Sample collected with a double van Veen; sand fine to coarse and silt, oyster shell fragments, sand crab, light brown to olive gray in color; 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies, low to slack tide. Composite in field for sample collection
	ODMDS-B		1305-1310	27.78853	-96.99727	45.0	0.44	-44.6	Sample collected with a double van Veen; sand fine to coarse and silt, shell fragments, light brown to olive gray in color; 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies, low incoming tide. Composite in field for sample collection.
	ODMDS-C		1240-1255	27.78780	-97.00035	45.0	0.64	-44.4	Sample collected with a double van Veen; sand fine to coarse and silt, oyster shell fragments, sand crab, light brown to olive gray in color; 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies, low to slack tide. Composite in field for sample collection
REFERENCE	REF A	1/27/23	0920-1000	27.84198	-96.99379	45.0	0.80	-44.2	Sample collected with a double van Veen. Silty-clay with fine sand, light brown and olive gray in color with shells; sand crab worms/worm castings observed. Collected ~15 gallons. High-outgoing tide with 5-10 knot winds from the NE, 2-3 ft seas, cloudy skes.
	REF B		1053-1125	27.84171	-96.99360	45.0	0.78	-44.2	Sample collected with a double van Veen. Silty-clay with fine sand and shells; light brown and olive gray in color; collected ~15 gallons. Mid-outgoing tide; 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies.
	REF C		1003-1050	27.84148	-96.99395	45.0	0.74	-44.3	Sample collected with a double van Veen. Multiple drops required, sample was washing out from bottom (shells). Silty-clay with fine sand and shells, light brown and olive gray in colo small conch, sand crab, and worms observed; collected ~15 gallons. Mid-outgoing tide, 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies.

Notes

[1] Coordinates were referenced to North American Datum of 1983, Texas South Central State Plane, US Survey Feet.

[2] Feet mean lower low water calculated from water depth (measured by leadline) and tide height using real-time data/National Oceanic and Atmospheric Administration (NOAA) Tide Station # 8775237 in Port Aransas, Texas.

[3] Sediment elevation data was calculated as water surface elevation minus water depth.

* Unless otherwise noted, no living organisms or organic debris observed, no oil present, no odor detected.

ft = feet

Reference and ODMDS as listed in Table 2 in the SAP.

Sources: ANAMAR

TABLE 2
Site Water Sample Summary Including Water Column Measurements

DMMU:	DMMU 7				DMMU 8		Reference	ODMDS
Sample ID:	DMMU-7-4A-SW		DMMU-7-4B-SW		DMMU-8-5B-SW		REF-B-SW	ODMDS-B-SW
Date	01/25/2023		01/25/2023		01/25/2023		01/27/2023	01/27/2023
Sampling Start/End Times (CST)	09:30-11:20		12:50-14:17		14:55-15:45		11:25-12:00	13:10-13:26
Depth of Water (feet)	4		10		54.0		45	45
Time of Measurement (CST)	9:20	11:25	12:46	14:20	15:50	14:48	11:28	13:15
Depth of Measurement (feet)	1	2	1	5.5	1	27	23	23
Water Temperature (°C)	15.2	14.7	15.7	16	15.8	15.9	15.7	16
pH (units)	7.86	8.11	8.12	8.11	8.12	8.11	8.16	8.14
Salinity (ppt)	---	---	---	---	---	---	---	---
Sp. Conductivity (mS/cm)	47.2	47.4	45.8	47.2	47.5	46.4	47.4	49
Dissolved Oxygen (mg/L)	10.81	7.59	9.73	9.39	6.85	6.72	8.32	6.73
Dissolved Oxygen (%)	---	---	---	---	---	---	---	---
Turbidity (NTU)	156	176	153	129	122.0	130	5.2	3.8
Oxidation Reduction Potential (mV)	---	---	---	---	---	---	---	---
Total Dissolved Solids (g/L)	---	---	---	---	---	---	---	---
Latitude (°N, NAD 83)	27.844282		27.844748		27.843810		27.841575	27.788773
Longitude (°W, NAD 83)	-97.069047		-97.065872		-97.066049		-96.993548	-96.996975
Sampling Method	Submersible pump		Submersible pump		Submersible pump		Submersible pump	Submersible pump
Field Description of Sample	Murky brown in color, no suspended material or odor observed		Tan brown in color, no suspended material or odor observed		Tan brown in color, no suspended material or odor observed		Clear in color; no suspended materials or odor observed	Clear in color; no suspended materials or odor observed
Weather/Tidal Cycle	Low outgoing tide, calm 1-2 ft seas, >15 knot winds from the NW, sunny skies		Low outgoing tide, calm 1-2 ft seas, >15 knot winds from the NW, sunny skies		Mid outgoing tide, calm 1-2 ft seas, sunny skies		Mid to low-outgoing tide with 5-10 knot winds from the NE, 2-3 ft seas, cloudy skies	Low-incoming tide with 5-10 knot winds from the S, 1-2 ft seas, sunny skies
General Conditions and Observations	9.5 ft from rail to water. Purged 10 gallons before sampling.		Purged 10 gallons before sampling.		Purged 10 gallons before sampling		SW in-situ parameters collected mid-depth at 23' below surface and at least 3' above sediment surface. Eight buckets and site water kit provided by the lab.	SW in-situ parameters collected mid-depth at 23' below surface and at least 3' above sediment surface. Site water kit provided by the lab.

Salinity calculated using the formula: (Sp. Conductivity (ms/cm)^1.0878)*0.4665
(--) or (cells shaded grey) = no reading taken
Source: ANAMAR Environmental Consulting, Inc.

TABLE 3
Results of Physical Analyses for Sediment Samples

DMMU Location:	DMMU-1 0 ft. to -30 ft. MLLW (Surficial Terrestrial)			DMMU-2 -30 ft. to -60 ft. MLLW (Subsurface Terrestrial)			DMMU-3 0 ft. to -30 ft. MLLW (Surficial Terrestrial)		
Sample ID:	**DMMU-1-1A**	**DMMU-1-1B**	**DMMU-1-1C**	**DMMU-2-1A**	**DMMU-2-1B**	**DMMU-2-1C**	**DMMU-3-2A**	**DMMU-3-2A (Duplicate)**	**DMMU-3-2B**
Sediment Description	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray
% Gravel (Particles ≥4.750 mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Coarse Sand	0.1	0.5	0.6	0.0	0.6	0.8	0.2	0.1	0.4
% Medium Sand	0.5	0.9	3.4	1.2	1.9	3.0	0.6	0.8	0.8
% Fine Sand	79.6	81.0	67.8	65.3	67.1	55.7	83.7	83.1	80.9
% Sand (total) (Particles 0.075-4.749 mm)	80.2	82.4	71.8	66.5	69.6	59.5	84.5	84.0	82.1
% Silt (Particles 0.005-0.074 mm)	19.4	17.2	27.3	32.2	29.7	33.4	15.0	15.6	17.1
% Clay (Particles <0.005 mm)	0.4	0.4	0.9	1.3	0.7	7.1	0.5	0.4	0.8
% Silt & Clay (combined)	19.8	17.6	28.2	33.5	30.4	40.5	15.5	16.0	17.9
USCS Classification	SM	SM	SM	SM	SM	SM	SM	SM	SM
% Passing Sieve Size / **Metric Equivalent (mm)**									
#4 / **4.75**	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#10 / **2.00**	99.9	99.5	99.4	100.0	99.4	99.2	99.8	99.9	99.6
#20 / **0.85**	99.6	98.9	97.5	99.5	98.4	97.5	99.5	99.4	99.2
#40 / **0.425**	99.4	98.6	96.0	98.8	97.5	96.2	99.2	99.1	98.8
#50 / **0.297**	99.1	98.2	95.3	98.5	96.9	95.7	98.9	98.8	98.6
#70 / **0.210**	96.8	95.6	93.0	97.7	94.1	94.5	96.8	96.5	96.1
#100 / **0.149**	69.8	71.9	73.2	88.0	76.1	84.1	69.1	71.8	73.8
#140 / **0.105**	38.0	31.3	45.1	61.3	53.3	60.6	33.5	32.8	31.5
#200 / **0.075**	19.8	17.6	28.2	33.5	30.4	40.5	15.5	16.0	17.9
Hydrometer Readings (% less than the following sizes)	5.1 @ 0.0511 mm.	4.7 @ 0.0513 mm.	13.1 @ 0.0499 mm.	10.0 @ 0.0509 mm.	17.8 @ 0.0475 mm.	28.4 @ 0.0448 mm.	3.3 @ 0.0515 mm.	1.3 @ 0.0521 mm.	3.3 @ 0.0515 mm.
	2.0 @ 0.0365 mm.	2.0 @ 0.0366 mm.	8.4 @ 0.0359 mm.	7.1 @ 0.0363 mm.	15.8 @ 0.0339 mm.	26.2 @ 0.0321 mm.	1.8 @ 0.0366 mm.	1.0 @ 0.0369 mm.	1.5 @ 0.0367 mm.
	1.2 @ 0.0259 mm.	1.6 @ 0.0259 mm.	5.5 @ 0.0256 mm.	5.3 @ 0.0258 mm.	15.2 @ 0.0240 mm.	24.6 @ 0.0229 mm.	1.1 @ 0.0260 mm.	0.6 @ 0.0261 mm.	1.0 @ 0.0260 mm.
	0.4 @ 0.0134 mm.	1.2 @ 0.0134 mm.	2.5 @ 0.0134 mm.	2.4 @ 0.0134 mm.	8.6 @ 0.0128 mm.	23.3 @ 0.0119 mm.	0.7 @ 0.0134 mm.	0.3 @ 0.0135 mm.	1.0 @ 0.0134 mm.
	0.4 @ 0.0095 mm.	0.8 @ 0.0095 mm.	1.3 @ 0.0095 mm.	1.9 @ 0.0095 mm.	4.2 @ 0.0093 mm.	20.7 @ 0.0085 mm.	0.4 @ 0.0095 mm.	0.3 @ 0.0095 mm.	0.8 @ 0.0095 mm.
	0.5 @ 0.0067 mm.	0.5 @ 0.0067 mm.	1.0 @ 0.0067 mm.	1.3 @ 0.0067 mm.	0.9 @ 0.0066 mm.	10.0 @ 0.0064 mm.	0.5 @ 0.0067 mm.	0.4 @ 0.0067 mm.	0.8 @ 0.0067 mm.
	0.3 @ 0.0033 mm.	0.3 @ 0.0033 mm.	0.8 @ 0.0033 mm.	1.2 @ 0.0033 mm.	0.6 @ 0.0033 mm.	3.7 @ 0.0033 mm.	0.4 @ 0.0033 mm.	0.5 @ 0.0033 mm.	0.7 @ 0.0033 mm.
	0.1 @ 0.0014 mm.	0.1 @ 0.0014 mm.	0.5 @ 0.0014 mm.	0.1 @ 0.0014 mm.	0.7 @ 0.0014 mm.	3.8 @ 0.0013 mm.	0.1 @ 0.0014 mm.	0.4 @ 0.0014 mm.	0.4 @ 0.0014 mm.

TABLE 3 (*continued*)
Results of Physical Analyses for Sediment Samples

DMMU Location:		DMMU-4 -30 ft. to -60 ft. MLLW (Subsurface Terrestrial)		DMMU-5 0 ft. to -30 ft. MLLW (Surficial Terrestrial)			DMMU-6 -30 ft. to -60 ft. MLLW (Subsurface Terrestrial)		
Sample ID:		**DMMU-4-2A**	**DMMU-4-2B**	**DMMU-5-3A**	**DMMU-5-3B**	**DMMU-5-3C**	**DMMU-6-3A**	**DMMU-6-3B**	**DMMU-6-3C**
Sediment Description		Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray	Sand, silty, mostly fine-grained sand-sized quartz, little silt, trace clay, gray
% Gravel (Particles ≥4.750 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Coarse Sand		0.0	0.6	0.1	0.1	0.0	0.0	0.0	0.0
% Medium Sand		1.8	0.9	0.9	0.9	0.3	0.6	0.6	0.4
% Fine Sand		61.8	65.2	82.1	69.3	74.0	65.4	66.5	72.2
% Sand (total) (Particles 0.075-4.749 mm)		63.6	66.7	83.1	70.3	74.3	66.0	67.1	72.6
% Silt (Particles 0.005-0.074 mm)		34.2	30.3	16.4	29.1	24.8	32.3	31.5	26.4
% Clay (Particles <0.005 mm)		2.2	3.0	0.5	0.6	0.9	1.7	1.4	1.0
% Silt & Clay (combined)		36.4	33.3	16.9	29.7	25.7	34.0	32.9	27.4
USCS Classification		SM	SM	SM	SM	SM	SM	SM	SM
% Passing Sieve Size	**Metric Equivalent (mm)**								
#4	**4.75**	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#10	**2.00**	100.0	99.4	99.9	99.9	100.0	100.0	100.0	100.0
#20	**0.85**	99.4	98.9	99.4	99.5	99.9	99.8	99.7	99.8
#40	**0.425**	98.2	98.5	99.0	99.0	99.7	99.4	99.4	99.6
#50	**0.297**	97.6	98.3	98.7	98.8	99.5	99.3	99.2	99.5
#70	**0.210**	96.3	96.7	96.6	97.5	98.1	98.3	98.4	98.8
#100	**0.149**	80.8	79.7	75.0	82.4	82.8	87.1	86.6	87.2
#140	**0.105**	55.4	51.0	34.8	45.5	49.0	57.7	60.5	47.0
#200	**0.075**	36.4	33.3	16.9	29.7	25.7	34.0	32.9	27.4
Hydrometer Readings (% less than the following sizes)		21.3 @ 0.0486 mm.	19.6 @ 0.0472 mm.	7.1 @ 0.0508 mm.	8.0 @ 0.0508 mm.	4.0 @ 0.0513 mm.	12.3 @ 0.0504 mm.	12.7 @ 0.0502 mm.	5.7 @ 0.0507 mm.
		18.6 @ 0.0347 mm.	18.0 @ 0.0336 mm.	3.8 @ 0.0363 mm.	3.3 @ 0.0364 mm.	2.0 @ 0.0365 mm.	9.1 @ 0.0359 mm.	10.2 @ 0.0357 mm.	3.3 @ 0.0361 mm.
		16.7 @ 0.0247 mm.	16.0 @ 0.0240 mm.	1.3 @ 0.0259 mm.	1.5 @ 0.0259 mm.	1.6 @ 0.0259 mm.	7.0 @ 0.0255 mm.	9.3 @ 0.0253 mm.	2.8 @ 0.0256 mm.
		14.9 @ 0.0128 mm.	13.3 @ 0.0125 mm.	0.9 @ 0.0134 mm.	1.0 @ 0.0134 mm.	1.6 @ 0.0134 mm.	4.9 @ 0.0133 mm.	8.3 @ 0.0131 mm.	2.3 @ 0.0132 mm.
		13.2 @ 0.0091 mm.	8.5 @ 0.0091 mm.	0.9 @ 0.0094 mm.	0.6 @ 0.0095 mm.	1.3 @ 0.0094 mm.	2.8 @ 0.0094 mm.	5.5 @ 0.0093 mm.	1.8 @ 0.0094 mm.
		3.3 @ 0.0066 mm.	3.9 @ 0.0066 mm.	0.6 @ 0.0067 mm.	0.6 @ 0.0067 mm.	0.9 @ 0.0067 mm.	1.8 @ 0.0067 mm.	2.6 @ 0.0066 mm.	1.2 @ 0.0066 mm.
		0.9 @ 0.0033 mm.	2.2 @ 0.0033 mm.	0.4 @ 0.0033 mm.	0.5 @ 0.0033 mm.	0.8 @ 0.0033 mm.	1.6 @ 0.0033 mm.	1.0 @ 0.0033 mm.	0.9 @ 0.0033 mm.
		0.1 @ 0.0014 mm.	2.4 @ 0.0013 mm.	0.1 @ 0.0014 mm.	0.1 @ 0.0014 mm.	0.5 @ 0.0014 mm.	0.6 @ 0.0014 mm.	0.6 @ 0.0014 mm.	0.6 @ 0.0014 mm.

TABLE 3 (*continued*)
Results of Physical Analyses for Sediment Samples

DMMU Location:		DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)				DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)				Reference (Reference Area)	ODMDS (Corpus Christi New Work ODMDS)
Sample ID:		**DMMU-7-4A**	**DMMU-7-4B**	**DMMU-7-4C**	**DMMU-7-4D**	**DMMU-8-5A**	**DMMU-8-5B**	**DMMU-8-5C**	**DMMU-8-5D**	**REF (Composite)**	**ODMDS (Composite)**
Sediment Description		Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, brown	Silt, some fine-grained sand-sized quartz, trace clay, gray	Sand, silty, mostly fine-grained sand-sized quartz, some silt,trace clay, tan	Silt, some fine-grained sand-sized quartz, little clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, little silt, few clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, some silt, tan	Silt, some fine to coarse-grained sand-sized quartz, few clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan	Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan
% Gravel (Particles ≥4.750 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Coarse Sand		0.0	0.0	1.1	0.0	0.0	0.0	1.7	2.3	0.0	1.0
% Medium Sand		0.0	4.4	4.4	0.1	0.2	0.2	0.4	6.6	0.1	2.3
% Fine Sand		57.4	40.9	58.1	40.3	66.2	63.9	68.5	34.4	59.7	73.0
% Sand (total) (Particles 0.075-4.749 mm)		57.4	45.3	63.6	40.4	66.4	64.1	70.6	43.3	59.8	76.3
% Silt (Particles 0.005-0.074 mm)		35.2	51.9	35.2	40.1	27.3	31.8	28.5	47.3	39.1	23.3
% Clay (Particles <0.005 mm)		7.4	2.8	1.2	19.5	6.3	4.1	0.9	9.4	1.1	0.4
% Silt & Clay (combined)		42.6	54.7	36.4	59.6	33.6	35.9	29.4	56.7	40.2	23.7
USCS Classification		SM	ML	SM	ML	SM	SM	SM	ML	SM	SM
% Passing Sieve Size	**Metric Equivalent (mm)**										
#4	**4.75**	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#10	**2.00**	100.0	100.0	98.9	100.0	100.0	100.0	98.3	97.7	100.0	99.0
#20	**0.85**	100.0	97.7	96.5	100.0	99.9	99.9	98.1	94.1	100.0	97.6
#40	**0.425**	100.0	95.6	94.5	99.9	99.8	99.8	97.9	91.1	99.9	96.7
#50	**0.297**	100.0	94.7	93.7	99.9	99.7	99.7	97.8	89.7	99.9	96.0
#70	**0.210**	99.7	93.8	91.5	99.7	99.2	99.2	96.9	88.1	99.8	90.9
#100	**0.149**	87.6	86.1	76.2	95.6	78.4	84.9	82.0	80.6	98.9	68.7
#140	**0.105**	64.4	67.4	54.9	78.1	42.5	52.9	48.9	68.0	89.9	42.9
#200	**0.075**	42.6	54.7	36.4	59.6	33.6	35.9	29.4	56.7	40.2	23.7
Hydrometer Readings (% less than the following sizes)		20.3 @ 0.0485 mm.	31.2 @ 0.0472 mm.	15.3 @ 0.0490 mm.	35.6 @ 0.0464 mm.	14.8 @ 0.0495 mm.	21.8 @ 0.0491 mm.	11.6 @ 0.0509 mm.	37.1 @ 0.0473 mm.	15.4 @ 0.0496 mm.	6.6 @ 0.0510 mm.
		16.4 @ 0.0347 mm.	28.1 @ 0.0337 mm.	11.4 @ 0.0351 mm.	31.6 @ 0.0332 mm.	12.8 @ 0.0352 mm.	18.9 @ 0.0350 mm.	8.9 @ 0.0362 mm.	32.8 @ 0.0339 mm.	11.8 @ 0.0355 mm.	2.4 @ 0.0367 mm.
		13.5 @ 0.0248 mm.	26.6 @ 0.0239 mm.	10.5 @ 0.0249 mm.	30.0 @ 0.0236 mm.	12.3 @ 0.0249 mm.	18.0 @ 0.0248 mm.	7.3 @ 0.0257 mm.	30.1 @ 0.0241 mm.	9.1 @ 0.0254 mm.	0.3 @ 0.0261 mm.
		10.6 @ 0.0129 mm.	23.1 @ 0.0125 mm.	8.8 @ 0.0129 mm.	28.5 @ 0.0122 mm.	10.8 @ 0.0129 mm.	16.1 @ 0.0129 mm.	5.2 @ 0.0134 mm.	23.6 @ 0.0127 mm.	6.7 @ 0.0132 mm.	0.3 @ 0.0135 mm.
		9.6 @ 0.0091 mm.	20.1 @ 0.0089 mm.	7.0 @ 0.0092 mm.	25.4 @ 0.0087 mm.	9.3 @ 0.0092 mm.	13.7 @ 0.0092 mm.	1.5 @ 0.0095 mm.	22.0 @ 0.0090 mm.	3.9 @ 0.0094 mm.	0.3 @ 0.0095 mm.
		8.0 @ 0.0065 mm.	8.8 @ 0.0065 mm.	1.6 @ 0.0066 mm.	22.3 @ 0.0063 mm.	8.8 @ 0.0065 mm.	8.0 @ 0.0066 mm.	1.0 @ 0.0067 mm.	15.6 @ 0.0065 mm.	2.0 @ 0.0067 mm.	0.4 @ 0.0067 mm.
		6.6 @ 0.0033 mm.	0.9 @ 0.0033 mm.	0.8 @ 0.0033 mm.	13.1 @ 0.0032 mm.	0.9 @ 0.0033 mm.	1.1 @ 0.0033 mm.	0.7 @ 0.0033 mm.	1.8 @ 0.0033 mm.	0.5 @ 0.0033 mm.	0.5 @ 0.0033 mm.
		0.1 @ 0.0014 mm.	0.1 @ 0.0014 mm.	0.5 @ 0.0014 mm.	1.1 @ 0.0014 mm.	0.1 @ 0.0014 mm.	0.5 @ 0.0014 mm.	0.5 @ 0.0014 mm.	0.6 @ 0.0014 mm.	0.4 @ 0.0014 mm.	0.4 @ 0.0014 mm.

Note: Total distribution does not necessarily add up to 100% for each sample due to rounding. Some sieve openings differ slightly from phi mm scale.
Unified Soil Classification System (USCS) classes:
ML = Inorganic silts, very fine sands, rock four, silty or clayey fine sands. SM = Silty sand.

Source: Results from Taylor Engineering, Inc.
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 4
Analytical Results for Dry Weight Metals, Ammonia, Total Cyanide, TPHs, Total Solids, TOCs, Organotins, and pH in Sediment Samples

			DMMU:	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)											DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)									
			Sample ID:	DMMU-1-1A				DMMU-1-1B				DMMU-1-1C				DMMU-2-1A				DMMU-2-1B				DMMU-2-1C			
Analyte	Maximum Conc. mg/kg	TEL mg/kg	ERL mg/kg	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
Metals																											
Antimony	<0.0375	x	x	<0.0277	U	0.0277	0.0556	<0.0276	U	0.0276	0.0554	<0.0279	U	0.0279	0.0560	<0.0298	U	0.0298	0.0598	<0.0302	U	0.0302	0.0606	<0.0350	U	0.0350	0.0703
Arsenic	6.20	7.24	8.2	0.891	--	0.00277	0.0277	0.666	--	0.00276	0.0276	1.05	--	0.00279	0.0279	3.07	--	0.00298	0.0298	1.69	--	0.00302	0.0302	2.40	--	0.00350	0.0350
Beryllium	0.521	x	x	0.0436	--	0.000556	0.0111	0.0394	--	0.000554	0.0110	0.0692	--	0.000560	0.0112	0.167	--	0.000598	0.0119	0.151	--	0.000606	0.0121	0.211	--	0.000703	0.0140
Cadmium	0.133	0.676	1.2	0.0132	J	0.00277	0.0556	0.0105	J	0.00276	0.0554	0.0443	J	0.00279	0.0560	0.0607	--	0.00298	0.0598	0.0570	J	0.00302	0.0606	0.0585	J	0.00350	0.0703
Chromium	7.36	52.3	81	1.10	--	0.00833	0.167	0.886	--	0.00830	0.166	1.52	--	0.00838	0.168	3.85	--	0.00895	0.179	3.74	--	0.00908	0.182	4.63	--	0.0105	0.210
Chromium (III)	6.55	x	x	0.953	J	0.142	5.17	<0.139	U	0.139	5.17	1.19	J	0.142	5.17	3.61	J	0.153	5.18	3.74	J	0.153	5.18	3.72	J	0.178	5.21
Chromium (VI)	1.78	x	x	0.150	J	0.133	5.00	1.50	J	0.131	5.00	0.334	J	0.134	5.00	0.248	J	0.144	5.00	<0.144	U	0.144	5.00	0.909	J	0.168	5.00
Copper	5.90	18.7	34	0.568	V	0.0111	0.0556	0.502	V	0.0110	0.0554	1.39	V	0.0112	0.0560	3.22	V	0.0119	0.0598	2.64	V	0.0121	0.0606	2.91	V	0.0140	0.0703
Lead	9.37	30.24	46.7	1.23	--	0.00277	0.0277	1.19	--	0.00276	0.0276	1.36	--	0.00279	0.0279	3.11	--	0.00298	0.0298	2.46	--	0.00302	0.0302	2.80	--	0.00350	0.0350
Mercury	0.029	0.13	0.15	0.00962	J	0.00916	0.0183	<0.00966	U	0.00966	0.0193	<0.00902	U	0.00902	0.0180	<0.00940	U	0.00940	0.0188	<0.00947	U	0.00947	0.0189	<0.00936	U	0.00936	0.0187
Nickel	6.82	15.9	20.9	0.998	--	0.0556	0.0556	0.818	--	0.0554	0.0554	1.57	--	0.0560	0.0560	3.40	--	0.0598	0.0598	2.54	--	0.0606	0.0606	3.59	--	0.0703	0.0703
Selenium	1.41	x	x	0.312	--	0.0556	0.111	0.266	--	0.0554	0.110	0.375	--	0.0560	0.112	0.703	--	0.0598	0.119	0.755	--	0.0606	0.121	0.612	--	0.0703	0.140
Silver	0.039	0.73	1	0.00472	J	0.00139	0.0277	0.00415	J	0.00138	0.0276	0.00844	J	0.00140	0.0279	0.0125	J	0.00149	0.0298	0.00847	J	0.00151	0.0302	0.0113	J	0.00175	0.0350
Thallium	0.079	x	x	0.0241	J	0.00139	0.0277	0.0220	J	0.00138	0.0276	0.0404	--	0.00140	0.0279	0.0499	--	0.00149	0.0298	0.0382	--	0.00151	0.0302	0.0515	--	0.00175	0.0350
Zinc	27.9	124	150	3.48	--	0.0556	0.111	2.69	--	0.0554	0.110	3.34	--	0.0560	0.112	8.13	--	0.0598	0.119	5.43	--	0.0606	0.121	7.30	--	0.0703	0.140
Others																											
Ammonia (as nitrogen)	261	x	x	8.26	J	6.70	13.4	6.74	J	6.69	13.4	12.8	J	6.70	13.4	8.71	J	7.40	14.8	15.1	--	7.31	14.6	17.3	--	8.58	17.2
Cyanide, Total	<0.0439	x	x	<0.0320	U	0.0320	0.0640	<0.0325	U	0.0325	0.0651	<0.0323	U	0.0323	0.0646	<0.0363	U	0.0363	0.0727	<0.0358	U	0.0358	0.0716	<0.0423	U	0.0423	0.0846
Petroleum Hydrocarbons, Total	2068	x	x	78.4	--	6.2	25	71.8	--	6.20	25	75.5	--	6.20	25	74.5	--	6.20	25	76.6	--	6.20	25	78.4	--	6.20	25
Analyte	Maximum Conc. %	TEL %	ERL %	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL
Solids, Total	85.5	x	x	74.4	V	0.100	0.100	74.6	V	0.100	0.100	74.4	V	0.100	0.100	67.5	V	0.100	0.100	67.8	V	0.100	0.100	58.0	V	0.100	0.100
Carbon, Total Organic	1.29	x	x	<0.0594	H, U	0.0594	0.0594	<0.0514	H, U	0.0514	0.0514	<0.0569	H, U	0.0569	0.0569	0.0584	H	0.0548	0.0548	<0.0529	H, U	0.0529	0.0529	<0.0598	H, U	0.0598	0.0598
Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Monobutyltin	1.6	x	x	0.39	J, *	0.35	1.3	0.63	J, *	0.35	1.3	1.6	*	0.37	1.4	<0.52	U, I, *	0.52	1.5	0.39	J, *	0.38	1.4	1.1	J, *	0.44	1.7
Dibutyltin	1.4	x	x	<0.26	U, *	0.26	1.3	<0.26	U, *	0.26	1.3	1.4	J, P, *	0.27	1.4	<0.29	U, *	0.29	1.5	<0.28	U, *	0.28	1.4	<0.32	U, *	0.32	1.7
Tributyltin	1.3	x	x	<0.58	U, *	0.58	1.3	<0.58	U, *	0.58	1.3	<0.62	U, *	0.62	1.4	<0.65	U, *	0.65	1.5	<0.63	U, *	0.63	1.4	<0.72	U, *	0.72	1.7
Analyte	pH Range	TEL pH units	ERL pH units	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL
pH	7.88 - 9.04	x	x	8.16	H		0.100	8.84	H		0.100	8.27	H		0.100	8.19	H		0.100	8.03	H		0.100	8.23	H		0.100

TABLE 4 (*continued*)
Analytical Results for Dry Weight Metals, Ammonia, Total Cyanide, TPHs, Total Solids, TOCs, Organotins, and pH in Sediment Samples

DMMU:	DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)								DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)											
Sample ID:	DMMU-3-2A				DMMU-3-2A (Duplicate)				DMMU-3-2B				DMMU-4-2A				DMMU-4-2B				DMMU-5-3A				DMMU-5-3B				DMMU-5-3C			
Analyte	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
Metals																																
Antimony	<0.0285	U	0.0285	0.0571	<0.0279	U	0.0279	0.0560	<0.0276	U	0.0276	0.0554	<0.0313	U	0.0313	0.0627	<0.0285	U	0.0285	0.0572	<0.0268	U	0.0268	0.0537	<0.0277	U	0.0277	0.0554	<0.0285	U	0.0285	0.0572
Arsenic	0.741	--	0.00285	0.0285	0.269	--	0.00279	0.0279	0.793	--	0.00276	0.0276	2.78	--	0.00313	0.0313	1.17	--	0.00285	0.0285	0.867	--	0.00268	0.0268	0.790	--	0.00277	0.0277	0.744	--	0.00285	0.0285
Beryllium	0.0341	--	0.000571	0.0114	0.0189	--	0.000560	0.0112	0.0373	--	0.000554	0.0110	0.131	--	0.000627	0.0125	0.117	--	0.000572	0.0114	0.0412	--	0.000537	0.0107	0.0626	--	0.000554	0.0111	0.0410	--	0.000572	0.0114
Cadmium	0.0141	J	0.00285	0.0571	0.0108	J	0.00279	0.0560	0.0220	J	0.00276	0.0554	0.100	--	0.00313	0.0627	0.0312	J	0.00285	0.0572	0.0319	J	0.00268	0.0537	0.0220	J	0.00277	0.0554	0.0131	J	0.00285	0.0572
Chromium	0.748	--	0.00855	0.171	0.402	V	0.00838	0.168	0.939	--	0.00829	0.166	2.73	--	0.00938	0.188	2.63	--	0.00856	0.171	1.10	--	0.00804	0.161	1.12	--	0.00830	0.166	0.868	--	0.00856	0.171
Chromium (III)	0.228	J	0.144	5.17	0.402	J	0.140	5.17	<0.141	U	0.141	5.17	2.50	J	0.162	5.19	2.39	J	0.151	5.17	1.10	J	0.142	5.16	0.612	J	0.143	5.17	0.868	J	0.141	5.17
Chromium (VI)	0.520	J	0.135	5.00	<0.132	U	0.132	5.00	0.966	J	0.132	5.00	0.230	J	0.153	5.00	0.249	J	0.143	5.00	<0.134	U	0.134	5.00	0.510	J	0.135	5.00	<0.133	U	0.133	5.00
Copper	0.459	V	0.0114	0.0571	0.326	V	0.0112	0.0560	0.633	V	0.0110	0.0554	2.00	V	0.0125	0.0627	2.06	V	0.0114	0.0572	0.652	V	0.0107	0.0537	0.812	V	0.0111	0.0554	0.437	V	0.0114	0.0572
Lead	1.32	--	0.00285	0.0285	0.438	--	0.00279	0.0279	0.983	--	0.00276	0.0276	2.36	--	0.00313	0.0313	2.17	--	0.00285	0.0285	1.06	--	0.00268	0.0268	1.18	--	0.00277	0.0277	0.866	--	0.00285	0.0285
Mercury	<0.00929	U	0.00929	0.0186	<0.00994	U	0.00994	0.0199	<0.00964	U	0.00964	0.0193	<0.00979	U	0.00979	0.0196	<0.00991	U	0.00991	0.0198	<0.00926	U	0.00926	0.0185	<0.00945	U	0.00945	0.0189	<0.00913	U	0.00913	0.0183
Nickel	0.679	--	0.0571	0.0571	0.418	--	0.0560	0.0560	0.819	--	0.0554	0.0554	3.64	--	0.0627	0.0627	2.03	--	0.0572	0.0572	0.918	--	0.0537	0.0537	1.18	--	0.0554	0.0554	0.768	--	0.0572	0.0572
Selenium	0.269	--	0.0571	0.114	0.0829	J	0.0560	0.112	0.288	--	0.0554	0.110	0.550	--	0.0627	0.125	0.422	--	0.0572	0.114	0.320	--	0.0537	0.107	0.302	--	0.0554	0.111	0.286	--	0.0572	0.114
Silver	0.00730	J	0.00143	0.0285	0.00229	J	0.00140	0.0279	0.00630	J	0.00138	0.0276	0.0121	J	0.00156	0.0313	0.0105	J	0.00143	0.0285	0.00820	J	0.00134	0.0268	0.00697	J	0.00138	0.0277	0.00479	J	0.00143	0.0285
Thallium	0.0235	J	0.00143	0.0285	0.00916	J	0.00140	0.0279	0.0285	--	0.00138	0.0276	0.0570	--	0.00156	0.0313	0.0328	--	0.00143	0.0285	0.0311	--	0.00134	0.0268	0.0298	--	0.00138	0.0277	0.0241	J	0.00143	0.0285
Zinc	2.28	--	0.0571	0.114	0.955	--	0.0560	0.112	2.20	--	0.0554	0.110	5.61	--	0.0627	0.125	4.51	--	0.0572	0.114	2.52	--	0.0537	0.107	3.15	--	0.0554	0.111	2.68	--	0.0572	0.114
Others																																
Ammonia (as nitrogen)	<6.91	U	6.91	13.8	<6.71	U	6.71	13.4	6.78	J	6.73	13.5	9.86	J	7.66	15.3	8.01	J	7.15	14.3	<6.71	U	6.71	13.4	9.91	J	6.81	13.6	7.26	J	6.83	13.7
Cyanide, Total	<0.0333	U	0.0333	0.0666	<0.0330	U	0.0330	0.0660	<0.0334	U	0.0334	0.0667	<0.0384	U	0.0384	0.0768	<0.0355	U	0.0355	0.0711	<0.0331	U	0.0331	0.0662	<0.0336	U	0.0336	0.0673	<0.0341	U	0.0341	0.0683
Petroleum Hydrocarbons, Total	2068	--	62	250	144.1	--	6.20	25	77.9	--	6.20	25	83.1	--	6.20	25	74.6	--	6.20	25	79.5	--	6.20	25	292.4	--	6.20	25	71.5	--	6.20	25
Analyte	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL
Solids, Total	72.2	V	0.100	0.100	74.3	V	0.100	0.100	74.2	V	0.100	0.100	65.1	V	0.100	0.100	69.7	V	0.100	0.100	74.0	V	0.100	0.100	72.9	V	0.100	0.100	73.2	V	0.100	0.100
Carbon, Total Organic	<0.0547	H, U	0.0547	0.0547	<0.0517	H, U	0.0517	0.0517	<0.0596	H, U	0.0596	0.0596	<0.0567	H, U	0.0567	0.0567	<0.0522	H, U	0.0522	0.0522	<0.0518	H, U	0.0518	0.0518	<0.0522	H, U	0.0522	0.0522	<0.0578	H, U	0.0578	0.0578
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Monobutyltin	0.70	J	0.35	1.3	<0.37	U	0.37	1.4	0.67	J	0.36	1.4	0.41	J	0.41	1.6	0.40	J, P	0.37	1.4	0.63	J, *	0.35	1.3	0.51	J, *	0.38	1.4	0.53	J	0.32	1.2
Dibutyltin	<0.26	U	0.26	1.3	<0.27	U	0.27	1.4	<0.26	U	0.26	1.4	<0.30	U	0.30	1.6	<0.27	U	0.27	1.4	<0.26	U, *	0.26	1.3	<0.28	U, *	0.28	1.4	<0.24	U	0.24	1.2
Tributyltin	<0.57	U	0.57	1.3	<0.61	U	0.61	1.4	<0.59	U	0.59	1.4	<0.68	U	0.68	1.6	<0.61	U	0.61	1.4	<0.58	U, *	0.58	1.3	<0.63	U, *	0.63	1.4	<0.53	U	0.53	1.2
Analyte	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL
pH	8.47	H		0.100	8.83	H		0.100	9.04	H		0.100	8.09	H		0.100	8.43	H		0.100	8.81	H		0.100	8.92	H		0.100	8.70	H		0.100

TABLE 4 (*continued*)
Analytical Results for Dry Weight Metals, Ammonia, Total Cyanide, TPHs, Total Solids, TOCs, Organotins, and pH in Sediment Samples

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)												DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)											
Sample ID:	DMMU-6-3A				DMMU-6-3B				DMMU-6-3C				DMMU-7-4A				DMMU-7-4B				DMMU-7-4C				DMMU-7-4D			
Analyte	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
Metals																												
Antimony	<0.0273	U	0.0273	0.0548	<0.0276	U	0.0276	0.0553	<0.0274	U	0.0274	0.0550	<0.0265	U	0.0265	0.0531	<0.0375	U	0.0375	0.0752	<0.0277	U	0.0277	0.0554	<0.0241	U	0.0241	0.0483
Arsenic	0.740	--	0.00273	0.0273	1.10	--	0.00276	0.0276	1.16	--	0.00274	0.0274	2.53	--	0.00265	0.0265	3.96	--	0.00375	0.0375	2.13	--	0.00277	0.0277	0.657	--	0.00241	0.0241
Beryllium	0.0698	--	0.000548	0.0109	0.127	--	0.000553	0.0110	0.121	--	0.000550	0.0110	0.240	--	0.000531	0.0106	0.521	--	0.000752	0.0150	0.105	--	0.000554	0.0111	0.191	--	0.000483	0.00964
Cadmium	0.0212	J	0.00273	0.0548	0.0900	--	0.00276	0.0553	0.0227	J	0.00274	0.0550	0.0518	J	0.00265	0.0531	0.133	--	0.00375	0.0752	0.00902	J	0.00277	0.0554	0.0104	J	0.00241	0.0483
Chromium	1.37	--	0.00820	0.164	2.18	--	0.00828	0.166	2.79	--	0.00824	0.165	3.60	--	0.00796	0.159	7.36	--	0.0113	0.225	1.29	--	0.00830	0.166	1.65	--	0.00724	0.145
Chromium (III)	1.04	J	0.138	5.16	0.948	J	0.143	5.17	1.01	J	0.140	5.16	2.19	J	0.140	5.16	6.55	--	0.194	5.23	1.08	J	0.140	5.17	1.42	J	0.124	5.14
Chromium (VI)	0.326	J	0.130	5.00	1.23	J	0.135	5.00	1.78	J	0.132	5.00	1.41	J	0.132	5.00	0.810	J	0.183	5.00	0.209	J	0.131	5.00	0.229	J	0.117	5.00
Copper	1.04	V	0.0109	0.0548	2.56	V	0.0110	0.0553	1.60	V	0.0110	0.0550	2.71	V	0.0106	0.0531	5.90	V	0.0150	0.0752	1.11	V	0.0111	0.0554	1.11	V	0.00964	0.0483
Lead	1.20	--	0.00273	0.0273	2.94	--	0.00276	0.0276	2.15	--	0.00274	0.0274	4.41	--	0.00265	0.0265	9.37	--	0.0187	0.187	1.42	--	0.00277	0.0277	1.82	--	0.00241	0.0241
Mercury	<0.00891	U	0.00891	0.0178	<0.00977	U	0.00977	0.0195	<0.00932	U	0.00932	0.0186	<0.00924	U	0.00924	0.0185	0.0296	--	0.0130	0.0259	0.0158	--	0.00696	0.0139	<0.00839	U	0.00839	0.0168
Nickel	1.35	--	0.0548	0.0548	2.24	--	0.0553	0.0553	1.81	--	0.0550	0.0550	4.18	--	0.0531	0.0531	6.82	--	0.0752	0.0752	1.26	--	0.0554	0.0554	1.19	--	0.0483	0.0483
Selenium	0.285	--	0.0548	0.109	0.422	--	0.0553	0.110	0.466	--	0.0550	0.110	0.832	--	0.0531	0.106	1.41	--	0.0752	0.150	0.303	--	0.0554	0.111	0.805	--	0.0483	0.0964
Silver	0.00459	J	0.00137	0.0273	0.0169	J	0.00138	0.0276	0.00747	J	0.00137	0.0274	0.0163	J	0.00133	0.0265	0.0394	--	0.00188	0.0375	0.00249	J	0.00138	0.0277	0.00463	J	0.00121	0.0241
Thallium	0.0178	J	0.00137	0.0273	0.0576	--	0.00138	0.0276	0.0302	--	0.00137	0.0274	0.0467	--	0.00133	0.0265	0.0790	--	0.00188	0.0375	0.0128	J	0.00138	0.0277	0.0277	--	0.00121	0.0241
Zinc	2.41	--	0.0548	0.109	7.78	--	0.0553	0.110	5.56	--	0.0550	0.110	12.9	--	0.0531	0.106	27.9	--	0.0752	0.150	3.27	--	0.0554	0.111	4.27	--	0.0483	0.0964
Others																												
Ammonia (as nitrogen)	6.99	J	6.57	13.1	7.28	J	6.84	13.7	<6.76	U	6.76	13.5	124	--	6.66	13.3	261	--	9.17	18.3	14.1	--	6.61	13.2	50.3	--	5.98	12.0
Cyanide, Total	<0.0314	U	0.0314	0.0628	<0.0342	U	0.0342	0.0684	<0.0322	U	0.0322	0.0645	<0.0321	U	0.0321	0.0643	<0.0439	U	0.0439	0.0878	<0.0319	U	0.0319	0.0639	<0.0289	U	0.0289	0.0578
Petroleum Hydrocarbons, Total	73.1	--	6.20	25	79.3	--	6.20	25	71.8	--	6.20	25	80.4	--	6.20	25	69.2	--	6.20	25	78.9	--	6.20	25	75.0	--	6.20	25
Analyte	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL
Solids, Total	75.8	V	0.100	0.100	73.1	V	0.100	0.100	73.8	V	0.100	0.100	74.8	V	0.100	0.100	54.2	V	0.100	0.100	75.3	V	0.100	0.100	83.2	V	0.100	0.100
Carbon, Total Organic	<0.0569	H, U	0.0569	0.0569	<0.0544	H, U	0.0544	0.0544	<0.0594	H, U	0.0594	0.0594	1.29	H	0.0513	0.0513	<0.0528	H, U	0.0528	0.0528	<0.0545	H, U	0.0545	0.0545	<0.0579	H, U	0.0579	0.0579
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Monobutyltin	<0.36	U, *	0.36	1.3	<0.36	U, *	0.36	1.4	<0.38	U	0.38	1.4	<0.39	U, *	0.39	1.5	1.4	J, *	0.41	1.5	0.63	J, P, *	0.32	1.2	<0.33	U, *	0.33	1.2
Dibutyltin	<0.26	U, *	0.26	1.3	<0.26	U, *	0.26	1.4	<0.28	U	0.28	1.4	<0.28	U, *	0.28	1.5	<0.30	U, *	0.30	1.5	<0.24	U, *	0.24	1.2	<0.24	U, *	0.24	1.2
Tributyltin	<0.59	U, *	0.59	1.3	<0.59	U, *	0.59	1.4	<0.63	U	0.63	1.4	<0.64	U, *	0.64	1.5	1.3	J, *	0.67	1.5	<0.53	U, *	0.53	1.2	<0.54	U, *	0.54	1.2
Analyte	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL
pH	8.48	H		0.100	8.47	H		0.100	8.58	H		0.100	8.47	H		0.100	8.43	H		0.100	7.88	H		0.100	8.54	H		0.100

TABLE 4 (*continued*)
Analytical Results for Dry Weight Metals, Ammonia, Total Cyanide, TPHs, Total Solids, TOCs, Organotins, and pH in Sediment Samples

DMMU:	DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)																Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-8-5A				DMMU-8-5B				DMMU-8-5C				DMMU-8-5D				REF				ODMDS			
Analyte	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
Metals																								
Antimony	<0.0242	U	0.0242	0.0485	<0.0246	U	0.0246	0.0493	<0.0279	U	0.0279	0.0559	<0.0286	U	0.0286	0.0572	<0.0297	U	0.0297	0.0596	<0.0270	U	0.0270	0.0542
Arsenic	0.295	--	0.00242	0.0242	1.23	--	0.00246	0.0246	6.20	--	0.0139	0.139	1.71	--	0.00286	0.0286	1.71	--	0.00297	0.0297	1.39	--	0.0135	0.135
Beryllium	0.217	--	0.000485	0.00967	0.145	--	0.000493	0.00982	0.130	--	0.000559	0.0111	0.224	--	0.00286	0.0571	0.176	--	0.00298	0.0594	0.0655	--	0.00271	0.0541
Cadmium	0.00315	J	0.00242	0.0485	0.0214	J	0.00246	0.0493	0.0353	J	0.00279	0.0559	0.0336	J	0.00286	0.0572	0.0152	J	0.00297	0.0596	0.00909	J	0.00270	0.0542
Chromium	2.32	V	0.00726	0.145	2.24	V	0.00738	0.148	1.52	V	0.00837	0.167	4.16	--	0.00857	0.171	2.91	--	0.00893	0.179	1.27	--	0.00812	0.162
Chromium (III)	2.13	J	0.121	5.15	1.86	J	0.122	5.15	1.19	J	0.138	5.17	4.16	J	0.147	5.17	2.32	J	0.153	5.18	1.13	J	0.137	5.16
Chromium (VI)	0.187	J	0.114	5.00	0.379	J	0.115	5.00	0.326	J	0.130	5.00	<0.138	U	0.138	5.00	0.587	J	0.144	5.00	0.144	J	0.129	5.00
Copper	0.962	V	0.00967	0.0485	1.28	V	0.00982	0.0493	1.45	V	0.0111	0.0559	4.44	V	0.0114	0.0572	1.68	V	0.0119	0.0596	0.435	V	0.0108	0.0542
Lead	2.27	--	0.00242	0.0242	2.62	--	0.00246	0.0246	2.33	--	0.00279	0.0279	2.94	--	0.00286	0.0286	2.73	--	0.00297	0.0297	1.70	--	0.00270	0.0270
Mercury	0.0141	J	0.00994	0.0199	0.0139	J	0.0100	0.0200	<0.00995	U	0.00995	0.0199	<0.00987	U	0.00987	0.0197	0.0121	J	0.00991	0.0198	<0.00999	U	0.00999	0.0200
Nickel	1.64	--	0.0485	0.0485	2.22	--	0.0493	0.0493	1.74	--	0.0559	0.0559	5.00	--	0.0572	0.0572	3.03	--	0.0596	0.0596	1.17	--	0.0542	0.0542
Selenium	0.377	--	0.0485	0.0967	0.699	--	0.0493	0.0982	0.449	--	0.0559	0.111	0.626	--	0.0572	0.114	0.458	--	0.0596	0.119	0.363	--	0.0542	0.108
Silver	<0.00121	U	0.00121	0.0242	0.00403	J	0.00123	0.0246	<0.00140	U	0.00140	0.0279	0.008	J	0.00143	0.0286	0.00851	J	0.00149	0.0297	0.00411	J	0.00135	0.0270
Thallium	0.0223	J	0.00121	0.0242	0.0212	J	0.00123	0.0246	0.024	J	0.00140	0.0279	0.0397	--	0.00143	0.0286	0.0295	J	0.00149	0.0297	0.0218	J	0.00135	0.0270
Zinc	3.41	--	0.0485	0.0967	4.49	--	0.0493	0.0982	4.83	--	0.0559	0.111	10.2	--	0.0572	0.114	11.3	--	0.0596	0.119	5.47	--	0.0542	0.108
Others																								
Ammonia (as nitrogen)	6.53	J	5.83	11.7	6.65	J	5.93	11.9	<6.71	U	6.71	13.4	15.9	--	6.93	13.9	13.4	J	7.23	14.5	<6.60	U	6.60	13.2
Cyanide, Total	<0.0290	U	0.0290	0.0579	<0.0294	U	0.0294	0.0588	<0.0331	U	0.0331	0.0661	<0.0349	U	0.0349	0.0697	<0.0362	U	0.0362	0.0724	<0.0331	U	0.0331	0.0662
Petroleum Hydrocarbons, Total	76.3	--	6.20	25	75.2	--	6.20	25	73.2	--	6.20	25	71.7	U	6.20	25	81.7	U	6.20	25	<1.86	U	1.86	25
Analyte	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL
Solids, Total	85.5	V	0.100	0.100	84.2	V	0.100	0.100	74.1	V	0.100	0.100	71.7	H, V	0.100	0.100	69.0	H, V	0.100	0.100	75.6	H, V	0.100	0.100
Carbon, Total Organic	<0.0542	H, U	0.0542	0.0542	<0.0512	H, U	0.0512	0.0512	<0.0593	H, U	0.0593	0.0593	<0.0583	H, U	0.0583	0.0583	<0.0597	H, U	0.0597	0.0597	<0.0548	H, U	0.0548	0.0548
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Monobutyltin	0.59	J, *	0.31	1.2	<0.30	U	0.30	1.2	<0.37	U	0.37	1.4	<0.39	U	0.39	1.5	<0.40	U	0.40	1.5	<0.34	U, *	0.34	1.3
Dibutyltin	<0.23	U, *	0.23	1.2	<0.22	U	0.22	1.2	<0.27	U	0.27	1.4	<0.28	U	0.28	1.5	<0.29	U	0.29	1.5	<0.25	U, *	0.25	1.3
Tributyltin	<0.50	U, *	0.50	1.2	<0.50	U	0.50	1.2	<0.61	U	0.61	1.4	<0.63	U	0.63	1.5	<0.66	U	0.66	1.5	<0.56	U, *	0.56	1.3
Analyte	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL	Result pH units	Qualifier	MDL	LRL
pH	8.19	H		0.100	8.05	H		0.100	8.91	H		0.100	8.75	H		0.100	8.53	H		0.100	8.41	H		0.100

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

Qualifiers: H = The parameter was analyzed outside the method specified holding time. I = The MRL/MDL or LOQ/LOD is elevated due to matrix interference. J = Estimated value - The reported value is between the detection limit and reporting limit.
P = The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results. U = Indicates that the compound was analyzed for but not detected. V = Analyte was detected in both sample and method blank.
* = The result is an outlier.

Sources: All results from NWDLS with the exception of the organotins, cyanide, and TOC results which came from ALS; TEL and ERL values from Buchman (2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 5
Analytical Results for Dry Weight Pesticides and Total PCBs in Sediment Samples

		DMMU:		DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)											
		Sample ID:		DMMU-1-1A				DMMU-1-1B				DMMU-1-1C				DMMU-2-1A				DMMU-2-1B				DMMU-2-1C			
Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Aldrin	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Chlordane (technical)	**<0.553**	2.26	0.5	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	**<0.518**	U	0.518	1.73
α (cis)-Chlordane	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
γ (trans)-Chlordane	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
p,p' (4,4')-DDD	<0.553	1.22	2	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
p,p' (4,4')-DDE	<0.553	2.07	2.2	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
p,p' (4,4')-DDT	<0.553	1.19	1	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Dieldrin	**<0.553**	0.72	0.02	**<0.390**	U	0.390	1.30	**<0.398**	U	0.398	1.33	**<0.401**	U	0.401	1.34	**<0.445**	U	0.445	1.48	**<0.443**	U	0.443	1.48	**<0.518**	U	0.518	1.73
Endosulfan I	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Endosulfan II	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Endosulfan Sulfate	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Endrin	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Endrin Aldehyde	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Endrin Ketone	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Heptachlor	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Heptachlor Epoxide	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
α-BHC	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
β-BHC	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
δ-BHC	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
γ-BHC (Lindane)	**<0.553**	0.32	x	**<0.390**	U	0.390	1.30	**<0.398**	U	0.398	1.33	**<0.401**	U	0.401	1.34	**<0.445**	U	0.445	1.48	**<0.443**	U	0.443	1.48	**<0.518**	U	0.518	1.73
Methoxychlor	<0.553	x	x	<0.390	U	0.390	1.30	<0.398	U	0.398	1.33	<0.401	U	0.401	1.34	<0.445	U	0.445	1.48	<0.443	U	0.443	1.48	<0.518	U	0.518	1.73
Toxaphene	**<27.7**	0.1	x	**<19.5**	U	19.5	19.5	**<19.9**	U	19.9	19.9	**<20.1**	U	20.1	20.1	**<22.2**	U	22.2	22.2	**<22.1**	U	22.1	22.1	**<25.9**	U	25.9	25.9
PCBs, Total	<1.84	21.6	22.7	<1.34	C+, U	1.34	2.69	<1.34	C+, U	1.34	2.68	<1.34	C+, U	1.34	2.69	<1.48	C+, U	1.48	2.96	<1.48	C+, U	1.48	2.95	<1.73	C+, U	1.73	3.45

TABLE 5 (*continued*)
Analytical Results for Dry Weight Pesticides and Total PCBs in Sediment Samples

DMMU:	DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)								DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)											
Sample ID:	DMMU-3-2A				DMMU-3-2A (Duplicate)				DMMU-3-2B				DMMU-4-2A				DMMU-4-2B				DMMU-5-3A				DMMU-5-3B				DMMU-5-3C			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Aldrin	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Chlordane (technical)	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
α (cis)-Chlordane	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
γ (trans)-Chlordane	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
p,p' (4,4')-DDD	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
p,p' (4,4')-DDE	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
p,p' (4,4')-DDT	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Dieldrin	**<0.409**	U	0.409	1.36	**<0.395**	U	0.395	1.32	**<0.397**	U	0.397	1.32	**<0.453**	U	0.453	1.51	**<0.425**	U	0.425	1.42	**<0.405**	U	0.405	1.35	**<0.412**	U	0.412	1.37	**<0.410**	U	0.410	1.37
Endosulfan I	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Endosulfan II	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Endosulfan Sulfate	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Endrin	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Endrin Aldehyde	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Endrin Ketone	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Heptachlor	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Heptachlor Epoxide	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
α-BHC	<0.409	C+, U	0.409	1.36	<0.395	C+, U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	C+, U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
β-BHC	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
δ-BHC	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
γ-BHC (Lindane)	**<0.409**	U	0.409	1.36	**<0.395**	U	0.395	1.32	**<0.397**	U	0.397	1.32	**<0.453**	U	0.453	1.51	**<0.425**	U	0.425	1.42	**<0.405**	U	0.405	1.35	**<0.412**	U	0.412	1.37	**<0.410**	U	0.410	1.37
Methoxychlor	<0.409	U	0.409	1.36	<0.395	U	0.395	1.32	<0.397	U	0.397	1.32	<0.453	U	0.453	1.51	<0.425	U	0.425	1.42	<0.405	U	0.405	1.35	<0.412	U	0.412	1.37	<0.410	U	0.410	1.37
Toxaphene	**<20.4**	U	20.4	20.4	**<19.8**	C+, U	19.8	19.8	**<19.8**	C+, U	19.8	19.8	**<22.7**	C+, U	22.7	22.7	**<21.2**	C+, U	21.2	21.2	**<20.3**	U	20.3	20.3	**<20.6**	U	20.6	20.6	**<20.5**	U	20.5	20.5
PCBs, Total	<1.32	U	1.32	2.64	<1.25	U	1.25	2.50	<1.31	U	1.31	2.63	<1.50	U	1.50	3.00	<1.35	U	1.35	2.71	<1.35	C+, U	1.35	2.70	<1.37	C+, U	1.37	2.74	<1.37	C+, U	1.37	2.73

TABLE 5 (*continued*)
Analytical Results for Dry Weight Pesticides and Total PCBs in Sediment Samples

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)												DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)											
Sample ID:	DMMU-6-3A				DMMU-6-3B				DMMU-6-3C				DMMU-7-4A				DMMU-7-4B				DMMU-7-4C				DMMU-7-4D			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Aldrin	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Chlordane (technical)	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	**<0.553**	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
α (cis)-Chlordane	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
γ (trans)-Chlordane	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
p,p' (4,4')-DDD	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
p,p' (4,4')-DDE	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
p,p' (4,4')-DDT	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Dieldrin	**<0.396**	U	0.396	1.32	**<0.410**	U	0.410	1.37	**<0.406**	U	0.406	1.35	**<0.401**	U	0.401	1.34	**<0.553**	U	0.553	1.84	**<0.398**	U	0.398	1.33	**<0.350**	U	0.350	1.17
Endosulfan I	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Endosulfan II	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Endosulfan Sulfate	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Endrin	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Endrin Aldehyde	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Endrin Ketone	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Heptachlor	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Heptachlor Epoxide	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
α-BHC	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
β-BHC	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
δ-BHC	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
γ-BHC (Lindane)	**<0.396**	U	0.396	1.32	**<0.410**	U	0.410	1.37	**<0.406**	U	0.406	1.35	**<0.401**	U	0.401	1.34	**<0.553**	U	0.553	1.84	**<0.398**	U	0.398	1.33	**<0.350**	U	0.350	1.17
Methoxychlor	<0.396	U	0.396	1.32	<0.410	U	0.410	1.37	<0.406	U	0.406	1.35	<0.401	U	0.401	1.34	<0.553	U	0.553	1.84	<0.398	U	0.398	1.33	<0.350	U	0.350	1.17
Toxaphene	**<19.8**	U	19.8	19.8	**<20.5**	U	20.5	20.5	**<20.3**	U	20.3	20.3	**<20.0**	U	20.0	20.0	**<27.7**	U	27.7	27.7	**<19.9**	U	19.9	19.9	**<17.5**	U	17.5	17.5
PCBs, Total	<1.32	C+, U	1.32	2.64	<1.37	C+, U	1.37	2.74	<1.35	C+, U	1.35	2.71	<1.34	C+, U	1.34	2.67	<1.84	C+, U	1.84	3.69	<1.33	C+, U	1.33	2.66	<1.20	C+, U	1.20	2.40

TABLE 5 (*continued*)
Analytical Results for Dry Weight Pesticides and Total PCBs in Sediment Samples

DMMU:	DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)																Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-8-5A				DMMU-8-5B				DMMU-8-5C				DMMU-8-5D				HI-REF				HI-ODMDS			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Aldrin	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Chlordane (technical)	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
α (cis)-Chlordane	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
γ (trans)-Chlordane	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
p,p' (4,4')-DDD	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
p,p' (4,4')-DDE	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
p,p' (4,4')-DDT	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Dieldrin	**<0.345**	U	0.345	1.15	**<0.348**	U	0.348	1.16	**<0.377**	U	0.377	1.26	**<0.418**	U	0.418	1.39	**<0.434**	U	0.434	1.45	**<0.395**	U	0.395	1.32
Endosulfan I	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Endosulfan II	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Endosulfan Sulfate	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Endrin	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Endrin Aldehyde	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Endrin Ketone	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Heptachlor	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Heptachlor Epoxide	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
α-BHC	<0.345	U	0.345	1.15	<0.348	C+, U	0.348	1.16	<0.377	C+, U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	C+, U	0.395	1.32
β-BHC	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
δ-BHC	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
γ-BHC (Lindane)	**<0.345**	U	0.345	1.15	**<0.348**	U	0.348	1.16	**<0.377**	U	0.377	1.26	**<0.418**	U	0.418	1.39	**<0.434**	U	0.434	1.45	**<0.395**	U	0.395	1.32
Methoxychlor	<0.345	U	0.345	1.15	<0.348	U	0.348	1.16	<0.377	U	0.377	1.26	<0.418	U	0.418	1.39	<0.434	U	0.434	1.45	<0.395	U	0.395	1.32
Toxaphene	**<17.3**	U	17.3	17.3	**<17.4**	C+, U	17.4	17.4	**<18.9**	C+, U	18.9	18.9	**<20.9**	C+, U	20.9	20.9	**<21.7**	C+, U	21.7	21.7	**<19.7**	U	19.7	19.7
PCBs, Total	<1.17	U	1.17	2.34	<1.15	U	1.15	2.30	<1.26	U	1.26	2.52	<1.39	C+, U	1.39	2.79	<1.45	C+, U	1.45	2.90	<1.31	C+, U	1.31	2.62

Bolded values meet or exceed the TEL and (or) ERL.
< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.
Qualifier definitions: C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report. U = Non-detected compound.
Sources: Results from NWDLS; TEL and ERL values from Buchman (2008).
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 6
Analytical Results for Dry Weight PAHs in Sediment Samples

Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial) DMMU-1-1A Result µg/kg	Qualifier	MDL	LRL	DMMU-1-1B Result µg/kg	Qualifier	MDL	LRL	DMMU-1-1C Result µg/kg	Qualifier	MDL	LRL	DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial) DMMU-2-1A Result µg/kg	Qualifier	MDL	LRL	DMMU-2-1B Result µg/kg	Qualifier	MDL	LRL	DMMU-2-1C Result µg/kg	Qualifier	MDL	LRL
Acenaphthene[LPAH]	**416**	6.71	16	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Acenaphthylene[LPAH]	**323**	5.87	44	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Anthracene[LPAH]	**276**	46.9	85.3	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Benzo(a)anthracene[HPAH]	31.3	74.8	261	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Benzo(a)pyrene[HPAH]	7.37	88.8	430	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Benzo(b&k)fluoranthene[HPAH]	13.2	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.36	<3.62	U	3.62	7.22	<3.66	U	3.66	7.30	<4.18	U	4.18	8.38
Benzo(g,h,i)perylene[HPAH]	22.3	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Chrysene[HPAH]	36.7	108	384	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Dibenzo(a,h)anthracene[HPAH]	**<16.8**	6.22	63.4	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Fluoranthene[HPAH]	81.3	113	600	5.04	--	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Fluorene[LPAH]	**1190**	21.2	19	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Indeno(1,2,3-cd)pyrene[HPAH]	2.53	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Naphthalene[LPAH]	5.83	34.6	160	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Phenanthrene[LPAH]	**522**	86.7	240	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Pyrene[HPAH]	90.3	153	665	3.75	--	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Total LPAHs	**2485**	312	552	9.84				9.36				9.54				10.9				11.0				12.5			
Total HPAHs	329	655	1700	21.9				15.6				15.9				18.1				18.3				20.9			
Total PAHs	**2814**	1684	4022	31.8				25.0				25.4				29.0				29.3				33.4			

TABLE 6 (*continued*)
Analytical Results for Dry Weight PAHs in Sediment Samples

DMMU:	DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)								DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)											
Sample ID:	DMMU-3-2A				DMMU-3-2A (Duplicate)				DMMU-3-2B				DMMU-4-2A				DMMU-4-2B				DMMU-5-3A				DMMU-5-3B				DMMU-5-3C			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Acenaphthene[LPAH]	**416**	A, H	16.8	33.7	3.71	--	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	12.6	--	1.64	3.27	<1.56	U	1.56	3.12
Acenaphthylene[LPAH]	**323**	A, H	16.8	33.7	5.87	--	1.56	3.12	<1.64	U	1.64	3.28	2.03	J	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	4.35	--	1.64	3.27	<1.56	U	1.56	3.12
Anthracene[LPAH]	<16.8	A, H, U	16.8	33.7	3.65	--	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	23.1	--	1.64	3.27	<1.56	U	1.56	3.12
Benzo(a)anthracene[HPAH]	31.3	A, H, J	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	17.2	--	1.64	3.27	<1.56	U	1.56	3.12
Benzo(a)pyrene[HPAH]	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	2.94	J	1.64	3.27	<1.56	U	1.56	3.12
Benzo(b&k)fluoranthene[HPAH]	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<3.24	U	3.24	6.48	5.10	--	3.28	6.54	<3.12	U	3.12	6.24
Benzo(g,h,i)perylene[HPAH]	22.3	A, H, J	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	1.78	J	1.64	3.27	<1.56	U	1.56	3.12
Chrysene[HPAH]	36.7	A, H	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	7.95	--	1.64	3.27	<1.56	U	1.56	3.12
Dibenzo(a,h)anthracene[HPAH]	**<16.8**	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Fluoranthene[HPAH]	81.3	A, H	16.8	33.7	2.52	J	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	3.80	--	1.64	3.27	<1.56	U	1.56	3.12
Fluorene[LPAH]	**1190**	H	42.1	84.1	11.1	--	1.56	3.12	<1.64	U	1.64	3.28	4.00	--	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	5.38	--	1.64	3.27	<1.56	U	1.56	3.12
Indeno(1,2,3-cd)pyrene[HPAH]	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Naphthalene[LPAH]	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Phenanthrene[LPAH]	**522**	A, H	16.8	33.7	4.39	--	1.56	3.12	<1.64	U	1.64	3.28	2.74	J	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	20.1	--	1.64	3.27	<1.56	U	1.56	3.12
Pyrene[HPAH]	90.3	A, H	16.8	33.7	3.22	--	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	11.1	--	1.64	3.27	<1.56	U	1.56	3.12
Total LPAHs	**2485**				30.3				9.84				14.2				10.4				9.72				67.2				9.36			
Total HPAHs	329				16.7				14.8				16.2				15.7				16.2				53.2				15.6			
Total PAHs	**2814**				46.9				24.6				30.4				26.1				25.9				120				25.0			

TABLE 6 (*continued*)
Analytical Results for Dry Weight PAHs in Sediment Samples

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)												DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)											
Sample ID:	DMMU-6-3A				DMMU-6-3B				DMMU-6-3C				DMMU-7-4A				DMMU-7-4B				DMMU-7-4C				DMMU-7-4D			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Acenaphthene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	21.3	--	1.59	3.18	5.31	--	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Acenaphthylene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	3.66	--	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	1.86	J	1.48	2.96
Anthracene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	**276**	--	15.9	31.8	2.19	J	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Benzo(a)anthracene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	12.8	--	1.59	3.18	2.17	J	2.16	4.33	<1.53	U	1.53	3.06	2.23	J	1.48	2.96
Benzo(a)pyrene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	7.37	--	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	2.85	J	1.48	2.96
Benzo(b&k)fluoranthene[HPAH]	<3.08	U	3.08	6.16	<3.32	U	3.32	6.64	<3.20	U	3.20	6.40	13.2	--	3.18	6.36	5.29	J	4.32	8.66	<3.06	U	3.06	6.12	5.04	J	2.96	5.92
Benzo(g,h,i)perylene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	3.22	--	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	2.97	--	1.48	2.96
Chrysene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	14.8	--	1.59	3.18	2.30	J	2.16	4.33	<1.53	U	1.53	3.06	2.52	J	1.48	2.96
Dibenzo(a,h)anthracene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Fluoranthene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	78.9	--	4.77	9.55	10.3	--	2.16	4.33	<1.53	U	1.53	3.06	6.37	--	1.48	2.96
Fluorene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	28.5	--	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Indeno(1,2,3-cd)pyrene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	2.53	J	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	2.22	J	1.48	2.96
Naphthalene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	1.63	J	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Phenanthrene[LPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	129	--	4.77	9.55	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Pyrene[HPAH]	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	59.1	--	4.77	9.55	9.39	--	2.16	4.33	<1.53	U	1.53	3.06	5.39	--	1.48	2.96
Total LPAHs	9.24				9.96				9.60				**460**				16.1				9.18				9.26			
Total HPAHs	15.4				16.6				16.0				194				38.1				15.3				31.1			
Total PAHs	24.6				26.6				25.6				654				54.2				24.5				40.3			

TABLE 6 (*continued*)
Analytical Results for Dry Weight PAHs in Sediment Samples

DMMU:	DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)																Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-8-5A				DMMU-8-5B				DMMU-8-5C				DMMU-8-5D				HI-REF				HI-ODMDS			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
Acenaphthene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	2.24	J	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Acenaphthylene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Anthracene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Benzo(a)anthracene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Benzo(a)pyrene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Benzo(b&k)fluoranthene[HPAH]	<2.92	U	2.92	5.84	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<3.48	U	3.48	6.98	<3.62	U	3.62	7.24	<3.10	U	3.10	6.22
Benzo(g,h,i)perylene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Chrysene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Dibenzo(a,h)anthracene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Fluoranthene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Fluorene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Indeno(1,2,3-cd)pyrene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Naphthalene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	5.83	--	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Phenanthrene[LPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	3.79	--	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Pyrene[HPAH]	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Total LPAHs	8.76				8.34				16.7				10.4				10.9				9.30			
Total HPAHs	14.6				12.5				14.6				17.4				18.1				15.5			
Total PAHs	23.4				20.9				31.3				27.8				29.0				24.8			

Bolded values meet or exceed the TEL and (or) ERL.

LPAH = Low molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

HPAH = High molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

For calculating total PAHs, U-qualified results use the MDL and J-qualified results use the value reported by the laboratory.

Qualifiers: A = Detection limit elevated due to abundance of non-target analyte. H = The parameter was analyzed outside the method specified holding time. J = Estimated value - The reported value is between the detection limit and reporting limit. U = Indicates that the compound was analyzed for but not detected.

Sources: Results from NWDLS; TEL and ERL values from Buchman (2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 7
Analytical Results for Dry Weight SVOCs in Sediment Samples

			DMMU:	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)											
			Sample ID:	DMMU-1-1A				DMMU-1-1B				DMMU-1-1C				DMMU-2-1A				DMMU-2-1B				DMMU-2-1C			
Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
1,2-Dichlorobenzene	<16.9	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
1,2-Diphenylhydrazine	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
1,3-Dichlorobenzene	<16.9	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
1,4-Dichlorobenzene	<16.9	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
2,4,6-Trichlorophenol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
2,4-Dichlorophenol	8.75	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
2,4-Dimethylphenol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
2,4-Dinitrophenol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
2,4-Dinitrotoluene (2,4-DNT)	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
2,6-Dinitrotoluene (2,6-DNT)	18.5	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
2-Chloronaphthalene	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
2-Chlorophenol	<33.8	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
2-Nitrophenol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
3,3'-Dichlorobenzidine	<2.16	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
4,6-Dinitro-o-Cresol	<135	x	x	<13.1	U	13.1	26.2	<12.5	U	12.5	24.9	<12.7	U	12.7	25.5	<14.4	U	14.4	28.9	<14.6	U	14.6	29.2	<16.7	U	16.7	33.5
4-Bromophenyl phenyl ether (BDE-3)	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
4-Chlorophenyl phenyl ether	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
4-Nitrophenol	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Benzidine	<2.16	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Bis(2-Chloroethoxy) methane	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Bis(2-Chloroethyl) ether	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Bis(2-chloroisopropyl) ether	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Bis(2-ethylhexyl) phthalate	18.8	182	x	2.32	V, J	1.64	3.28	2.26	V, J	1.56	3.12	2.06	V, J	1.59	3.18	1.89	V, J	1.81	3.61	2.00	V, J	1.83	3.65	2.42	V, J	2.09	4.19
Butyl benzyl phthalate	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Diethyl phthalate	4.64	x	x	2.75	V, J	1.64	3.28	1.73	V, J	1.56	3.12	2.32	V, J	1.59	3.18	2.10	V, J	1.81	3.61	2.17	V, J	1.83	3.65	3.57	V, J	2.09	4.19
Dimethyl phthalate	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Di-n-butyl phthalate	120	x	x	5.75	V	1.64	3.28	5.03	V	1.56	3.12	4.39	V	1.59	3.18	6.35	V	1.81	3.61	8.89	V	1.83	3.65	11.4	V	2.09	4.19
Di-n-octyl phthalate	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Hexachlorobenzene	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Hexachlorobutadiene	<16.9	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Hexachlorocyclopentadiene	3.96	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Hexachloroethane	<16.9	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Isophorone	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
Nitrobenzene	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
N-Nitrosodimethylamine	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
N-Nitrosodi-n-propylamine	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
N-Nitrosodiphenylamine	<16.8	x	x	<1.64	U	1.64	3.28	<1.56	U	1.56	3.12	<1.59	U	1.59	3.18	<1.81	U	1.81	3.61	<1.83	U	1.83	3.65	<2.09	U	2.09	4.19
P-Chloro-m-Cresol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
Pentachlorophenol	<33.7	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37
Phenol, Total	11.3	x	x	<3.28	U	3.28	6.56	<3.12	U	3.12	6.24	<3.18	U	3.18	6.37	<3.61	U	3.61	7.22	<3.65	U	3.65	7.31	<4.19	U	4.19	8.37

TABLE 7 (*continued*)
Analytical Results for Dry Weight SVOCs in Sediment Samples

DMMU:	DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)												DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)								DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)											
Sample ID:	DMMU-3-2A				DMMU-3-2A (Duplicate)				DMMU-3-2B				DMMU-4-2A				DMMU-4-2B				DMMU-5-3A				DMMU-5-3B				DMMU-5-3C			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
1,2-Dichlorobenzene	<16.9	A, U	16.9	33.8	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
1,2-Diphenylhydrazine	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
1,3-Dichlorobenzene	<16.9	A, U	16.9	33.8	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
1,4-Dichlorobenzene	<16.9	A, U	16.9	33.8	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
2,4,6-Trichlorophenol	<33.7	A, H, U	33.7	67.3	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
2,4-Dichlorophenol	<33.7	A, H, U	33.7	67.3	8.75	--	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
2,4-Dimethylphenol	<33.7	A, H, U	33.7	67.3	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
2,4-Dinitrophenol	<33.7	A, H, U	33.7	67.3	<3.12	C+, U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
2,4-Dinitrotoluene (2,4-DNT)	<16.8	A, H, U	16.8	33.7	<1.56	C+, U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
2,6-Dinitrotoluene (2,6-DNT)	<16.8	A, H, U	16.8	33.7	18.5	--	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
2-Chloronaphthalene	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
2-Chlorophenol	<33.8	A, U	33.8	67.5	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
2-Nitrophenol	<33.7	A, H, U	33.7	67.3	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
3,3'-Dichlorobenzidine	<1.69	CQ, U	1.69	3.38	<1.56	CQ, U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
4,6-Dinitro-o-Cresol	<135	A, H, U	135	269	<12.5	U	12.5	25.0	<13.1	U	13.1	26.2	<14.4	U	14.4	28.8	<13.9	U	13.9	27.8	<13.0	U	13.0	25.9	<13.1	U	13.1	26.2	<12.5	U	12.5	24.9
4-Bromophenyl phenyl ether (BDE-3)	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
4-Chlorophenyl phenyl ether	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
4-Nitrophenol	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Benzidine	<1.69	CQ, U	1.69	3.38	<1.56	CQ, U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Bis(2-Chloroethoxy) methane	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Bis(2-Chloroethyl) ether	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Bis(2-chloroisopropyl) ether	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Bis(2-ethylhexyl) phthalate	18.8	A, H, J, V	16.8	33.7	2.15	V, J	1.56	3.12	2.57	V, J	1.64	3.28	2.51	V, J	1.80	3.60	2.26	V, J	1.74	3.47	<1.62	B, U	1.62	3.24	2.36	V, J	1.64	3.27	1.60	V, J	1.56	3.12
Butyl benzyl phthalate	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Diethyl phthalate	<16.8	A, H, U	16.8	33.7	2.86	V, J	1.56	3.12	2.86	V, J	1.64	3.28	2.97	V, J	1.80	3.60	2.48	V, J	1.74	3.47	2.13	V, J	1.62	3.24	4.64	V	1.64	3.27	1.80	V, J	1.56	3.12
Dimethyl phthalate	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Di-n-butyl phthalate	120	A, H	16.8	33.7	13.6	V	1.56	3.12	14.1	V	1.64	3.28	13.7	V	1.80	3.60	14.2	V	1.74	3.47	6.45	V	1.62	3.24	7.08	V	1.64	3.27	6.49	V	1.56	3.12
Di-n-octyl phthalate	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Hexachlorobenzene	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Hexachlorobutadiene	<16.9	A, U	16.9	33.8	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Hexachlorocyclopentadiene	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	3.96	--	1.64	3.27	<1.56	U	1.56	3.12
Hexachloroethane	<16.9	A, U	16.9	33.8	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Isophorone	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
Nitrobenzene	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
N-Nitrosodimethylamine	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
N-Nitrosodi-n-propylamine	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
N-Nitrosodiphenylamine	<16.8	A, H, U	16.8	33.7	<1.56	U	1.56	3.12	<1.64	U	1.64	3.28	<1.80	U	1.80	3.60	<1.74	U	1.74	3.47	<1.62	U	1.62	3.24	<1.64	U	1.64	3.27	<1.56	U	1.56	3.12
P-Chloro-m-Cresol	<33.7	A, H, U	33.7	67.3	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
Pentachlorophenol	<33.7	A, H, U	33.7	67.3	<3.12	U	3.12	6.24	<3.28	U	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	<3.27	U	3.27	6.54	<3.12	U	3.12	6.23
Phenol, Total	<33.7	A, H, U	33.7	67.3	4.50	J	3.12	6.24	3.92	J	3.28	6.56	<3.60	U	3.60	7.19	<3.47	U	3.47	6.94	<3.24	U	3.24	6.49	4.43	J	3.27	6.54	<3.12	U	3.12	6.23

TABLE 7 (*continued*)
Analytical Results for Dry Weight SVOCs in Sediment Samples

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)												DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)											
Sample ID:	DMMU-6-3A				DMMU-6-3B				DMMU-6-3C				DMMU-7-4A				DMMU-7-4B				DMMU-7-4C				DMMU-7-4D			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
1,2-Dichlorobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
1,2-Diphenylhydrazine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	C+, U	1.53	3.06	<1.48	C+, U	1.48	2.96
1,3-Dichlorobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
1,4-Dichlorobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
2,4,6-Trichlorophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
2,4-Dichlorophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
2,4-Dimethylphenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
2,4-Dinitrophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
2,4-Dinitrotoluene (2,4-DNT)	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
2,6-Dinitrotoluene (2,6-DNT)	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
2-Chloronaphthalene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
2-Chlorophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
2-Nitrophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
3,3'-Dichlorobenzidine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
4,6-Dinitro-o-Cresol	<12.3	U	12.3	24.7	<13.3	U	13.3	26.5	<12.8	U	12.8	25.6	<12.7	U	12.7	25.5	<17.3	U	17.3	34.6	<12.2	U	12.2	24.5	<11.8	U	11.8	23.7
4-Bromophenyl phenyl ether (BDE-3)	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
4-Chlorophenyl phenyl ether	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
4-Nitrophenol	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Benzidine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Bis(2-Chloroethoxy) methane	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Bis(2-Chloroethyl) ether	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Bis(2-chloroisopropyl) ether	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Bis(2-ethylhexyl) phthalate	1.66	V, J	1.54	3.08	<1.66	B, U	1.66	3.32	<1.60	B, U	1.60	3.20	<1.59	B, U	1.59	3.18	<2.16	B, U	2.16	4.33	2.48	V, J	1.53	3.06	<1.48	B, U	1.48	2.96
Butyl benzyl phthalate	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Diethyl phthalate	<1.54	B, U	1.54	3.08	<1.66	B, U	1.66	3.32	<1.60	B, U	1.60	3.20	<1.59	B, U	1.59	3.18	<2.16	B, U	2.16	4.33	<1.53	B, U	1.53	3.06	<1.48	B, U	1.48	2.96
Dimethyl phthalate	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Di-n-butyl phthalate	3.32	V	1.54	3.08	5.64	V	1.66	3.32	3.03	V, J	1.60	3.20	3.77	V	1.59	3.18	4.12	V, J	2.16	4.33	6.86	V	1.53	3.06	4.65	V	1.48	2.96
Di-n-octyl phthalate	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Hexachlorobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Hexachlorobutadiene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Hexachlorocyclopentadiene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Hexachloroethane	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Isophorone	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
Nitrobenzene	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
N-Nitrosodimethylamine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
N-Nitrosodi-n-propylamine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
N-Nitrosodiphenylamine	<1.54	U	1.54	3.08	<1.66	U	1.66	3.32	<1.60	U	1.60	3.20	<1.59	U	1.59	3.18	<2.16	U	2.16	4.33	<1.53	U	1.53	3.06	<1.48	U	1.48	2.96
P-Chloro-m-Cresol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
Pentachlorophenol	<3.08	U	3.08	6.17	<3.32	U	3.32	6.63	<3.20	U	3.20	6.39	<3.18	U	3.18	6.36	<4.33	U	4.33	8.66	<3.06	U	3.06	6.12	<2.96	U	2.96	5.92
Phenol, Total	<3.08	U	3.08	6.17	3.61	J	3.32	6.63	3.37	J	3.20	6.39	<3.18	U	3.18	6.36	4.77	J	4.33	8.66	4.72	J	3.06	6.12	3.39	J	2.96	5.92

TABLE 7 (*continued*)
Analytical Results for Dry Weight SVOCs in Sediment Samples

DMMU:	DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)																Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-8-5A				DMMU-8-5B				DMMU-8-5C				DMMU-8-5D				HI-REF				HI-ODMDS			
Analyte	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
1,2-Dichlorobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
1,2-Diphenylhydrazine	<1.46	C+, U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
1,3-Dichlorobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
1,4-Dichlorobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
2,4,6-Trichlorophenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
2,4-Dichlorophenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
2,4-Dimethylphenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
2,4-Dinitrophenol	<2.92	U	2.92	5.84	<2.78	C+, U	2.78	5.57	<3.25	C+, U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
2,4-Dinitrotoluene (2,4-DNT)	<1.46	U	1.46	2.92	<1.39	C+, U	1.39	2.78	<1.62	C+, U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
2,6-Dinitrotoluene (2,6-DNT)	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	1.66	J	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
2-Chloronaphthalene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
2-Chlorophenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
2-Nitrophenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
3,3'-Dichlorobenzidine	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
4,6-Dinitro-o-Cresol	<11.7	U	11.7	23.4	<11.1	U	11.1	22.3	<13.0	U	13.0	26.0	<13.9	U	13.9	27.9	<14.5	U	14.5	29.0	<12.4	U	12.4	24.9
4-Bromophenyl phenyl ether (BDE-3)	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
4-Chlorophenyl phenyl ether	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
4-Nitrophenol	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Benzidine	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Bis(2-Chloroethoxy) methane	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Bis(2-Chloroethyl) ether	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Bis(2-chloroisopropyl) ether	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Bis(2-ethylhexyl) phthalate	2.02	V, J	1.46	2.92	2.12	V, J	1.39	2.78	3.37	V	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	B, U	1.55	3.11
Butyl benzyl phthalate	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Diethyl phthalate	<1.46	B, U	1.46	2.92	1.95	V, J	1.39	2.78	2.43	V, J	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Dimethyl phthalate	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Di-n-butyl phthalate	2.18	V, J	1.46	2.92	11.0	V	1.39	2.78	13.1	V	1.62	3.25	<1.74	B, U	1.74	3.49	3.54	V, J	1.81	3.62	<1.55	U	1.55	3.11
Di-n-octyl phthalate	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Hexachlorobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Hexachlorobutadiene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Hexachlorocyclopentadiene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Hexachloroethane	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Isophorone	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
Nitrobenzene	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
N-Nitrosodimethylamine	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	C+, U	1.55	31.1
N-Nitrosodi-n-propylamine	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	U	1.74	3.49	<1.81	U	1.81	3.62	<1.55	U	1.55	3.11
N-Nitrosodiphenylamine	<1.46	U	1.46	2.92	<1.39	U	1.39	2.78	<1.62	U	1.62	3.25	<1.74	C+, U	1.74	3.49	<1.81	C+, U	1.81	3.62	<1.55	U	1.55	3.11
P-Chloro-m-Cresol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
Pentachlorophenol	<2.92	U	2.92	5.84	<2.78	U	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	<3.11	U	3.11	6.22
Phenol, Total	3.84	J	2.92	5.84	3.68	J	2.78	5.57	<3.25	U	3.25	6.49	<3.49	U	3.49	6.97	<3.62	U	3.62	7.24	11.3	V	3.11	6.22

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

Qualifiers: A = Detection limit elevated due to abundance of non-target analyte. B = Analyte was found in the associated method blank. C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report. CQ = Internal Standard response lsss than 50% calibration response. J = Estimated value - The reported value is between the detection limit and reporting limit. U = Indicates that the compound was analyzed for but not detected.
V = Analyte was detected in both sample and method blank.

Sources: Results from NWDLS; TEL and ERL values from Buchman (2008).
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 8

Analytical Results for Metals, Ammonia, Organotins, TOCs, Total Cyanide, TSSs, TPHs, and Salinity in Site Water and Elutriates Generated from Sediment

				DMMU:	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)				DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)								DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)			
				Sample ID:	DMMU-1-E				DMMU-2-E				DMMU-3-E				DMMU- 3-E Duplicate				DMMU-4-E				DMMU-5-E			
Analyte	Maximum Conc. µg/L	CMC µg/L	TWQS Acute µg/L	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Metals																											
Antimony	1.54	x	x	1.54	V2, J	1.00	5.00	<1.00	B2, U	1.00	5.00	<1.00	B2, U	1.00	5.00	<1.00	U	1.00	5.00	<1.00	B2, U	1.00	5.00	<1.00	B2, U	1.00	5.00
Arsenic	9.28	69	149	4.46	--	0.500	2.50	3.22	--	0.500	2.50	5.53	--	0.500	2.50	5.18	--	0.500	2.50	2.39	J	0.500	2.50	3.09	--	0.500	2.50
Beryllium	0.0560	x	x	<0.0500	B2, U	0.0500	1.00	<0.0500	B2, U	0.0500	1.00	<0.0500	B2, U	0.0500	1.00	<0.0500	B2, U	0.0500	1.00	<0.0500	B2, U	0.0500	1.00	<0.0500	B2, U	0.0500	1.00
Cadmium	0.312	40	40.0	0.267	J	0.250	5.00	0.263	J	0.250	5.00	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00
Chromium	1.03	x	x	<0.400	U	0.400	15.0	0.670	J	0.400	15.0	<0.400	U	0.400	15.0	<0.400	B2, U	0.400	15.0	<0.400	U	0.400	15.0	<0.400	U	0.400	15.0
Chromium (III)	<1.90	x	x	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0
Chromium (VI)	58.4	1100	1090	0.0251	V2	0.00150	0.00300	0.0248	V2	0.00150	0.00300	0.0258	V2	0.00150	0.00300	0.0126	V2	0.00150	0.00300	0.00208	V2, J	0.00150	0.00300	0.0297	V2	0.00150	0.00300
Copper	2.09	4.8	13.5	<1.00	B, B2, U	1.00	5.00	<1.00	B, B2, U	1.00	5.00	1.08	V, V2, J	1.00	5.00	<1.00	B, B2, U	1.00	5.00	<1.00	B, B2, U	1.00	5.00	<1.00	B, B2, U	1.00	5.00
Lead	1.16	210	133	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50
Mercury	<0.150	1.8	2.1	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200
Nickel	3.03	74	118	3.03	V2, J	0.250	5.00	1.78	V2, J	0.250	5.00	2.90	V2, J	0.250	5.00	0.849	V2, J	0.250	5.00	1.27	V2, J	0.250	5.00	0.895	V2, J	0.250	5.00
Selenium	<1.65	290	564	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0
Silver	<0.150	1.9	2	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50
Thallium	<0.150	x	x	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50
Zinc	6.59	90	92.7	4.89	V2, J	1.00	10.0	2.15	V2, J	1.00	10.0	5.24	V2, J	1.00	10.0	3.20	V2, J	1.00	10.0	1.76	V2, J	1.00	10.0	2.26	V2, J	1.00	10.0
Others																											
Monobutyltin	0.72	x	x	<0.029	U	0.029	0.050	0.13	--	0.029	0.050	<0.029	U	0.029	0.050	0.044	J	0.029	0.050	0.064	--	0.029	0.050	0.031	J	0.029	0.050
Dibutyltin	<0.0073	x	x	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050
Tributyltin	<0.012	0.42	0.24	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050
Analyte	Maximum Conc. mg/L	CMC mg/L	TWQS Acute mg/L	Result mg/L	Qualifier	MDL	LRL	Result mg/L	Qualifier	MDL	LRL	Result mg/L	Qualifier	MDL	LRL	Result mg/L	Qualifier	MDL	LRL	Result mg/L	Qualifier	MDL	LRL	Result mg/L	Qualifier	MDL	LRL
Ammonia (as nitrogen)	**7.62**	x	x	0.797	--	0.0200	0.0500	0.456	--	0.0200	0.0500	0.912	--	0.0200	0.0500	0.586	--	0.100	0.250	0.864	--	0.0200	0.0500	0.877	--	0.100	0.250
Carbon, Total Organic	9.9	x	x	9.9	--	0.35	1.00	5.2	--	0.35	1.00	4.9	--	0.35	1.00	4.0	--	0.35	1.00	4.6	--	0.35	1.00	4.6	--	0.35	1.00
Cyanide, Total	<0.0005	0.001	0.0056	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020
Residual-nonfilterable (TSS)	249	x	x	5.16	--	1.00	1.00	2.84	--	1.00	1.00	5.89	--	1.00	1.00	6.60	V2	1.00	1.00	3.04	--	1.00	1.00	5.64	--	1.00	1.00
Petroleum Hydrocarbons, Total	8.94	x	x	0.867	J	0.470	2.15	1.25	J	0.470	2.15	8.94	--	0.470	2.15	1.90	J	0.470	2.15	1.73	J	0.470	2.15	0.654	J	0.470	2.15
Analyte	Maximum Conc. ppt	CMC ppt	TWQS Acute ppt	Result ppt	Qualifier	MDL	LRL	Result ppt	Qualifier	MDL	LRL	Result ppt	Qualifier	MDL	LRL	Result ppt	Qualifier	MDL	LRL	Result ppt	Qualifier	MDL	LRL	Result ppt	Qualifier	MDL	LRL
Salinity	30.4	x	x																								

TABLE 8 (*continued*)
Analytical Results for Metals, Ammonia, Organotins, TOCs, Total Cyanide, TSSs, TPHs, and Salinity in Site Water and Elutriates

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)												DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)								Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-6-E				DMMU-7-4A-W				DMMU-7-4B-W				DMMU-7-E				DMMU-8-5B-W				DMMU-8-E				HI-REF-B-W				HI-ODMDS-B-W			
Analyte	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Metals																																
Antimony	1.07	V2, J	1.00	5.00	<1.00	U	1.00	5.00	<1.00	U	1.00	5.00	<1.00	B2, U	1.00	5.00	1.32	J	1.00	5.00	<1.00	U	1.00	5.00	<1.00	U	1.00	5.00	<1.00	U	1.00	5.00
Arsenic	0.943	J	0.500	2.50	1.89	J	0.500	2.50	1.66	J	0.500	2.50	9.28	--	0.500	2.50	1.60	J	0.500	2.50	2.88	--	0.500	2.50	1.21	J	0.500	2.50	1.56	J	0.500	2.50
Beryllium	<0.0500	B2, U	0.0500	1.00	<0.0500	U	0.0500	1.00	0.0560	J	0.0500	1.00	<0.0500	B2, U	0.0500	1.00	<0.0500	U	0.0500	1.00	<0.0500	B, B2, U	0.0500	1.00	<0.0500	U	0.0500	1.00	<0.0500	U	0.0500	1.00
Cadmium	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00	0.278	J	0.250	5.00	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00	<0.250	U	0.250	5.00	0.312	J	0.250	5.00	<0.250	U	0.250	5.00
Chromium	0.941	J	0.400	15.0	0.979	J	0.400	15.0	0.655	J	0.400	15.0	<0.400	U	0.400	15.0	1.03	J	0.400	15.0	<0.400	B2, U	0.400	15.0	0.448	J	0.400	15.0	<0.400	U	0.400	15.0
Chromium (III)	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0	<1.90	U	1.90	18.0
Chromium (VI)	0.0239	V2	0.00150	0.00300	18.8	--	1.50	3.00	7.48	--	1.50	3.00	0.0103	V2	0.00150	0.00300	58.4	--	1.50	3.00	0.00286	V2, J	0.00150	0.00300	7.62	--	1.50	3.00	9.69	--	1.50	3.00
Copper	<1.00	B, B2, U	1.00	5.00	2.09	V, J	1.00	5.00	1.40	V, J	1.00	5.00	<1.00	B, B2, U	1.00	5.00	1.73	V, J	1.00	5.00	1.12	V2, J	1.00	5.00	<1.00	B, U	1.00	5.00	<1.00	U	1.00	5.00
Lead	<0.500	U	0.500	2.50	1.16	J	0.500	2.50	0.722	J	0.500	2.50	<0.500	U	0.500	2.50	0.866	J	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50	<0.500	U	0.500	2.50
Mercury	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200	<0.150	U	0.150	0.200
Nickel	2.16	V2, J	0.250	5.00	1.03	J	0.250	5.00	0.858	J	0.250	5.00	2.41	V2, J	0.250	5.00	1.02	J	0.250	5.00	2.02	V2, J	0.250	5.00	0.302	J	0.250	5.00	<0.250	U	0.250	5.00
Selenium	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0	<1.65	U	1.65	10.0
Silver	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50
Thallium	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50	<0.150	U	0.150	2.50
Zinc	2.09	V2, J	1.00	10.0	4.16	J	1.00	10.0	3.74	J	1.00	10.0	2.12	V2, J	1.00	10.0	6.59	J	1.00	10.0	2.28	V2, J	1.00	10.0	<1.00	U	1.00	10.0	1.11	J	1.00	10.0
Others																																
Monobutyltin	<0.029	U	0.029	0.050	<0.029	U	0.029	0.050	0.13	--	0.029	0.050	<0.029	U	0.029	0.050	0.72	*	0.029	0.050	<0.029	U	0.029	0.050	0.049	JP,*	0.029	0.050	0.067	*	0.029	0.050
Dibutyltin	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U, *	0.0073	0.050	<0.0073	U	0.0073	0.050	<0.0073	U,*	0.0073	0.050	<0.0073	U,*	0.0073	0.050
Tributyltin	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U, *	0.012	0.050	<0.012	U	0.012	0.050	<0.012	U,*	0.012	0.050	<0.012	U,*	0.012	0.050
Analyte	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**	**Result mg/L**	**Qualifier**	**MDL**	**LRL**
Ammonia (as nitrogen)	0.133	--	0.0200	0.0500	0.618	--	0.0200	0.0500	0.615	--	0.0200	0.0500	**7.62**	--	0.400	1.00	0.617	--	0.0200	0.0500	0.698	--	0.100	0.250	0.520	--	0.0200	0.0500	0.621	--	0.0200	0.0500
Carbon, Total Organic	4.1	--	0.35	1.00	3.1	--	0.35	1.00	3.1	--	0.35	1.00	3.9	--	0.35	1.00	3.0	--	0.35	1.00	2.5	--	0.35	1.00	2.3	--	0.35	1.00	2.0	--	0.35	1.00
Cyanide, Total	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020	<0.0005	U	0.0005	0.020
Residual-nonfilterable (TSS)	1.68	--	1.00	1.00	249	--	1.00	1.00	133	--	1.00	1.00	2.32	--	1.00	1.00	124	--	1.00	1.00	6.59	V2	1.00	1.00	9.47	--	1.00	1.00	6.95	--	1.00	1.00
Petroleum Hydrocarbons, Total	0.649	J	0.470	2.15	0.660	J	0.479	2.15	0.976	J	0.479	2.15	1.58	J	0.470	2.15	<0.484	U	0.484	2.15	0.676	J	0.470	2.15	<0.489	U	0.489	2.15	1.78	J	0.489	2.15
Analyte	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**	**Result ppt**	**Qualifier**	**MDL**	**LRL**
Salinity					28.9	--	1.00	1.00	28.6	--	1.00	1.00					29.0	--	1.00	1.00					29.2	--	1.00	1.00	30.4	--	1.00	1.00

E = elutriate sample, W = site water sample

Bolded values meet or exceed the CMC and (or) Texas surface water quality (acute) standard.

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

Qualifiers: B = Analyte was found in the associated method blank. B2 = The analyte was detected in the associated leach blank. J = Estimated value - The reported value is between the detection limit and reporting limit. P = The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results. U = Indicates that the compound was analyzed for but not detected. V = Analyte was detected in both sample and method blank. V2 = The analyte was detected in the sample and the associated leach blank. * = The result is an outlier.

Sources: All results from NWDLS with the exception of the organotin, cyanide, and TOC results which came from ALS; CMC values from EPA (2015); Texas surface water quality (acute) standards from Texas Commission on Environmental Quality (2018).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 9
Analytical Results for Pesticides and Total PCBs in Site Water and Elutriates Generated from Sediment

			DMMU:	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)				DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)								DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)			
			Sample ID:	DMMU-1-E				DMMU-2-E				DMMU-3-E				DMMU- 3-E Duplicate				DMMU-4-E				DMMU-5-E			
Analyte	Maximum Conc. µg/L	CMC µg/L	TWQS Acute µg/L	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Aldrin	<0.00600	1.3	1.3	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Chlordane (technical)	<0.00600	0.09	0.09	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
α (cis)-Chlordane	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
γ (trans)-Chlordane	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDD	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDE	0.0079	x	x	0.00790	--	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDT	<0.00600	0.13	0.13	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Dieldrin	<0.00600	0.71	0.71	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan I	<0.00600	0.034	0.034	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan II	<0.00600	0.034	0.034	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan Sulfate	<0.00600	x	0.034	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin	<0.00600	0.037	0.037	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin Aldehyde	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin Ketone	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Heptachlor	<0.00600	0.053	0.053	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Heptachlor Epoxide	<0.00600	0.053	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
α-BHC	<0.00600	x	x	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00599	C+, U	0.00599	0.00599	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600
β-BHC	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
δ-BHC	<0.00600	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	B2, U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
γ-BHC (Lindane)	<0.00600	0.16	0.16	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Methoxychlor	0.0101	x	x	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	0.0101	P	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Toxaphene	**<0.300**	0.21	0.21	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300
PCBs, Total	<0.00600	x	10	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00599	U	0.00599	0.120	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120

TABLE 9 (*continued*)
Analytical Results for Pesticides and Total PCBs in Site Water and Elutriates Generated from Sediment

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)												DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)								Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-6-E				DMMU-7-4A-W				DMMU-7-4B-W				DMMU-7-E				DMMU-8-5B-W				DMMU-8-E				HI-REF-B-W				HI-ODMDS-B-W			
Analyte	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Aldrin	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Chlordane (technical)	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
α (cis)-Chlordane	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
γ (trans)-Chlordane	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDD	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDE	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
p,p' (4,4')-DDT	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Dieldrin	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan I	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan II	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endosulfan Sulfate	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin Aldehyde	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Endrin Ketone	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Heptachlor	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Heptachlor Epoxide	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
α-BHC	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600	<0.00599	C+, U	0.00599	0.00599	<0.00600	C+, U	0.00600	0.00600	<0.00600	C+, U	0.00600	0.00600
β-BHC	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
δ-BHC	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	B2, U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
γ-BHC (Lindane)	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Methoxychlor	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600	<0.00599	U	0.00599	0.00599	<0.00600	U	0.00600	0.00600	<0.00600	U	0.00600	0.00600
Toxaphene	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300	**<0.300**	U	0.300	0.300
PCBs, Total	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120	<0.00597	U	0.00597	0.119	<0.00600	U	0.00600	0.120	<0.00600	U	0.00600	0.120

E = elutriate sample, W = site water sample

Bolded values meet or exceed the CMC and (or) Texas surface water quality (acute) standard.

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

Qualifier definitions: B2 = Analyte was detected in the associated leach blank. C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.
P = Difference between GC column results greater than the method requirement. Higher result reported. U = Indicates that the compound was analyzed for but not detected.

Sources: Results from NWDLS; CMC values from EPA (2015); Texas surface water quality (acute) standards from Texas Commission on Environmental Quality (2018).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 10
Analytical Results for PAHs in Site Water and Elutriates Generated from Sediment

	DMMU:			DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)				DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)								DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)			
	Sample ID:			DMMU-1-E				DMMU-2-E				DMMU-3-E				DMMU- 3-E Duplicate				DMMU-4-E				DMMU-5-E			
Analyte	Maximum Conc. µg/L	CMC µg/L	TWQS Acute µg/L	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Acenaphthene[LPAH]	1.29	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	1.29	--	0.281	0.562	0.744	--	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Acenaphthylene[LPAH]	0.579	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	0.579	--	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Anthracene[LPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Benzo(a)anthracene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Benzo(a)pyrene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Benzo(b&k)fluoranthene[HPAH]	<0.562	x	x	<0.562	U	0.562	1.12	<0.562	U	0.562	1.12	<0.562	U	0.562	1.12	<0.559	U	0.559	1.12	<0.562	U	0.562	1.12	<0.562	U	0.562	1.12
Benzo(g,h,i)perylene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Chrysene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Dibenzo(a,h)anthracene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Fluoranthene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Fluorene[LPAH]	3.55	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	3.55	--	0.281	0.562	2.06	--	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Indeno(1,2,3-cd)pyrene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Naphthalene[LPAH]	0.328	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Phenanthrene[LPAH]	1.08	x	7.7	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	1.08	--	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Pyrene[HPAH]	<0.281	x	x	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Total LPAHs	7.06	x	x	1.69				1.69				7.06				3.92				1.69				1.69			
Total HPAHs	2.81	x	x	2.81				2.81				2.81				2.79				2.81				2.81			
Total PAHs	9.87	x	x	4.50				4.50				9.87				6.71				4.50				4.50			

TABLE 10 (*continued*)
Analytical Results for PAHs in Site Water and Elutriates Generated from Sediment

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)												DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)								Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-6-E				DMMU-7-4A-W				DMMU-7-4B-W				DMMU-7-E				DMMU-8-5B-W				DMMU-8-E				HI-REF-B-W				HI-ODMDS-B-W			
Analyte	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
Acenaphthene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Acenaphthylene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Anthracene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Benzo(a)anthracene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Benzo(a)pyrene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Benzo(b&k)fluoranthene[HPAH]	<0.562	U	0.562	1.12	<0.278	U	0.278	1.11	<0.280	U	0.280	1.12	<0.562	U	0.562	1.12	<0.279	U	0.279	1.12	<0.561	U	0.561	1.12	<0.279	U	0.279	1.12	<0.277	U	0.277	1.11
Benzo(g,h,i)perylene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Chrysene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Dibenzo(a,h)anthracene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Fluoranthene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Fluorene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Indeno(1,2,3-cd)pyrene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Naphthalene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	0.328	J	0.281	0.562	<0.279	U	0.279	0.559	0.299	J	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Phenanthrene[LPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Pyrene[HPAH]	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Total LPAHs	1.69				1.67				1.68				1.73				1.67				1.70				1.67				1.66			
Total HPAHs	2.81				2.50				2.52				2.81				2.51				2.80				2.51				2.49			
Total PAHs	4.50				4.17				4.20				4.54				4.19				4.50				4.19				4.16			

E = elutriate sample, W = site water sample

LPAH = Low molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

HPAH = High molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL. For calculating total PAHs, U-qualified results use the MDL and J-qualified results use the value reported by the laboratory.

Qualifier definitions: J = Estimated value - the reported value is between the detection limit and reporting limit. U = Indicates that the compound was analyzed for but not detected.

Sources: Results from NWDLS; CMC values from EPA (2015); Texas surface water quality (acute) standards from Texas Commission on Environmental Quality (2018).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 11
Analytical Results for SVOCs in Site Water and Elutriates Generated from Sediment

Analyte	Maximum Conc. µg/L	CMC µg/L	TWQS Acute µg/L	DMMU:	DMMU-1 0 to -30 ft. MLLW (Surficial Terrestrial)				DMMU-2 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-3 0 to -30 ft. MLLW (Surficial Terrestrial)								DMMU-4 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-5 0 to -30 ft. MLLW (Surficial Terrestrial)			
				Sample ID:	DMMU-1-E				DMMU-2-E				DMMU-3-E				DMMU- 3-E Duplicate				DMMU-4-E				DMMU-5-E			
					Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
1,2-Dichlorobenzene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
1,2-Diphenylhydrazine	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
1,3-Dichlorobenzene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
1,4-Dichlorobenzene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
2,4,6-Trichlorophenol	<1.12	x	x		<1.12	U	1.12	2.25	<1.12	U	1.12	2.25	<1.12	U	1.12	2.25	<1.11	U	1.11	2.24	<1.12	U	1.12	2.25	<1.12	U	1.12	2.25
2,4-Dichlorophenol	<0.560	x	x		<0.560	U	0.560	0.562	<0.560	U	0.560	0.562	<0.560	U	0.560	0.562	<0.557	U	0.557	0.559	<0.560	U	0.560	0.562	<0.560	U	0.560	0.562
2,4-Dimethylphenol	<0.560	x	x		<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.557	U	0.557	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12
2,4-Dinitrophenol	<4.50	x	x		<4.50	U	4.50	4.50	<4.50	U	4.50	4.50	<4.50	U	4.50	4.50	<4.47	U	4.47	4.47	<4.50	U	4.50	4.50	<4.50	U	4.50	4.50
2,4-Dinitrotoluene (2,4-DNT)	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
2,6-Dinitrotoluene (2,6-DNT)	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
2-Chloronaphthalene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
2-Chlorophenol	<0.560	x	x		<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.557	U	0.557	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12
2-Nitrophenol	<0.560	x	x		<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.557	U	0.557	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12
3,3'-Dichlorobenzidine	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
4,6-Dinitro-o-Cresol	<0.560	x	x		<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.557	U	0.557	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12
4-Bromophenyl phenyl ether (BDE-3)	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
4-Chlorophenyl phenyl ether	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
4-Nitrophenol	<4.50	x	x		<4.50	U	4.50	4.50	<4.50	U	4.50	4.50	<4.50	U	4.50	4.50	<4.47	U	4.47	4.47	<4.50	U	4.50	4.50	<4.50	U	4.50	4.50
Benzidine	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Bis(2-Chloroethoxy) methane	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Bis(2-Chloroethyl) ether	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Bis(2-chloroisopropyl) ether	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Bis(2-ethylhexyl) phthalate	0.365	x	x		0.365	J	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Butyl benzyl phthalate	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Diethyl phthalate	1.15	x	x		0.824	V, V2	0.281	0.562	0.837	V, V2	0.281	0.562	0.898	V, V2	0.281	0.562	1.08	V, V2	0.279	0.559	0.834	V, V2	0.281	0.562	0.787	V, V2	0.281	0.562
Dimethyl phthalate	<0.281	x	x		<0.281	B, B2, U	0.281	0.562	<0.281	B, B2, U	0.281	0.562	<0.281	B, B2, U	0.281	0.562	<0.279	B, B2, U	0.279	0.559	<0.281	B, B2, U	0.281	0.562	<0.281	B, B2, U	0.281	0.562
Di-n-butyl phthalate	9.59	x	x		4.21	V, V2	0.281	0.562	3.34	V, V2	0.281	0.562	7.87	V, V2	0.281	0.562	1.68	V, V2	0.279	0.559	4.89	V, V2	0.281	0.562	9.59	V, V2	0.281	0.562
Di-n-octyl phthalate	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Hexachlorobenzene	<0.281	x	x		<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562	<0.279	C+, U	0.279	0.559	<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562
Hexachlorobutadiene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Hexachlorocyclopentadiene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Hexachloroethane	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Isophorone	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
Nitrobenzene	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
N-Nitrosodimethylamine	<0.281	x	x		<0.281	U	0.281	2.25	<0.281	U	0.281	2.25	<0.281	U	0.281	2.25	<0.279	U	0.279	2.24	<0.281	U	0.281	2.25	<0.281	U	0.281	2.25
N-Nitrosodi-n-propylamine	<0.281	x	x		<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.281	U	0.281	0.562	<0.281	U	0.281	0.562
N-Nitrosodiphenylamine	<0.281	x	x		<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562	<0.279	C+, U	0.279	0.559	<0.281	C+, U	0.281	0.562	<0.281	C+, U	0.281	0.562
P-Chloro-m-Cresol	<0.560	x	x		<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12	<0.557	U	0.557	1.12	<0.560	U	0.560	1.12	<0.560	U	0.560	1.12
Pentachlorophenol	<0.560	13	15.1		<0.560	C+, U	0.560	1.12	<0.560	C+, U	0.560	1.12	<0.560	C+, U	0.560	1.12	<0.557	C+, U	0.557	1.12	<0.560	C+, U	0.560	1.12	<0.560	C+, U	0.560	1.12
Phenol, Total	1.07	x	x		<0.560	B2, U	0.560	1.12	<0.560	B2, U	0.560	1.12	<0.560	B2, U	0.560	1.12	1.01	V2, J	0.557	1.12	<0.560	B2, U	0.560	1.12	<0.560	B2, U	0.560	1.12

TABLE 11 (*continued*)
Analytical Results for SVOCs in Water and Elutriates Generated from Sediment

DMMU:	DMMU-6 -30 to -60 ft. MLLW (Subsurface Terrestrial)				DMMU-7 Existing Depth to -60 ft. MLLW (Shallow Marine Area)												DMMU-8 Existing Depth to -60 ft. MLLW (Marine Area)								Reference (Reference Area)				ODMDS (Corpus Christi New Work ODMDS)			
Sample ID:	DMMU-6-E				DMMU-7-4A-W				DMMU-7-4B-W				DMMU-7-E				DMMU-8-5B-W				DMMU-8-E				HI-REF-B-W				HI-ODMDS-B-W			
Analyte	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL	Result µg/L	Qualifier	MDL	LRL
1,2,4-Trichlorobenzene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
1,2-Dichlorobenzene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
1,2-Diphenylhydrazine	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
1,3-Dichlorobenzene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
1,4-Dichlorobenzene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
2,4,6-Trichlorophenol	<1.12	U	1.12	2.25	<1.11	U	1.11	2.23	<1.12	U	1.12	2.24	<1.12	U	1.12	2.25	<1.11	U	1.11	2.23	<1.12	U	1.12	2.24	<1.11	U	1.11	2.23	<1.10	U	1.10	2.22
2,4-Dichlorophenol	<0.560	U	0.560	0.562	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	U	0.560	0.562	<0.556	U	0.556	1.12	<0.559	U	0.559	0.561	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
2,4-Dimethylphenol	<0.560	U	0.560	1.12	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	U	0.560	1.12	<0.556	U	0.556	1.12	<0.559	U	0.559	1.12	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
2,4-Dinitrophenol	<4.50	U	4.50	4.50	<4.46	C+, U	4.46	4.46	<4.49	C+, U	4.49	4.49	<4.50	U	4.50	4.50	<4.47	C+, U	4.47	4.47	<4.49	U	4.49	4.49	<4.47	C+, U	4.47	4.47	<4.44	C+, U	4.44	4.44
2,4-Dinitrotoluene (2,4-DNT)	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
2,6-Dinitrotoluene (2,6-DNT)	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
2-Chloronaphthalene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
2-Chlorophenol	<0.560	U	0.560	1.12	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	U	0.560	1.12	<0.556	U	0.556	1.12	<0.559	U	0.559	1.12	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
2-Nitrophenol	<0.560	U	0.560	1.12	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	U	0.560	1.12	<0.556	U	0.556	1.12	<0.559	U	0.559	1.12	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
3,3'-Dichlorobenzidine	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
4,6-Dinitro-o-Cresol	<0.560	U	0.560	1.12	<0.555	C+, U	0.555	1.11	<0.559	C+, U	0.559	1.12	<0.560	U	0.560	1.12	<0.556	C+, U	0.556	1.12	<0.559	U	0.559	1.12	<0.556	C+, U	0.556	1.12	<0.552	C+, U	0.552	1.11
4-Bromophenyl phenyl ether (BDE-3)	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
4-Chlorophenyl phenyl ether	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
4-Nitrophenol	<4.50	U	4.50	4.50	<4.46	U	4.46	4.46	<4.49	U	4.49	4.49	<4.50	U	4.50	4.50	<4.47	U	4.47	4.47	<4.49	U	4.49	4.49	<4.47	U	4.47	4.47	<4.44	U	4.44	4.44
Benzidine	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Bis(2-Chloroethoxy) methane	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Bis(2-Chloroethyl) ether	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Bis(2-chloroisopropyl) ether	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Bis(2-ethylhexyl) phthalate	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	0.290	J	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Butyl benzyl phthalate	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Diethyl phthalate	0.686	V, V2	0.281	0.562	0.522	V, J	0.278	0.557	0.611	V	0.280	0.561	0.939	V, V2	0.281	0.562	0.476	V, J	0.279	0.559	1.15	V, V2	0.280	0.561	0.685	V	0.279	0.559	0.770	V	0.277	0.554
Dimethyl phthalate	<0.281	B, B2, U	0.281	0.562	<0.278	B, U	0.278	0.557	<0.280	B, U	0.280	0.561	<0.281	B, B2, U	0.281	0.562	<0.279	B, U	0.279	0.559	<0.280	B, B2, U	0.280	0.561	<0.279	B, U	0.279	0.559	<0.277	B, U	0.277	0.554
Di-n-butyl phthalate	4.03	V, V2	0.281	0.562	1.19	V	0.278	0.557	1.88	V	0.280	0.561	3.82	V, V2	0.281	0.562	1.67	V	0.279	0.559	1.56	V, V2	0.280	0.561	0.865	V	0.279	0.559	1.12	V	0.277	0.554
Di-n-octyl phthalate	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Hexachlorobenzene	<0.281	C+, U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	C+, U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	C+, U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Hexachlorobutadiene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Hexachlorocyclopentadiene	<0.281	U	0.281	0.562	<0.278	C+, U	0.278	0.557	<0.280	C+, U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	C+, U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	C+, U	0.279	0.559	<0.277	C+, U	0.277	0.554
Hexachloroethane	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Isophorone	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
Nitrobenzene	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
N-Nitrosodimethylamine	<0.281	U	0.281	2.25	<0.278	U	0.278	2.23	<0.280	U	0.280	2.24	<0.281	U	0.281	2.25	<0.279	U	0.279	2.23	<0.280	U	0.280	2.24	<0.279	U	0.279	2.23	<0.277	U	0.277	2.22
N-Nitrosodi-n-propylamine	<0.281	U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
N-Nitrosodiphenylamine	<0.281	C+, U	0.281	0.562	<0.278	U	0.278	0.557	<0.280	U	0.280	0.561	<0.281	C+, U	0.281	0.562	<0.279	U	0.279	0.559	<0.280	C+, U	0.280	0.561	<0.279	U	0.279	0.559	<0.277	U	0.277	0.554
P-Chloro-m-Cresol	<0.560	U	0.560	1.12	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	U	0.560	1.12	<0.556	U	0.556	1.12	<0.559	U	0.559	1.12	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
Pentachlorophenol	<0.560	C+, U	0.560	1.12	<0.555	U	0.555	1.11	<0.559	U	0.559	1.12	<0.560	C+, U	0.560	1.12	<0.556	U	0.556	1.12	<0.559	C+, U	0.559	1.12	<0.556	U	0.556	1.12	<0.552	U	0.552	1.11
Phenol, Total	0.669	V2, J	0.560	1.12	0.803	J	0.555	1.11	1.07	J	0.559	1.12	0.610	V2, J	0.560	1.12	0.971	J	0.556	1.12	0.779	V2, J	0.559	1.12	0.766	J	0.556	1.12	0.872	J	0.552	1.11

E = elutriate sample, W = site water sample

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL.

Qualifiers: B = Analyte was found in the associated method blank. B2 = The analyte was detected in the associated leach blank. C+ = The associated qualibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report. J = Estimated value - The reported value is between the detection limit and reporting limit. U = Indicates that the compound was analyzed for but not detected. V = Analyte was detected in both sample and method blank. V2 = Analyte was detected in the sample and the associated leach blank.

Sources: Results from NWDLS; CMC values from EPA (2015); Texas surface water quality (acute) standards from Texas Commission on Environmental Quality (2018).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 12

Analytical Results for Wet Weight Total Solids in *Mercenaria mercenaria* and *Alitta virens* Tissues

Analyte:	*Mercenaria mercenaria* Total Solids				*Alitta virens* Total Solids			
Sample-Replicate #	Result %	Qualifier	MDL	LRL	Result %	Qualifier	MDL	LRL
DMMU-1 Rep. 1	13.6	V	0.100	0.100	11.0	V	0.100	0.100
DMMU-1 Rep. 2	13.9	V	0.100	0.100	11.0	V	0.100	0.100
DMMU-1 Rep. 3	14.2	V	0.100	0.100	10.7	V	0.100	0.100
DMMU-1 Rep. 4	14.8	V	0.100	0.100	11.2	V	0.100	0.100
DMMU-1 Rep. 5	15.6	V	0.100	0.100	9.95	V	0.100	0.100
DMMU-2 Rep. 1	13.9	V	0.100	0.100	10.5	V	0.100	0.100
DMMU-2 Rep. 2	13.9	V	0.100	0.100	11.0	V	0.100	0.100
DMMU-2 Rep. 3	14.6	V	0.100	0.100	10.4	V	0.100	0.100
DMMU-2 Rep. 4	14.2	V	0.100	0.100	11.2	V	0.100	0.100
DMMU-2 Rep. 5	14.5	V	0.100	0.100	10.7	V	0.100	0.100
DMMU-3 Rep. 1	12.1	V	0.100	0.100	11.1	V	0.100	0.100
DMMU-3 Rep. 2	14.3	V	0.100	0.100	11.6	V	0.100	0.100
DMMU-3 Rep. 3	13.8	V	0.100	0.100	10.8	V	0.100	0.100
DMMU-3 Rep. 4	14.4	V	0.100	0.100	10.4	V	0.100	0.100
DMMU-3 Rep. 5	14.6	V	0.100	0.100	11.0	V	0.100	0.100
DMMU-4 Rep. 1	15.0	V	0.100	0.100	9.65	V	0.100	0.100
DMMU-4 Rep. 2	12.4	V	0.100	0.100	9.81	V	0.100	0.100
DMMU-4 Rep. 3	14.3	V	0.100	0.100	10.1	V	0.100	0.100
DMMU-4 Rep. 4	14.4	V	0.100	0.100	10.2	V	0.100	0.100
DMMU-4 Rep. 5	12.9	V	0.100	0.100	10.1	V	0.100	0.100
DMMU-5 Rep. 1	13.8	V	0.100	0.100	11.3	V	0.100	0.100
DMMU-5 Rep. 2	13.5	V	0.100	0.100	10.3	V	0.100	0.100
DMMU-5 Rep. 3	14.3	V	0.100	0.100	11.7	V	0.100	0.100
DMMU-5 Rep. 4	14.5	V	0.100	0.100	12.5	V	0.100	0.100
DMMU-5 Rep. 5	13.2	V	0.100	0.100	11.1	V	0.100	0.100
DMMU-6 Rep. 1	11.2	V	0.100	0.100	11.7	V	0.100	0.100
DMMU-6 Rep. 2	14.8	V	0.100	0.100	11.2	V	0.100	0.100
DMMU-6 Rep. 3	13.9	V	0.100	0.100	10.4	V	0.100	0.100
DMMU-6 Rep. 4	13.9	V	0.100	0.100	10.8	V	0.100	0.100
DMMU-6 Rep. 5	14.0	V	0.100	0.100	10.7	V	0.100	0.100
DMMU-7 Rep. 1	13.7	V	0.100	0.100	9.43	V	0.100	0.100
DMMU-7 Rep. 2	11.1	V	0.100	0.100	11.1	V	0.100	0.100
DMMU-7 Rep. 3	11.9	V	0.100	0.100	11.2	V	0.100	0.100
DMMU-7 Rep. 4	12.4	V	0.100	0.100	10.3	V	0.100	0.100
DMMU-7 Rep. 5	13.1	V	0.100	0.100	10.3	V	0.100	0.100
DMMU-8 Rep. 1	13.1	V	0.100	0.100	11.1	V	0.100	0.100
DMMU-8 Rep. 2	13.5	V	0.100	0.100	12.3	V	0.100	0.100
DMMU-8 Rep. 3	13.0	V	0.100	0.100	10.2	V	0.100	0.100
DMMU-8 Rep. 4	11.3	V	0.100	0.100	10.2	V	0.100	0.100
DMMU-8 Rep. 5	12.8	V	0.100	0.100	9.83	V	0.100	0.100
REF Rep. 1	11.2	H, V	0.100	0.100	14.5	H, V	0.100	0.100
REF Rep. 2	10.8	H, V	0.100	0.100	14.0	H, V	0.100	0.100
REF Rep. 3	10.5	H, V	0.100	0.100	12.8	H, V	0.100	0.100
REF Rep. 4	10.4	H, V	0.100	0.100	10.7	H, V	0.100	0.100
REF Rep. 5	10.7	H, V	0.100	0.100	15.0	H, V	0.100	0.100
Pre-exposure Rep. 1	10.8	H, V	0.100	0.100	12.7	H, V	0.100	0.100
Pre-exposure Rep. 2	12.4	H, V	0.100	0.100	13.2	H, V	0.100	0.100
Pre-exposure Rep. 3	11.4	H, V	0.100	0.100	13.9	H, V	0.100	0.100

H = The parameter was analyzed outside the method specified holding time. V = Analyte was detected in both sample and method blank.
Note: For H-qualified data, since samples were frozen tissues, standard holding time does not apply.
Source: Results from NWDLS
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 13

Analytical Results for Wet Weight Metals and TPHs in *Mercenaria mercenaria* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper				Lead			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	0.00236	J	0.00161	0.0200	2.40	--	0.0123	0.0500	0.000300	J	0.000200	0.00400	0.0304	--	0.000632	0.0200	0.0451	V, J	0.00147	0.0600	1.15	V	0.00174	0.0200	0.0762	--	0.00151	0.0100
DMMU-1 Rep. 2	0.00254	J	0.00161	0.0200	2.56	--	0.0123	0.0500	0.000540	J	0.000200	0.00400	0.0352	--	0.000632	0.0200	0.0686	V	0.00147	0.0600	1.45	V	0.00174	0.0200	0.0761	--	0.00151	0.0100
DMMU-1 Rep. 3	0.00309	J	0.00162	0.0201	2.67	--	0.0123	0.0502	0.000823	J	0.000201	0.00402	0.0360	--	0.000635	0.0201	0.0772	V	0.00148	0.0602	1.36	V	0.00175	0.0201	0.0943	--	0.00152	0.0100
DMMU-1 Rep. 4	<0.00523	U	0.00523	0.0649	3.16	--	0.00799	0.0325	0.00104	J	0.000649	0.0130	0.0412	J	0.00205	0.0649	0.101	V, J	0.00477	0.195	1.47	V	0.00565	0.0649	0.105	--	0.00490	0.0325
DMMU-1 Rep. 5	0.00280	J	0.00161	0.0200	2.19	--	0.0123	0.0500	0.00206	J	0.000200	0.00400	0.0332	--	0.000632	0.0200	0.280	V	0.00147	0.0600	1.24	V	0.00174	0.0200	0.120	--	0.00151	0.0100
DMMU-1 Mean	**0.00320**				**2.60**				0.00095				0.0352				0.114				1.33				**0.094**			
% of Reference	**199**				**215**				71				76				359				112				**246**			
DMMU-2 Rep. 1	0.00229	J	0.00162	0.0201	2.36	--	0.0123	0.0502	0.000582	J	0.000201	0.00402	0.0370	--	0.000635	0.0201	0.0841	V	0.00148	0.0602	1.37	V	0.00175	0.0201	0.0986	--	0.00152	0.0100
DMMU-2 Rep. 2	0.00239	J	0.00160	0.0199	2.53	--	0.0123	0.0498	0.000598	J	0.000199	0.00398	0.0397	--	0.000629	0.0199	0.126	V	0.00146	0.0598	1.32	V	0.00173	0.0199	0.105	--	0.00150	0.00996
DMMU-2 Rep. 3	0.00228	J	0.00161	0.0200	2.42	--	0.0123	0.0500	0.000880	J	0.000200	0.00400	0.0374	--	0.000632	0.0200	0.208	V	0.00147	0.0600	1.20	V	0.00174	0.0200	0.0980	--	0.00151	0.0100
DMMU-2 Rep. 4	0.00251	J	0.00162	0.0201	2.19	--	0.0123	0.0502	0.000562	J	0.000201	0.00402	0.0389	--	0.000635	0.0201	0.199	V	0.00148	0.0602	1.09	V	0.00175	0.0201	0.0951	--	0.00152	0.0100
DMMU-2 Rep. 5	0.00250	J	0.00161	0.0200	2.18	--	0.0123	0.0500	0.00148	J	0.000200	0.00400	0.0378	--	0.000632	0.0200	0.110	V	0.00147	0.0600	1.13	V	0.00174	0.0200	0.122	--	0.00151	0.0100
DMMU-2 Mean	**0.00239**				**2.34**				0.00082				0.0382				**0.145**				1.22				***0.104***			
% of Reference	**149**				**194**				61				82				**457**				102				**270**			
DMMU-3 Rep. 1	0.00250	J	0.00161	0.0200	1.79	--	0.0123	0.0500	0.000640	J	0.000200	0.00400	0.0286	--	0.000632	0.0200	0.0564	V, J	0.00147	0.0600	0.904	V	0.00174	0.0200	0.0917	--	0.00151	0.0100
DMMU-3 Rep. 2	0.00256	J	0.00160	0.0198	2.18	--	0.0122	0.0496	0.000496	J	0.000198	0.00397	0.0320	--	0.000627	0.0198	0.0931	V	0.00146	0.0595	1.16	V	0.00173	0.0198	0.107	--	0.00150	0.00992
DMMU-3 Rep. 3	0.00232	J	0.00162	0.0202	2.00	--	0.0124	0.0504	0.000484	J	0.000202	0.00403	0.0269	--	0.000637	0.0202	0.0949	V	0.00148	0.0605	1.10	V	0.00175	0.0202	0.0941	--	0.00152	0.0101
DMMU-3 Rep. 4	0.00266	J	0.00160	0.0198	2.17	--	0.0122	0.0496	0.000615	J	0.000198	0.00397	0.0291	--	0.000627	0.0198	0.113	V	0.00146	0.0595	1.06	V	0.00173	0.0198	0.101	--	0.00150	0.00992
DMMU-3 Rep. 5	0.00230	J	0.00161	0.0200	2.18	--	0.0123	0.0500	0.000380	J	0.000200	0.00400	0.0301	--	0.000632	0.0200	0.0844	V	0.00147	0.0600	1.17	V	0.00174	0.0200	0.0885	--	0.00151	0.0100
DMMU-3 Mean	**0.00247**				**2.06**				0.00052				0.0293				**0.088**				1.08				**0.096**			
% of Reference	**153**				**171**				39				63				**278**				90				**251**			
DMMU-4 Rep. 1	0.00254	J	0.00161	0.0200	2.38	--	0.0123	0.0500	0.000600	J	0.000200	0.00400	0.0392	--	0.000632	0.0200	0.0504	V, J	0.00147	0.0600	1.10	V	0.00174	0.0200	0.0894	--	0.00151	0.0100
DMMU-4 Rep. 2	0.00186	J	0.00161	0.0200	2.10	--	0.0123	0.0500	0.000220	J	0.000200	0.00400	0.0283	--	0.000632	0.0200	0.0410	V, J	0.00147	0.0600	0.984	V	0.00174	0.0200	0.0756	--	0.00151	0.0100
DMMU-4 Rep. 3	0.00203	J	0.00160	0.0199	1.79	--	0.0123	0.0498	0.000996	J	0.000199	0.00398	0.0295	--	0.000629	0.0199	0.158	V	0.00146	0.0598	0.806	V	0.00173	0.0199	0.0774	--	0.00150	0.00996
DMMU-4 Rep. 4	0.00240	J	0.00161	0.0200	2.16	--	0.0123	0.0500	0.00128	J	0.000200	0.00400	0.0321	--	0.000632	0.0200	0.186	V	0.00147	0.0600	0.944	V	0.00174	0.0200	0.106	--	0.00151	0.0100
DMMU-4 Rep. 5	0.00284	J	0.00161	0.0200	2.10	--	0.0123	0.0500	0.000940	J	0.000200	0.00400	0.0334	--	0.000632	0.0200	0.357	V	0.00147	0.0600	1.95	V	0.00174	0.0200	0.139	--	0.00151	0.0100
DMMU-4 Mean	0.00233				**2.11**				0.00081				0.0325				**0.158**				1.16				**0.097**			
% of Reference	145				**175**				60				70				**498**				97				**254**			
DMMU-5 Rep. 1	0.00388	J	0.00161	0.0200	2.08	--	0.0246	0.100	0.00114	J	0.000200	0.00400	0.0286	--	0.000632	0.0200	0.244	V	0.00147	0.0600	2.51	V	0.00174	0.0200	0.163	--	0.00151	0.0100
DMMU-5 Rep. 2	0.00270	J	0.00160	0.0198	2.28	--	0.0122	0.0496	0.000377	J	0.000198	0.00397	0.0314	--	0.000627	0.0198	0.0915	V	0.00146	0.0595	1.31	V	0.00173	0.0198	0.0880	--	0.00150	0.00992
DMMU-5 Rep. 3	0.00361	J	0.00160	0.0198	1.88	--	0.0122	0.0496	0.00143	J	0.000198	0.00397	0.0286	--	0.000627	0.0198	0.357	V	0.00146	0.0595	2.28	V	0.00173	0.0198	0.151	--	0.00150	0.00992
DMMU-5 Rep. 4	0.00412	J	0.00162	0.0201	1.87	--	0.0123	0.0502	0.00165	J	0.000201	0.00402	0.0266	--	0.000635	0.0201	0.670	V	0.00148	0.0602	2.57	V	0.00175	0.0201	0.166	--	0.00152	0.0100
DMMU-5 Rep. 5	0.00432	J	0.00161	0.0200	1.84	--	0.00246	0.0100	0.00152	J	0.000200	0.00400	0.0232	--	0.000632	0.0200	0.465	V	0.00147	0.0600	3.25	V	0.00174	0.0200	0.157	--	0.00151	0.0100
DMMU-5 Mean	**0.00373**				**1.99**				0.00122				0.0277				**0.366**				***2.38***				***0.145***			
% of Reference	**232**				**165**				91				60				**1149**				**200**				**378**			
DMMU-6 Rep. 1	0.00230	J	0.00160	0.0198	2.11	--	0.0122	0.0496	0.000675	J	0.000198	0.00397	0.0325	--	0.000627	0.0198	0.118	V	0.00146	0.0595	1.09	V	0.00173	0.0198	0.0820	--	0.00150	0.00992
DMMU-6 Rep. 2	0.00232	J	0.00161	0.0200	1.85	--	0.0123	0.0500	0.00164	J	0.000200	0.00400	0.0294	--	0.000632	0.0200	0.382	V	0.00147	0.0600	1.05	V	0.00174	0.0200	0.0901	--	0.00151	0.0100
DMMU-6 Rep. 3	<0.00802	U	0.00802	0.0996	2.08	--	0.0123	0.0498	<0.000996	U	0.000996	0.0199	0.0303	J	0.00315	0.0996	0.128	V, J	0.00732	0.299	1.09	V	0.00867	0.0996	0.0825	--	0.00752	0.0498
DMMU-6 Rep. 4	0.00217	J	0.00160	0.0199	1.84	--	0.0123	0.0498	0.000757	J	0.000199	0.00398	0.0294	--	0.000629	0.0199	0.205	V	0.00146	0.0598	0.967	V	0.00173	0.0199	0.0889	--	0.00150	0.00996
DMMU-6 Rep. 5	0.00222	J	0.00161	0.0200	1.82	--	0.0123	0.0500	0.00118	J	0.000200	0.00400	0.0302	--	0.000632	0.0200	0.251	V	0.00147	0.0600	1.02	V	0.00174	0.0200	0.0886	--	0.00151	0.0100
DMMU-6 Mean	**0.00341**				**1.94**				0.00105				0.0304				**0.217**				1.04				**0.0864**			
% of Reference	**212**				**161**				78				65				**681**				87				**225**			
DMMU-7 Rep. 1	0.00217	J	0.00160	0.0199	1.85	--	0.0123	0.0498	0.000518	J	0.000199	0.00398	0.0298	--	0.000629	0.0199	0.0479	V, J	0.00146	0.0598	1.07	V	0.00173	0.0199	0.0961	--	0.00150	0.00996
DMMU-7 Rep. 2	0.00200	J	0.00159	0.0198	1.64	--	0.0122	0.0494	0.000375	J	0.000198	0.00395	0.0254	--	0.000625	0.0198	0.0410	V, J	0.00145	0.0593	1.01	V	0.00172	0.0198	0.0979	--	0.00149	0.00988
DMMU-7 Rep. 3	0.00178	J	0.00161	0.0200	1.95	--	0.00246	0.0100	0.000300	J	0.000200	0.00400	0.0273	--	0.000632	0.0200	0.0441	V, J	0.00147	0.0600	1.11	V	0.00174	0.0200	0.0849	--	0.00151	0.0100
DMMU-7 Rep. 4	0.00209	J	0.00162	0.0201	1.92	--	0.00247	0.0100	0.000643	J	0.000201	0.00402	0.0260	--	0.000635	0.0201	0.0571	V, J	0.00148	0.0602	0.985	V	0.00175	0.0201	0.0886	--	0.00152	0.0100
DMMU-7 Rep. 5	0.00176	J	0.00161	0.0200	1.97	--	0.00246	0.0100	0.000840	J	0.000200	0.00400	0.0293	--	0.000632	0.0200	0.0877	V	0.00147	0.0600	1.14	V	0.00174	0.0200	0.100	--	0.00151	0.0100
DMMU-7 Mean	0.00196				**1.87**				0.00054				0.0276				0.0556				1.06				**0.094**			
% of Reference	122				**155**				40				59				175				89				**244**			
DMMU-8 Rep. 1	0.00237	J	0.00158	0.0196	2.03	--	0.0121	0.0490	0.000725	J	0.000196	0.00392	0.0243	--	0.000620	0.0196	0.0429	V, J	0.00144	0.0588	1.02	V	0.00171	0.0196	0.0976	--	0.00148	0.00980
DMMU-8 Rep. 2	0.00206	J	0.00161	0.0200	2.13	--	0.0123	0.0500	0.000540	J	0.000200	0.00400	0.0277	--	0.000632	0.0200	0.0515	V, J	0.00147	0.0600	1.11	V	0.00174	0.0200	0.0807	--	0.00151	0.0100
DMMU-8 Rep. 3	0.00206	J	0.00161	0.0200	1.85	--	0.0123	0.0500	0.000380	J	0.000200	0.00400	0.0279	--	0.000632	0.0200	0.0479	V, J	0.00147	0.0600	1.04	V	0.00174	0.0200	0.0814	--	0.00151	0.0100
DMMU-8 Rep. 4	0.00184	J	0.00161	0.0200	1.95	--	0.00246	0.0100	0.000740	J	0.000200	0.00400	0.0221	--	0.000632	0.0200	0.0554	J	0.00147	0.0600	0.997	V	0.00174	0.0200	0.0754	V	0.00151	0.0100
DMMU-8 Rep. 5	0.00272	J	0.00161	0.0200	2.26	--	0.0246	0.100	0.000340	J	0.000200	0.00400	0.0242	--	0.000632	0.0200	0.0441	J	0.00147	0.0600	0.925	V	0.00174	0.0200	0.0786	V	0.00151	0.0100
DMMU-8 Mean	**0.00221**				**2.04**				0.00055				0.0252				0.0484				1.02				**0.0827**			
% of Reference	**137**				**169**				40				54				152				85				**216**			
REF Rep. 1	<0.00161	U	0.00161	0.0200	1.24	--	0.00246	0.0100	0.00120	J	0.000200	0.00400	0.0450	--	0.000632	0.0200	0.0415	V, J	0.00147	0.0600	1.42	V	0.00174	0.0200	0.0463	V	0.00151	0.0100
REF Rep. 2	<0.00162	U	0.00162	0.0201	1.22	--	0.00247	0.0100	0.00147	J	0.000201	0.00402	0.0508	--	0.000635	0.0201	0.0310	V, J	0.00148	0.0602	1.25	V	0.00175	0.0201	0.0389	V	0.00152	0.0100
REF Rep. 3	<0.00159	U	0.00159	0.0198	1.29	--	0.00243	0.00988	0.00144	J	0.000198	0.00395	0.0455	--	0.000625	0.0198	0.0248	V, J	0.00145	0.0593	0.984	V	0.00172	0.0198	0.0317	V	0.00149	0.00988
REF Rep. 4	<0.00161	U	0.00161	0.0200	1.07	--	0.0123	0.0500	0.00148	J	0.000200	0.00400	0.0452	--	0.000632	0.0200	0.0352	V, J	0.00735	0.300	1.13	V	0.00870	0.100	0.0360	V	0.00151	0.0100
REF Rep. 5	<0.00161	U	0.00161	0.0200	1.21	--	0.00246	0.0100	0.00116	J	0.000200	0.00400	0.0455	--	0.000632	0.0200	0.0266	V, J	0.00147	0.0600	1.19	V	0.00174	0.0200	0.0389	V	0.00151	0.0100
REF Mean	0.00161				1.21				0.00135				0.0464				0.0318				1.19				0.0384			
Pre-exposure Rep. 1	<0.00162	U	0.00162	0.0201	1.04	--	0.00247	0.0100	0.00124	J	0.000201	0.00402	0.0419	--	0.000635	0.0201	0.0424	V, J	0.00148	0.0602	1.03	V	0.00175	0.0201	0.0322	V	0.00152	0.0100
Pre-exposure Rep. 2	<0.00160	U	0.00160	0.0198	1.22	--	0.00244	0.00992	0.00181	J	0.000198	0.00397	0.0429	--	0.000627	0.0198	0.0682	V	0.00146	0.0595	1.40	V	0.00173	0.0198	0.0486	V	0.00150	0.00992
Pre-exposure Rep. 3	<0.00161	U	0.00161	0.0200	1.28	--	0.00246	0.0100	0.00134	J	0.000200	0.00400	0.0475	--	0.000632	0.0200	0.0321	V, J	0.00147	0.0600	1.43	V	0.00174	0.0200	0.0535	V	0.00151	0.0100
Pre-exposure Mean	0.00161				1.18				0.00146				0.0441				0.0476				1.29				0.0448			
FDA Action Level	x				86				x				4				13				x				1.7			
Eco. Effects Threshold	x				12.6				x				1.0				6.3				0.2				0.1			
North Gulf of Mexico Bkgd	0.22-0.47				3.4-5.4				<0.14				0.15-0.83				0.49-5.2				0.58-2.8				<0.47			

TABLE 13 *(continued)*

Analytical Results for Wet Weight Metals and TPHs in *Mercenaria mercenaria* Tissues

Analyte:	Mercury				Nickel				Selenium				Silver				Thallium				Zinc				Total Petroleum Hydrocarbons (TPHs)			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.00492	U	0.00492	0.00984	0.161	V	0.000354	0.0200	0.291	--	0.0220	0.0400	0.0196	--	0.000142	0.0100	0.000500	J	0.000138	0.0100	8.62	V	0.0376	0.200	157	--	38.3	90.7
DMMU-1 Rep. 2	0.00633	J	0.00465	0.00930	0.176	V	0.000354	0.0200	0.317	--	0.0220	0.0400	0.0172	--	0.000142	0.0100	0.000540	J	0.000138	0.0100	8.51	V	0.0376	0.200	206	--	41.1	97.3
DMMU-1 Rep. 3	0.00614	J	0.00465	0.00930	0.210	V	0.000355	0.0201	0.362	--	0.0221	0.0402	0.0182	--	0.000143	0.0100	0.000723	J	0.000139	0.0100	21.5	V	0.0377	0.201	177	--	41.2	97.7
DMMU-1 Rep. 4	0.00556	J	0.00488	0.00976	0.263	V	0.00115	0.0649	0.337	--	0.0714	0.130	0.0173	J	0.000461	0.0325	0.000714	J	0.000448	0.0325	12.1	V	0.0244	0.130	144	--	40.9	96.9
DMMU-1 Rep. 5	0.00708	J	0.00480	0.00960	0.281	V	0.000354	0.0200	0.318	--	0.0220	0.0400	0.0138	--	0.000142	0.0100	0.000740	J	0.000138	0.0100	17.7	V	0.0376	0.200	164	--	41.9	99.4
DMMU-1 Mean	0.00601				0.218				**0.325**				0.0172				**0.000643**				13.7				**170**			
% of Reference	127				61				**184**				108				**212**				117				**475**			
DMMU-2 Rep. 1	0.00573	J	0.00488	0.00976	0.172	V	0.000355	0.0201	0.320	--	0.0221	0.0402	0.0134	--	0.000143	0.0100	0.000683	J	0.000139	0.0100	43.4	V	0.0754	0.402	51.0	J	40.2	95.2
DMMU-2 Rep. 2	0.00560	J	0.00500	0.0100	0.210	V	0.000353	0.0199	0.326	--	0.0219	0.0398	0.0120	--	0.000141	0.00996	0.000618	J	0.000137	0.00996	44.4	V	0.0748	0.398	504	--	41.2	97.7
DMMU-2 Rep. 3	<0.00465	U	0.00465	0.00930	0.251	V	0.000354	0.0200	0.302	--	0.0220	0.0400	0.0110	--	0.000142	0.0100	0.000660	J	0.000138	0.0100	26.2	V	0.0376	0.200	72.9	J	40.0	94.9
DMMU-2 Rep. 4	0.00566	J	0.00492	0.00984	0.232	V	0.000355	0.0201	0.289	--	0.0221	0.0402	0.00924	J	0.000143	0.0100	0.000602	J	0.000139	0.0100	10.5	V	0.0377	0.201	332	--	41.5	98.4
DMMU-2 Rep. 5	0.00488	J	0.00476	0.00952	0.221	V	0.000354	0.0200	0.295	--	0.0220	0.0400	0.00834	J	0.000142	0.0100	0.000640	J	0.000138	0.0100	52.1	V	0.0751	0.400	714	--	39.8	94.3
DMMU-2 Mean	0.00530				0.217				**0.306**				0.0108				**0.000641**				35.3				335			
% of Reference	112				61				**173**				68				**211**				301				937			
DMMU-3 Rep. 1	<0.00465	U	0.00465	0.00930	0.146	V	0.000354	0.0200	0.263	--	0.0220	0.0400	0.0150	--	0.000142	0.0100	0.000320	J	0.000138	0.0100	20.7	V	0.0376	0.200	965	--	40.3	95.4
DMMU-3 Rep. 2	0.00509	J	0.00469	0.00937	0.196	V	0.000351	0.0198	0.328	--	0.0218	0.0397	0.0141	--	0.000141	0.00992	0.000437	J	0.000137	0.00992	9.78	V	0.0373	0.198	3200	--	42.0	99.6
DMMU-3 Rep. 3	0.00628	J	0.00472	0.00945	0.175	V	0.000357	0.0202	0.313	--	0.0222	0.0403	0.0106	--	0.000143	0.0101	0.000343	J	0.000139	0.0101	8.29	V	0.0379	0.202	280	--	41.6	98.6
DMMU-3 Rep. 4	0.00498	J	0.00488	0.00976	0.170	V	0.000351	0.0198	0.320	--	0.0218	0.0397	0.0160	--	0.000141	0.00992	0.000556	J	0.000137	0.00992	18.3	V	0.0373	0.198	164	--	40.4	95.8
DMMU-3 Rep. 5	0.00672	J	0.00465	0.00930	0.194	V	0.000354	0.0200	0.338	--	0.0220	0.0400	0.0133	--	0.000142	0.0100	0.000400	J	0.000138	0.0100	16.6	V	0.0376	0.200	189	--	42.0	99.6
DMMU-3 Mean	0.00554				0.176				**0.312**				0.0138				0.000411				14.7				**960**			
% of Reference	117				49				**177**				87				135				126				**2685**			
DMMU-4 Rep. 1	0.00485	J	0.00469	0.00937	0.251	V	0.000354	0.0200	0.309	--	0.0220	0.0400	0.0183	--	0.000142	0.0100	0.000560	J	0.000138	0.0100	32.4	V	0.0376	0.200	161	--	41.4	98.0
DMMU-4 Rep. 2	<0.00500	U	0.00500	0.0100	0.207	V	0.000354	0.0200	0.257	--	0.0220	0.0400	0.0111	--	0.000142	0.0100	0.000460	J	0.000138	0.0100	19.5	V	0.0376	0.200	171	--	39.7	94.0
DMMU-4 Rep. 3	0.00644	J	0.00488	0.00976	0.236	V	0.000353	0.0199	0.229	--	0.0219	0.0398	0.0103	--	0.000141	0.00996	0.000478	J	0.000137	0.00996	16.3	V	0.0374	0.199	320	--	38.4	91.1
DMMU-4 Rep. 4	0.00631	J	0.00472	0.00945	0.295	V	0.000354	0.0200	0.290	--	0.0220	0.0400	0.0129	--	0.000142	0.0100	0.000660	J	0.000138	0.0100	8.28	V	0.0376	0.200	231	--	40.7	96.3
DMMU-4 Rep. 5	<0.00472	U	0.00472	0.00945	0.310	V	0.000354	0.0200	0.270	--	0.0220	0.0400	0.0148	V	0.000142	0.0100	0.000660	V, J	0.000138	0.0100	14.7	V	0.0376	0.200	205	--	40.2	95.2
DMMU-4 Mean	0.00546				0.260				**0.271**				0.0135				**0.000564**				18.2				**218**			
% of Reference	115				73				**153**				85				**186**				156				**609**			
DMMU-5 Rep. 1	<0.00476	U	0.00476	0.00952	0.200	V	0.000354	0.0200	0.288	--	0.0220	0.0400	0.0173	V	0.000142	0.0100	0.000500	V, J	0.000138	0.0100	65.7	V	0.0751	0.400	301	--	40.7	96.3
DMMU-5 Rep. 2	<0.00488	U	0.00488	0.00976	0.148	V	0.000351	0.0198	0.278	--	0.0218	0.0397	0.0160	V	0.000141	0.00992	0.000417	V, J	0.000137	0.00992	32.9	V	0.0373	0.198	2440	--	41.0	97.1
DMMU-5 Rep. 3	<0.00500	U	0.00500	0.0100	0.228	V	0.000351	0.0198	0.279	--	0.0218	0.0397	0.0137	V	0.000141	0.00992	0.000536	V, J	0.000137	0.00992	13.2	V	0.0373	0.198	2150	--	39.7	94.0
DMMU-5 Rep. 4	<0.00496	U	0.00496	0.00992	0.351	V	0.000355	0.0201	0.266	--	0.0221	0.0402	0.0132	V	0.000143	0.0100	0.000582	V, J	0.000139	0.0100	7.70	V	0.0377	0.201	2170	--	41.4	98.0
DMMU-5 Rep. 5	<0.00469	U	0.00469	0.00937	0.237	V	0.000354	0.0200	0.228	--	0.0220	0.0400	0.0107	V	0.000142	0.0100	0.000460	V, J	0.000138	0.0100	7.27	V	0.00751	0.0400	2370	--	42.0	99.6
DMMU-5 Mean	0.00486				0.233				**0.268**				0.0142				**0.000499**				25.4				**1886**			
% of Reference	103				65				**151**				89				**164**				216				**5278**			
DMMU-6 Rep. 1	0.00681	J	0.00465	0.00930	0.251	V	0.000351	0.0198	0.270	--	0.0218	0.0397	0.0137	V	0.000141	0.00992	0.000496	V, J	0.000137	0.00992	17.4	V	0.0373	0.198	2060	--	41.0	97.1
DMMU-6 Rep. 2	<0.00480	U	0.00480	0.00960	0.349	V	0.000354	0.0200	0.282	--	0.0220	0.0400	0.0117	V	0.000142	0.0100	0.000600	V, J	0.000138	0.0100	12.6	V	0.0376	0.200	605	--	41.4	98.0
DMMU-6 Rep. 3	0.00504	J	0.00492	0.00984	0.264	V	0.00176	0.0996	0.208	--	0.110	0.199	0.0118	V, J	0.000707	0.0498	<0.000687	B, U	0.000687	0.0498	15.4	V	0.0374	0.199	1170	--	40.3	95.6
DMMU-6 Rep. 4	0.00567	J	0.00465	0.00930	0.298	V	0.000353	0.0199	0.283	--	0.0219	0.0398	0.0100	V	0.000141	0.00996	0.000538	V, J	0.000137	0.00996	19.6	V	0.0374	0.199	2900	--	38.5	91.2
DMMU-6 Rep. 5	0.00640	J	0.00476	0.00952	0.278	V	0.000354	0.0200	0.276	--	0.0220	0.0400	0.0111	V	0.000142	0.0100	0.000540	V, J	0.000138	0.0100	10.8	V	0.0376	0.200	3020	--	40.9	96.9
DMMU-6 Mean	0.00574				0.288				**0.264**				0.0117				**0.000572**				15.2				**1951**			
% of Reference	121				80				**149**				73				**188**				129				**5459**			
DMMU-7 Rep. 1	<0.00492	U	0.00492	0.00984	0.152	V	0.000353	0.0199	0.276	--	0.0219	0.0398	0.0152	V	0.000141	0.00996	0.000359	V, J	0.000137	0.00996	26.1	V	0.0374	0.199	2930	--	41.4	98.0
DMMU-7 Rep. 2	<0.00465	U	0.00465	0.00930	0.137	V	0.000350	0.0198	0.277	--	0.0217	0.0395	0.0186	V	0.000140	0.00988	0.000237	V, J	0.000136	0.00988	67.2	V	0.0742	0.395	2720	--	41.3	97.8
DMMU-7 Rep. 3	<0.00469	U	0.00469	0.00937	0.148	V	0.000354	0.0200	0.269	--	0.0220	0.0400	0.0131	V	0.000142	0.0100	0.000240	V, J	0.000138	0.0100	22.1	V	0.0376	0.200	2430	--	40.7	96.5
DMMU-7 Rep. 4	<0.00496	U	0.00496	0.00992	0.158	V	0.000355	0.0201	0.272	--	0.0221	0.0402	0.0124	V	0.000143	0.0100	0.000281	V, J	0.000139	0.0100	37.9	V	0.0377	0.201	1430	--	41.6	98.6
DMMU-7 Rep. 5	0.00530	J	0.00465	0.00930	0.165	V	0.000354	0.0200	0.259	--	0.0220	0.0400	0.0120	V	0.000142	0.0100	0.000340	V, J	0.000138	0.0100	8.11	V	0.0376	0.200	2510	--	40.5	96.0
DMMU-7 Mean	0.00490				0.152				**0.271**				0.0143				0.000291				32.3				**2404**			
% of Reference	104				42				**153**				89				96				275				**6726**			
DMMU-8 Rep. 1	<0.00476	U	0.00476	0.00952	0.138	V	0.000347	0.0196	0.291	--	0.0216	0.0392	0.0149	V	0.000139	0.00980	0.000353	V, J	0.000135	0.00980	51.7	V	0.0736	0.392	1180	--	41.0	97.1
DMMU-8 Rep. 2	<0.00484	U	0.00484	0.00968	0.151	V	0.000354	0.0200	0.286	--	0.0220	0.0400	0.0128	V	0.000142	0.0100	0.000380	V, J	0.000138	0.0100	28.7	V	0.0376	0.200	135	--	40.7	96.3
DMMU-8 Rep. 3	0.00533	J	0.00480	0.00960	0.138	V	0.000354	0.0200	0.263	--	0.0220	0.0400	0.0130	V	0.000142	0.0100	0.000340	V, J	0.000138	0.0100	29.2	V	0.0376	0.200	3060	--	40.3	95.6
DMMU-8 Rep. 4	<0.00488	U	0.00488	0.00976	0.127	V	0.000354	0.0200	0.225	--	0.0220	0.0400	0.0108	--	0.000142	0.0100	0.000380	J	0.000138	0.0100	23.7	V	0.0376	0.200	2150	--	41.9	99.2
DMMU-8 Rep. 5	0.00519	J	0.00492	0.00984	0.134	V	0.000354	0.0200	0.254	--	0.0220	0.0400	0.0112	--	0.000142	0.0100	0.000500	J	0.000138	0.0100	44.7	V	0.0751	0.400	3250	--	40.9	96.9
DMMU-8 Mean	0.00500				0.138				**0.264**				0.0125				0.000391				***35.6***				**1955**			
% of Reference	106				38				**149**				79				129				**304**				**5470**			
REF Rep. 1	<0.00469	U	0.00469	0.00937	0.341	V	0.000354	0.0200	0.181	--	0.0220	0.0400	0.0155	--	0.000138	0.00973	0.000340	J	0.000138	0.0100	11.5	V	0.0376	0.200	<10.5	U	10.5	24.8
REF Rep. 2	<0.00469	U	0.00469	0.00937	0.385	V	0.000355	0.0201	0.197	--	0.0221	0.0402	0.0149	--	0.000139	0.00980	0.000341	J	0.000139	0.0100	12.5	V	0.0377	0.201	47.2	J	41.7	98.8
REF Rep. 3	<0.00476	U	0.00476	0.00952	0.342	V	0.000350	0.0198	0.168	--	0.0217	0.0395	0.0185	--	0.000139	0.00977	0.000237	J	0.000136	0.00988	11.3	V	0.0371	0.198	<41.0	U	41.0	97.1
REF Rep. 4	<0.00465	U	0.00465	0.00930	0.387	V	0.00177	0.100	0.176	--	0.0220	0.0400	0.0133	--	0.000142	0.0100	0.000300	J	0.000138	0.0100	11.7	V	0.0376	0.200	<40.3	U	40.3	95.6
REF Rep. 5	<0.00488	U	0.00488	0.00976	0.335	V	0.000354	0.0200	0.162	--	0.0220	0.0400	0.0175	--	0.000139	0.00980	0.000300	J	0.000138	0.0100	11.6	V	0.0376	0.200	<39.7	U	39.7	94.2
REF Mean	0.00473				0.358				0.177				0.0159				0.000304				11.7				35.7			
Pre-exposure Rep. 1	<0.00476	U	0.00476	0.00952	0.384	V	0.000355	0.0201	0.184	--	0.0221	0.0402	0.0158	--	0.000142	0.0100	0.000221	J	0.000139	0.0100	13.1	V	0.0377	0.201	<10.3	U	10.3	24.5
Pre-exposure Rep. 2	<0.00469	U	0.00469	0.00937	0.387	V	0.000351	0.0198	0.202	--	0.0218	0.0397	0.0174	--	0.000141	0.00992	0.000337	J	0.000137	0.00992	13.2	V	0.0373	0.198	<10.3	U	10.3	24.4
Pre-exposure Rep. 3	<0.00496	U	0.00496	0.00992	0.359	V	0.000354	0.0200	0.224	--	0.0220	0.0400	0.0198	--	0.000139	0.00980	0.000400	J	0.000138	0.0100	14.1	V	0.0376	0.200	<10.5	U	10.5	24.8
Pre-exposure Mean	0.00480				0.377				0.203				0.0177				0.000319				13.5				10.4			
FDA Action Level	1				80				x				x				x				x				x			
Eco. Effects Threshold	0.3				2.2				14.2				1.0				0.3				11.6				x			
N. Gulf of Mexico Bkgd	<0.028				0.7-3.1				0.5-1.5				0.11-0.56				<0.47				7.0-30.0				x			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

Italicized and **bolded values** indicate results that are statistically significantly greater than that of the reference tissues and also exceed the ecological effects threshold and (or) the upper boundary of the N. Gulf of Mexico background concentration (see Section 7.5.3 of SERIM for details).

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL.

J = The value is between the MDL and the LRL. V = Analyte was detected in both sample and method blank.

Sources: Results from NWDLS and Eurofins-Stafford (TPHs); FDA action levels from FDA (2001, 2011); thresholds and background concentrations from Appendix H of SERIM (EPA and USACE 2008); trivalent and hexavalent chromium use total chromium levels, thresholds, and background concentrations.

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 14

Analytical Results for Wet Weight Metals and TPHs in *Alitta virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper				Lead			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.00161	U	0.00161	0.0200	1.26	--	0.00246	0.0100	0.00134	J	0.000200	0.00400	0.0443	--	0.000632	0.0200	0.0402	J	0.00147	0.0600	1.22	V	0.00174	0.0200	0.0350	V	0.00151	0.0100
DMMU-1 Rep. 2	<0.00161	U	0.00161	0.0200	1.31	--	0.00246	0.0100	0.00152	J	0.000200	0.00400	0.0442	--	0.000632	0.0200	0.0563	J	0.00147	0.0600	1.22	V	0.00174	0.0200	0.0390	V	0.00151	0.0100
DMMU-1 Rep. 3	<0.00160	U	0.00160	0.0199	1.43	--	0.00245	0.00996	0.00141	J	0.000199	0.00398	0.0479	--	0.000629	0.0199	0.0383	J	0.00146	0.0598	1.19	V	0.00173	0.0199	0.0386	V	0.00150	0.00996
DMMU-1 Rep. 4	<0.00161	U	0.00161	0.0200	1.31	--	0.00246	0.0100	0.00156	J	0.000200	0.00400	0.0491	--	0.000632	0.0200	0.0420	J	0.00147	0.0600	1.47	V	0.00174	0.0200	0.0500	V	0.00151	0.0100
DMMU-1 Rep. 5	<0.00162	U	0.00162	0.0201	1.25	--	0.00247	0.0100	0.000924	J	0.000201	0.00402	0.0452	--	0.000635	0.0201	0.0310	J	0.00148	0.0602	1.17	V	0.00175	0.0201	0.0326	V	0.00152	0.0100
DMMU-1 Mean	0.00161				1.31				0.00135				**0.0461**				0.0416				1.25				0.0390			
% of Reference	49				65				127				**184**				20				46				29			
DMMU-2 Rep. 1	<0.00161	U	0.00161	0.0200	1.24	--	0.00246	0.0100	0.00142	J	0.000200	0.00400	0.0535	--	0.000632	0.0200	0.0243	J	0.00147	0.0600	1.53	V	0.00174	0.0200	0.0346	V	0.00151	0.0100
DMMU-2 Rep. 2	<0.00162	U	0.00162	0.0201	1.23	--	0.00247	0.0100	0.00141	J	0.000201	0.00402	0.0482	--	0.000635	0.0201	0.0403	J	0.00148	0.0602	1.19	V	0.00175	0.0201	0.0343	V	0.00152	0.0100
DMMU-2 Rep. 3	<0.00160	U	0.00160	0.0199	1.28	--	0.00245	0.00996	0.000936	J	0.000199	0.00398	0.0451	--	0.000629	0.0199	0.0369	J	0.00146	0.0598	1.14	V	0.00173	0.0199	0.0335	V	0.00150	0.00996
DMMU-2 Rep. 4	<0.00159	U	0.00159	0.0198	1.47	--	0.00243	0.00988	0.00142	J	0.000198	0.00395	0.0548	--	0.000625	0.0198	0.0443	J	0.00145	0.0593	1.33	V	0.00172	0.0198	0.0370	V	0.00149	0.00988
DMMU-2 Rep. 5	<0.00161	U	0.00161	0.0200	1.36	--	0.00246	0.0100	0.00114	J	0.000200	0.00400	0.0451	--	0.000632	0.0200	0.0218	J	0.00147	0.0600	1.21	V	0.00174	0.0200	0.0233	V	0.00151	0.0100
DMMU-2 Mean	0.00161				1.32				0.00127				**0.0493**				0.0335				1.28				0.0325			
% of Reference	49				65				119				**197**				16				47				24			
DMMU-3 Rep. 1	<0.00160	U	0.00160	0.0199	1.39	--	0.00245	0.00996	0.00108	J	0.000199	0.00398	0.0597	--	0.000629	0.0199	0.0492	J	0.00146	0.0598	1.26	V	0.00173	0.0199	0.0370	V	0.00150	0.00996
DMMU-3 Rep. 2	<0.00160	U	0.00160	0.0199	1.41	--	0.00245	0.00996	0.00159	J	0.000199	0.00398	0.0597	--	0.000629	0.0199	0.0392	J	0.00146	0.0598	1.28	V	0.00173	0.0199	0.0401	V	0.00150	0.00996
DMMU-3 Rep. 3	<0.00161	U	0.00161	0.0200	1.15	--	0.00246	0.0100	0.00122	J	0.000200	0.00400	0.0449	--	0.000632	0.0200	0.0387	J	0.00147	0.0600	1.02	V	0.00174	0.0200	0.0379	V	0.00151	0.0100
DMMU-3 Rep. 4	<0.00160	U	0.00160	0.0198	1.25	--	0.00244	0.00992	0.00125	J	0.000198	0.00397	0.0495	--	0.000627	0.0198	0.0378	J	0.00146	0.0595	1.17	V	0.00173	0.0198	0.0407	V	0.00150	0.00992
DMMU-3 Rep. 5	<0.00162	U	0.00162	0.0201	1.29	--	0.00247	0.0100	0.000924	J	0.000201	0.00402	0.0509	--	0.000635	0.0201	0.0307	J	0.00148	0.0602	1.21	V	0.00175	0.0201	0.0405	V	0.00152	0.0100
DMMU-3 Mean	0.00161				1.30				0.00121				**0.0529**				0.0391				1.19				0.0392			
% of Reference	49				64				114				**212**				19				43				29			
DMMU-4 Rep. 1	<0.00161	U	0.00161	0.0200	1.18	--	0.00246	0.0100	0.00134	J	0.000200	0.00400	0.0547	--	0.000632	0.0200	0.0394	J	0.00147	0.0600	1.27	V	0.00174	0.0200	0.0386	V	0.00151	0.0100
DMMU-4 Rep. 2	<0.00161	U	0.00161	0.0200	1.11	--	0.00246	0.0100	0.00120	J	0.000200	0.00400	0.0459	--	0.000632	0.0200	0.0366	J	0.00147	0.0600	1.21	V	0.00174	0.0200	0.0358	V	0.00151	0.0100
DMMU-4 Rep. 3	<0.00161	U	0.00161	0.0200	1.14	--	0.00246	0.0100	0.00144	J	0.000200	0.00400	0.0415	--	0.000632	0.0200	0.0328	V, J	0.00147	0.0600	1.20	V	0.00174	0.0200	0.0376	--	0.00151	0.0100
DMMU-4 Rep. 4	<0.00160	U	0.00160	0.0198	1.11	--	0.00244	0.00992	0.00194	J	0.000198	0.00397	0.0526	--	0.000627	0.0198	0.0643	V	0.00146	0.0595	1.29	V	0.00173	0.0198	0.0398	--	0.00150	0.00992
DMMU-4 Rep. 5	<0.00161	U	0.00161	0.0200	1.05	--	0.00246	0.0100	0.00116	J	0.000200	0.00400	0.0410	--	0.000632	0.0200	0.0284	V, J	0.00147	0.0600	1.30	V	0.00174	0.0200	0.0442	--	0.00151	0.0100
DMMU-4 Mean	0.00161				1.12				0.00142				**0.0471**				0.0403				1.25				0.0392			
% of Reference	49				55				133				**188**				19				46				29			
DMMU-5 Rep. 1	<0.00161	U	0.00161	0.0200	1.18	--	0.00246	0.0100	0.00132	J	0.000200	0.00400	0.0474	--	0.000632	0.0200	0.0621	V	0.00147	0.0600	1.44	V	0.00174	0.0200	0.0387	--	0.00151	0.0100
DMMU-5 Rep. 2	<0.00161	U	0.00161	0.0200	1.30	--	0.00246	0.0100	0.00130	J	0.000200	0.00400	0.0443	--	0.000632	0.0200	0.0296	V, J	0.00147	0.0600	1.28	V	0.00174	0.0200	0.0282	--	0.00151	0.0100
DMMU-5 Rep. 3	<0.00160	U	0.00160	0.0199	1.27	--	0.00245	0.00996	0.00133	J	0.000199	0.00398	0.0500	--	0.000629	0.0199	0.0300	V, J	0.00146	0.0598	1.26	V	0.00173	0.0199	0.0327	--	0.00150	0.00996
DMMU-5 Rep. 4	<0.00160	U	0.00160	0.0198	1.44	--	0.00244	0.00992	0.00157	J	0.000198	0.00397	0.0463	--	0.000627	0.0198	0.0401	V, J	0.00146	0.0595	1.39	V	0.00173	0.0198	0.0397	--	0.00150	0.00992
DMMU-5 Rep. 5	<0.00161	U	0.00161	0.0200	1.40	--	0.00246	0.0100	0.00122	J	0.000200	0.00400	0.0469	--	0.000632	0.0200	0.0298	V, J	0.00147	0.0600	1.30	V	0.00174	0.0200	0.0375	--	0.00151	0.0100
DMMU-5 Mean	0.00161				1.32				0.00135				**0.0470**				0.0383				1.33				0.0354			
% of Reference	49				65				127				**188**				18				49				26			
DMMU-6 Rep. 1	<0.00161	U	0.00161	0.0200	1.40	--	0.00246	0.0100	0.00154	J	0.000200	0.00400	0.0484	--	0.000632	0.0200	0.0369	V, J	0.00147	0.0600	1.36	V	0.00174	0.0200	0.0404	--	0.00151	0.0100
DMMU-6 Rep. 2	<0.00160	U	0.00160	0.0199	1.32	--	0.00245	0.00996	0.00173	J	0.000199	0.00398	0.0554	--	0.000629	0.0199	0.0593	V, J	0.00146	0.0598	1.23	V	0.00173	0.0199	0.0480	--	0.00150	0.00996
DMMU-6 Rep. 3	<0.00160	U	0.00160	0.0198	1.23	--	0.00244	0.00992	0.00139	J	0.000198	0.00397	0.0542	--	0.000627	0.0198	0.0338	V, J	0.00146	0.0595	1.31	V	0.00173	0.0198	0.0516	--	0.00150	0.00992
DMMU-6 Rep. 4	<0.00805	U	0.00805	0.100	1.22	--	0.00246	0.0100	0.00112	J	0.000200	0.00400	0.0517	J	0.00316	0.100	0.0287	V, J	0.00735	0.300	1.16	V	0.00174	0.0200	0.0416	J	0.00755	0.0500
DMMU-6 Rep. 5	<0.00162	U	0.00162	0.0201	1.23	--	0.00247	0.0100	0.00135	J	0.000201	0.00402	0.0517	--	0.000635	0.0201	0.0322	V, J	0.00148	0.0602	1.21	V	0.00175	0.0201	0.0319	--	0.00152	0.0100
DMMU-6 Mean	0.00290				1.28				0.00143				**0.0523**				0.0382				1.25				0.0427			
% of Reference	88				63				134				**209**				18				46				31			
DMMU-7 Rep. 1	<0.00161	U	0.00161	0.0200	1.02	--	0.00246	0.0100	0.00126	J	0.000200	0.00400	0.0502	--	0.000632	0.0200	0.0626	V	0.00147	0.0600	1.05	V	0.00174	0.0200	0.0356	--	0.00151	0.0100
DMMU-7 Rep. 2	<0.00159	U	0.00159	0.0198	1.40	--	0.00243	0.00988	0.00125	J	0.000198	0.00395	0.0541	--	0.000625	0.0198	0.0460	V, J	0.00145	0.0593	1.22	V	0.00172	0.0198	0.0448	--	0.00149	0.00988
DMMU-7 Rep. 3	<0.00161	U	0.00161	0.0200	1.34	--	0.00246	0.0100	0.00126	J	0.000200	0.00400	0.0487	--	0.000632	0.0200	0.0271	V, J	0.00147	0.0600	1.23	V	0.00174	0.0200	0.0396	--	0.00151	0.0100
DMMU-7 Rep. 4	<0.00160	U	0.00160	0.0199	1.21	--	0.00245	0.00996	0.00163	J	0.000199	0.00398	0.0495	--	0.000629	0.0199	0.0272	V, J	0.00146	0.0598	1.17	V	0.00173	0.0199	0.0404	--	0.00150	0.00996
DMMU-7 Rep. 5	<0.00161	U	0.00161	0.0200	1.13	--	0.00246	0.0100	0.00126	J	0.000200	0.00400	0.0511	--	0.000632	0.0200	0.0332	V, J	0.00147	0.0600	1.05	V	0.00174	0.0200	0.0429	--	0.00151	0.0100
DMMU-7 Mean	0.00160				1.22				0.00133				**0.0507**				0.0392				1.14				0.0407			
% of Reference	49				60				125				**203**				19				42				30			
DMMU-8 Rep. 1	<0.00161	U	0.00161	0.0200	1.17	--	0.00246	0.0100	0.00110	J	0.000200	0.00400	0.0515	--	0.000632	0.0200	0.0416	V, J	0.00147	0.0600	1.76	V	0.00174	0.0200	0.0502	--	0.00151	0.0100
DMMU-8 Rep. 2	<0.00161	U	0.00161	0.0200	1.50	--	0.00246	0.0100	0.00166	J	0.000200	0.00400	0.0554	--	0.000632	0.0200	0.0512	V, J	0.00147	0.0600	1.48	V	0.00174	0.0200	0.0520	--	0.00151	0.0100
DMMU-8 Rep. 3	0.00187	J	0.00162	0.0201	1.29	--	0.00247	0.0100	0.00135	J	0.000201	0.00402	0.0584	--	0.000635	0.0201	0.0585	V, J	0.00148	0.0602	1.43	V	0.00175	0.0201	0.0547	--	0.00152	0.0100
DMMU-8 Rep. 4	<0.00161	U	0.00161	0.0200	1.37	--	0.00246	0.0100	0.00174	J	0.000200	0.00400	0.0581	--	0.000632	0.0200	0.0412	V, J	0.00147	0.0600	1.82	V	0.00174	0.0200	0.0442	--	0.00151	0.0100
DMMU-8 Rep. 5	<0.00161	U	0.00161	0.0200	<0.00246	U	0.00246	0.0100	0.00106	J	0.000200	0.00400	<0.000632	U	0.000632	0.0200	<0.00147	B, U	0.00147	0.0600	1.26	V	0.00174	0.0200	<0.00151	U	0.00151	0.0100
DMMU-8 Mean	0.00166				1.07				0.00138				0.0448				0.0388				1.55				0.0405			
% of Reference	50				53				130				179				19				56				30			
REF Rep. 1	0.00264	J	0.00161	0.0200	2.08	--	0.0123	0.0500	0.000680	J	0.000200	0.00400	0.0264	--	0.000632	0.0200	0.126	V	0.00147	0.0600	1.83	V	0.00174	0.0200	0.106	--	0.00151	0.0100
REF Rep. 2	0.00319	J	0.00160	0.0198	1.95	--	0.0122	0.0496	0.000615	J	0.000198	0.00397	0.0250	--	0.000627	0.0198	0.151	V, J	0.00729	0.298	2.73	V	0.00863	0.0992	0.123	--	0.00150	0.00992
REF Rep. 3	0.00424	J	0.00161	0.0200	2.16	--	0.0246	0.100	0.000720	J	0.000200	0.00400	0.0272	--	0.000632	0.0200	0.285	V, J	0.0147	0.600	3.51	V	0.0174	0.200	0.151	--	0.00151	0.0100
REF Rep. 4	0.00270	J	0.00161	0.0200	1.86	--	0.00246	0.0100	0.000740	J	0.000200	0.00400	0.0217	--	0.000632	0.0200	0.168	V	0.00147	0.0600	2.39	V	0.00174	0.0200	0.110	--	0.00151	0.0100
REF Rep. 5	0.00372	J	0.00280	0.0347	2.10	--	0.00427	0.0174	0.00257	J	0.000347	0.00694	0.0248	J	0.00110	0.0347	0.308	V	0.00255	0.104	3.26	V	0.00302	0.0347	0.189	--	0.00262	0.0174
REF Mean	0.00330				2.03				0.00107				0.0250				0.208				2.74				0.136			
Pre-exposure Rep. 1	0.00247	J	0.00162	0.0201	2.13	--	0.0247	0.100	0.000602	J	0.000201	0.00402	0.0247	--	0.000635	0.0201	0.0885	V	0.00148	0.0602	1.90	V	0.00175	0.0201	0.0677	--	0.00152	0.0100
Pre-exposure Rep. 2	0.00272	J	0.00161	0.0200	1.86	--	0.0123	0.0500	0.00176	J	0.000200	0.00400	0.0211	--	0.000632	0.0200	0.158	V	0.00147	0.0600	1.48	V	0.00174	0.0200	0.0970	--	0.00151	0.0100
Pre-exposure Rep. 3	0.00276	J	0.00160	0.0198	2.25	--	0.0122	0.0496	0.00161	J	0.000198	0.00397	0.0264	--	0.000627	0.0198	0.139	V	0.00146	0.0595	1.57	V	0.00173	0.0198	0.113	--	0.00150	0.00992
Pre-exposure Mean	0.00265				2.08				0.00132				0.0241				0.129				1.65				0.093			
FDA Action Level	x				76				x				3				12				x				1.5			
Eco. Effects Threshold	x				12.6				x				27.8				10.0				0.4				0.1			
North Gulf of Mexico Bkgd	<0.31				7.4-37.0				<0.09				0.34-1.4				0.89-4.6				2.3-5.3				0.31-1.2			

TABLE 14 *(continued)*

Analytical Results for Wet Weight Metals and TPHs in *Alitta virens* Tissues

Analyte:	Mercury				Nickel				Selenium				Silver				Thallium				Zinc				Total Petroleum Hydrocarbons (TPHs)			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.00500	U	0.00500	0.0100	0.324	V	0.000354	0.0200	0.136	--	0.0220	0.0400	0.0203	--	0.000142	0.0100	0.000360	J	0.000138	0.0100	10.6	V	0.0376	0.200	33.5	--	10.4	24.7
DMMU-1 Rep. 2	<0.00488	U	0.00488	0.00976	0.430	V	0.000354	0.0200	0.158	--	0.0220	0.0400	0.0187	--	0.000142	0.0100	0.000400	J	0.000138	0.0100	12.9	V	0.0376	0.200	40.3	J	39.2	92.9
DMMU-1 Rep. 3	<0.00469	U	0.00469	0.00937	0.417	V	0.000353	0.0199	0.160	--	0.0219	0.0398	0.0147	--	0.000141	0.00996	0.000418	J	0.000137	0.00996	12.0	V	0.0374	0.199	122	--	10.5	24.8
DMMU-1 Rep. 4	<0.00476	U	0.00476	0.00952	0.385	V	0.000354	0.0200	0.161	--	0.0220	0.0400	0.0218	--	0.000142	0.0100	0.000600	J	0.000138	0.0100	11.7	V	0.0376	0.200	12.9	J	10.4	24.5
DMMU-1 Rep. 5	<0.00496	U	0.00496	0.00992	0.361	V	0.000355	0.0201	0.162	--	0.0221	0.0402	0.0163	--	0.000143	0.0100	0.000341	J	0.000139	0.0100	10.1	V	0.0377	0.201	175	--	10.4	24.6
DMMU-1 Mean	0.00486				**0.383**				0.155				0.0184				0.000424				11.5				76.7			
% of Reference	100				**192**				60				104				117				85				3			
DMMU-2 Rep. 1	<0.00492	U	0.00492	0.00984	0.379	V	0.000354	0.0200	0.169	--	0.0220	0.0400	0.0201	--	0.000142	0.0100	0.000540	J	0.000138	0.0100	12.2	V	0.0376	0.200	863	--	39.6	93.8
DMMU-2 Rep. 2	<0.00492	U	0.00492	0.00984	0.374	V	0.000355	0.0201	0.168	--	0.0221	0.0402	0.0199	--	0.000143	0.0100	0.000422	J	0.000139	0.0100	12.6	V	0.0377	0.201	526	--	38.8	91.9
DMMU-2 Rep. 3	<0.00476	U	0.00476	0.00952	0.310	V	0.000353	0.0199	0.167	--	0.0219	0.0398	0.0155	--	0.000141	0.00996	0.000538	J	0.000137	0.00996	11.2	V	0.0374	0.199	504	--	38.0	90.1
DMMU-2 Rep. 4	<0.00480	U	0.00480	0.00960	0.407	V	0.000350	0.0198	0.189	--	0.0217	0.0395	0.0175	--	0.000140	0.00988	0.000494	J	0.000136	0.00988	12.5	V	0.0371	0.198	685	--	38.7	91.7
DMMU-2 Rep. 5	<0.00469	U	0.00469	0.00937	0.303	V	0.000354	0.0200	0.174	--	0.0220	0.0400	0.0153	--	0.000142	0.0100	0.000420	J	0.000138	0.0100	10.5	V	0.0376	0.200	509	--	41.4	98.0
DMMU-2 Mean	0.00482				**0.355**				0.173				0.0177				**0.000483**				11.8				617			
% of Reference	100				**178**				67				100				**133**				87				24			
DMMU-3 Rep. 1	<0.00480	U	0.00480	0.00960	0.356	V	0.000353	0.0199	0.183	--	0.0219	0.0398	0.0192	--	0.000141	0.00996	0.000598	J	0.000137	0.00996	12.6	V	0.0374	0.199	976	--	39.3	93.1
DMMU-3 Rep. 2	<0.00492	U	0.00492	0.00984	0.391	V	0.000353	0.0199	0.194	--	0.0219	0.0398	0.0188	--	0.000141	0.00996	0.000498	J	0.000137	0.00996	13.5	V	0.0374	0.199	748	--	38.6	91.6
DMMU-3 Rep. 3	<0.00500	U	0.00500	0.0100	0.354	V	0.000354	0.0200	0.151	--	0.0220	0.0400	0.0162	--	0.000142	0.0100	0.000460	J	0.000138	0.0100	11.6	V	0.0376	0.200	724	--	38.1	90.3
DMMU-3 Rep. 4	<0.00488	U	0.00488	0.00976	0.387	V	0.000351	0.0198	0.166	--	0.0218	0.0397	0.0166	--	0.000141	0.00992	0.000496	J	0.000137	0.00992	11.7	V	0.0373	0.198	726	--	39.1	92.8
DMMU-3 Rep. 5	<0.00469	U	0.00469	0.00937	0.376	V	0.000355	0.0201	0.174	--	0.0221	0.0402	0.0166	--	0.000143	0.0100	0.000482	J	0.000139	0.0100	12.5	V	0.0377	0.201	1560	--	39.2	92.9
DMMU-3 Mean	0.00486				**0.373**				0.174				0.0175				**0.000507**				12.4				947			
% of Reference	100				**187**				68				99				**140**				92				37			
DMMU-4 Rep. 1	<0.00469	U	0.00469	0.00937	0.519	V	0.000354	0.0200	0.149	--	0.0220	0.0400	0.0248	--	0.000142	0.0100	0.000540	J	0.000138	0.0100	12.9	V	0.0376	0.200	440	--	40.0	94.7
DMMU-4 Rep. 2	<0.00480	U	0.00480	0.00960	0.402	V	0.000354	0.0200	0.154	--	0.0220	0.0400	0.0182	--	0.000142	0.0100	0.000440	J	0.000138	0.0100	11.5	V	0.0376	0.200	563	--	38.3	90.7
DMMU-4 Rep. 3	<0.00476	U	0.00476	0.00952	0.326	V	0.000354	0.0200	0.133	--	0.0220	0.0400	0.0151	--	0.000142	0.0100	0.000400	J	0.000138	0.0100	9.48	V	0.0376	0.200	939	--	38.6	91.4
DMMU-4 Rep. 4	<0.00488	U	0.00488	0.00976	0.417	V	0.000351	0.0198	0.156	--	0.0218	0.0397	0.0200	--	0.000141	0.00992	0.000595	J	0.000137	0.00992	11.1	V	0.0373	0.198	456	--	38.2	90.6
DMMU-4 Rep. 5	<0.00472	U	0.00472	0.00945	0.257	V	0.000354	0.0200	0.140	--	0.0220	0.0400	0.0183	--	0.000142	0.0100	0.000380	J	0.000138	0.0100	8.64	V	0.0376	0.200	645	--	37.9	89.8
DMMU-4 Mean	0.00477				**0.384**				0.146				**0.0193**				**0.000471**				10.7				609			
% of Reference	99				**193**				57				**109**				**130**				79				24			
DMMU-5 Rep. 1	<0.00469	U	0.00469	0.00937	0.414	V	0.000354	0.0200	0.174	--	0.0220	0.0400	0.0206	--	0.000142	0.0100	0.000360	J	0.000138	0.0100	12.0	V	0.0376	0.200	1180	--	40.5	96.0
DMMU-5 Rep. 2	<0.00492	U	0.00492	0.00984	0.331	V	0.000354	0.0200	0.172	--	0.0220	0.0400	0.0167	--	0.000142	0.0100	0.000320	J	0.000138	0.0100	11.5	V	0.0376	0.200	477	--	40.7	96.5
DMMU-5 Rep. 3	<0.00480	U	0.00480	0.00960	0.336	V	0.000353	0.0199	0.166	--	0.0219	0.0398	0.0195	--	0.000141	0.00996	0.000299	J	0.000137	0.00996	11.5	V	0.0374	0.199	578	--	42.0	99.6
DMMU-5 Rep. 4	<0.00500	U	0.00500	0.0100	0.344	V	0.000351	0.0198	0.198	--	0.0218	0.0397	0.0189	--	0.000141	0.00992	0.000337	J	0.000137	0.00992	11.9	V	0.0373	0.198	106	--	38.3	90.7
DMMU-5 Rep. 5	<0.00480	U	0.00480	0.00960	0.318	V	0.000354	0.0200	0.184	--	0.0220	0.0400	0.0200	--	0.000142	0.0100	0.000360	J	0.000138	0.0100	11.6	V	0.0376	0.200	474	--	38.9	92.1
DMMU-5 Mean	0.00484				**0.349**				0.179				0.0191				0.000335				11.7				563			
% of Reference	100				**175**				70				108				92				87				22			
DMMU-6 Rep. 1	<0.00480	U	0.00480	0.00960	0.372	V	0.000354	0.0200	0.177	--	0.0220	0.0400	0.0260	--	0.000142	0.0100	0.000620	J	0.000138	0.0100	11.9	V	0.0376	0.200	380	--	39.4	93.5
DMMU-6 Rep. 2	<0.00469	U	0.00469	0.00937	0.369	V	0.000353	0.0199	0.175	--	0.0219	0.0398	0.0238	--	0.000141	0.00996	0.000598	J	0.000137	0.00996	11.8	V	0.0374	0.199	509	--	37.7	89.4
DMMU-6 Rep. 3	<0.00496	U	0.00496	0.00992	0.429	V	0.000351	0.0198	0.168	--	0.0218	0.0397	0.0231	--	0.000141	0.00992	0.000575	J	0.000137	0.00992	11.7	V	0.0373	0.198	361	--	38.6	91.4
DMMU-6 Rep. 4	<0.00469	U	0.00469	0.00937	0.372	V	0.000354	0.0200	0.116	J	0.110	0.200	0.0190	J	0.000710	0.0500	<0.000690	U	0.000690	0.0500	10.9	V	0.0376	0.200	41.4	J	39.3	93.1
DMMU-6 Rep. 5	<0.00480	U	0.00480	0.00960	0.380	V	0.000355	0.0201	0.161	--	0.0221	0.0402	0.0191	--	0.000143	0.0100	0.000462	J	0.000139	0.0100	11.2	V	0.0377	0.201	370	--	39.9	94.5
DMMU-6 Mean	0.00479				**0.384**				0.159				**0.0222**				**0.000589**				11.5				332			
% of Reference	99				**193**				62				**126**				**162**				85				13			
DMMU-7 Rep. 1	<0.00476	U	0.00476	0.00952	0.328	V	0.000354	0.0200	0.131	--	0.0220	0.0400	0.0171	--	0.000142	0.0100	0.000240	J	0.000138	0.0100	10.0	V	0.0376	0.200	431	--	41.2	97.7
DMMU-7 Rep. 2	<0.00472	U	0.00472	0.00945	0.397	V	0.000350	0.0198	0.183	--	0.0217	0.0395	0.0179	--	0.000140	0.00988	0.000356	J	0.000136	0.00988	13.2	V	0.0371	0.198	654	--	38.6	91.6
DMMU-7 Rep. 3	<0.00488	U	0.00488	0.00976	0.347	V	0.000354	0.0200	0.170	--	0.0220	0.0400	0.0181	--	0.000142	0.0100	0.000320	J	0.000138	0.0100	11.8	V	0.0376	0.200	439	--	40.1	95.1
DMMU-7 Rep. 4	<0.00496	U	0.00496	0.00992	0.314	V	0.000353	0.0199	0.149	--	0.0219	0.0398	0.0182	--	0.000141	0.00996	0.000339	J	0.000137	0.00996	11.5	V	0.0374	0.199	542	--	41.1	97.5
DMMU-7 Rep. 5	<0.00496	U	0.00496	0.00992	0.345	V	0.000354	0.0200	0.147	--	0.0220	0.0400	0.0212	--	0.000142	0.0100	0.000300	J	0.000138	0.0100	12.1	V	0.0376	0.200	567	--	40.1	95.1
DMMU-7 Mean	0.00486				**0.346**				0.156				0.0185				0.000311				11.7				527			
% of Reference	100				**174**				61				105				86				87				21			
DMMU-8 Rep. 1	<0.00488	U	0.00488	0.00976	0.319	V	0.000354	0.0200	0.158	--	0.0220	0.0400	0.0256	--	0.000142	0.0100	0.000360	J	0.000138	0.0100	11.0	V	0.0376	0.200	410	--	39.4	93.5
DMMU-8 Rep. 2	<0.00488	U	0.00488	0.00976	0.353	V	0.000354	0.0200	0.186	--	0.0220	0.0400	0.0179	--	0.000142	0.0100	0.000520	J	0.000138	0.0100	12.1	V	0.0376	0.200	493	--	39.9	94.5
DMMU-8 Rep. 3	<0.00488	U	0.00488	0.00976	0.419	V	0.000355	0.0201	0.176	--	0.0221	0.0402	0.0257	--	0.000143	0.0100	0.000663	J	0.000139	0.0100	12.7	V	0.0377	0.201	427	--	40.9	96.9
DMMU-8 Rep. 4	<0.00492	U	0.00492	0.00984	0.451	V	0.000354	0.0200	0.153	--	0.0220	0.0400	0.0205	--	0.000142	0.0100	0.000460	J	0.000138	0.0100	11.3	V	0.0376	0.200	377	--	41.5	98.2
DMMU-8 Rep. 5	<0.00472	U	0.00472	0.00945	0.337	V	0.000354	0.0200	<0.0220	U	0.0220	0.0400	0.0151	--	0.000142	0.0100	0.000140	J	0.000138	0.0100	<0.00751	B, U	0.00751	0.0400	<39.8	--	39.8	94.3
DMMU-8 Mean	0.00486				**0.376**				0.139				**0.0210**				0.000429				9.4				349			
% of Reference	100				**188**				54				**119**				118				70				14			
REF Rep. 1	<0.00465	U	0.00465	0.00930	0.159	V	0.000354	0.0200	0.300	--	0.0220	0.0400	0.0221	--	0.000138	0.00969	0.000300	J	0.000138	0.0100	8.23	--	0.0376	0.200	3060	--	39.0	92.4
REF Rep. 2	<0.00496	U	0.00496	0.00992	0.181	V	0.00176	0.0992	0.232	--	0.109	0.198	0.0213	--	0.000141	0.00996	0.000278	J	0.000137	0.00992	24.7	--	0.0373	0.198	2470	--	40.3	95.6
REF Rep. 3	<0.00480	U	0.00480	0.00960	0.242	V	0.00354	0.200	0.244	J	0.220	0.400	0.0238	--	0.000140	0.00988	0.000440	J	0.000138	0.0100	18.8	--	0.0751	0.400	3050	--	39.1	92.6
REF Rep. 4	<0.00480	U	0.00480	0.00960	0.172	V	0.000354	0.0200	0.241	--	0.0220	0.0400	0.0141	--	0.000138	0.00969	0.000240	J	0.000138	0.0100	6.83	--	0.00751	0.0400	1960	--	40.2	95.2
REF Rep. 5	<0.00500	U	0.00500	0.0100	0.243	V	0.000615	0.0347	0.268	--	0.0382	0.0694	0.00707	J	0.000386	0.0272	0.000556	J	0.000240	0.0174	8.90	--	0.0130	0.0694	2290	--	41.3	97.8
REF Mean	0.00484				0.199				0.257				0.0177				0.000363				13.5				2566			
Pre-exposure Rep. 1	<0.00465	U	0.00465	0.00930	0.181	V	0.000355	0.0201	0.371	--	0.0221	0.0402	0.0235	--	0.000141	0.00996	0.000301	J	0.000139	0.0100	45.5	--	0.0754	0.402	449	--	10.5	25.0
Pre-exposure Rep. 2	<0.00476	U	0.00476	0.00952	0.201	V	0.000354	0.0200	0.295	--	0.0220	0.0400	0.0252	--	0.000140	0.00984	0.000540	J	0.000138	0.0100	19.7	--	0.0376	0.200	126	--	10.4	24.7
Pre-exposure Rep. 3	<0.00480	U	0.00480	0.00960	0.184	V	0.000351	0.0198	0.355	--	0.0218	0.0397	0.0200	--	0.000140	0.00988	0.000556	J	0.000137	0.00992	16.5	--	0.0373	0.198	68.2	--	10.4	24.7
Pre-exposure Mean	0.00474				0.189				0.340				0.0229				0.000466				27.2				214			
FDA Action Level	1				70				x				x				x				x				x			
Eco. Effects Threshold	0.3				2.2				14.2				1.0				0.3				0.3				x			
N. Gulf of Mexico Bkgd	0.03-0.04				0.53-3.5				0.61-0.99				<0.15				<0.31				14-16				x			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

Italicized and bolded values indicate results that are statistically significantly greater than that of the reference tissues and also exceed the ecological effects threshold and (or) the upper boundary of the N. Gulf of Mexico background concentration (see Section 7.5.3 of SERIM for details).

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL.

J = The value is between the MDL and the LRL. B = Analyte was found in the associated method blank. V = Analyte was detected in both sample and method blank.

Sources: Results from NWDLS and Eurofins-Stafford (TPHs); FDA action levels from FDA (2001, 2011); thresholds and background concentrations from Appendix H of SERIM (EPA and USACE 2008); trivalent and hexavalent chromium use total chromium levels, thresholds, and background concentrations.

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 15

Analytical Results for Dry Weight Metals and TPHs in *Mercenaria mercenaria* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper				Lead			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	0.0174	J	0.0118	0.147	17.6	--	0.0905	0.368	0.00221	J	0.00147	0.0294	0.224	--	0.00465	0.147	0.332	V, J	0.0108	0.441	8.43	V	0.0128	0.147	0.561	--	0.0111	0.0736
DMMU-1 Rep. 2	0.0183	J	0.0116	0.144	18.4	--	0.0886	0.360	0.00389	J	0.00144	0.0288	0.254	--	0.00455	0.144	0.494	V	0.0106	0.432	10.5	V	0.0125	0.144	0.548	--	0.0109	0.0720
DMMU-1 Rep. 3	0.0218	J	0.0114	0.141	18.8	--	0.0869	0.353	0.00580	J	0.00141	0.0283	0.253	--	0.00447	0.141	0.543	V	0.0104	0.424	9.54	V	0.0123	0.141	0.663	--	0.0107	0.0707
DMMU-1 Rep. 4	<0.0352	U	0.0352	0.438	21.3	--	0.0538	0.219	0.00700	J	0.00438	0.0875	0.278	J	0.0138	0.438	0.678	V, J	0.0322	1.31	9.92	V	0.0381	0.438	0.705	--	0.0330	0.219
DMMU-1 Rep. 5	0.0179	J	0.0103	0.128	14.0	--	0.0787	0.320	0.0132	J	0.00128	0.0256	0.212	--	0.00404	0.128	1.79	V	0.00940	0.384	7.94	V	0.0111	0.128	0.764	--	0.00966	0.0639
DMMU-1 Mean	**0.0221**				**18.0**				0.0064				0.244				0.767				9.27				**0.648**			
% of Reference	**147**				**160**				51				56				**259**				83				**181**			
DMMU-2 Rep. 1	0.0165	J	0.0116	0.144	16.9	--	0.0888	0.361	0.00419	J	0.00144	0.0289	0.266	--	0.00456	0.144	0.604	V	0.0106	0.433	9.86	V	0.0126	0.144	0.708	--	0.0109	0.0722
DMMU-2 Rep. 2	0.0172	J	0.0115	0.143	18.2	--	0.0881	0.358	0.00430	J	0.00143	0.0286	0.286	--	0.00453	0.143	0.905	V	0.0105	0.430	9.46	V	0.0125	0.143	0.752	--	0.0108	0.0716
DMMU-2 Rep. 3	0.0156	J	0.0110	0.137	16.5	--	0.0841	0.342	0.00602	J	0.00137	0.0273	0.256	--	0.00432	0.137	1.42	V	0.0101	0.410	8.23	V	0.0119	0.137	0.670	--	0.0103	0.0684
DMMU-2 Rep. 4	0.0177	J	0.0114	0.142	15.5	--	0.0871	0.354	0.00396	J	0.00142	0.0283	0.274	--	0.00447	0.142	1.40	V	0.0104	0.425	7.66	V	0.0123	0.142	0.670	--	0.0107	0.0708
DMMU-2 Rep. 5	0.0172	J	0.0111	0.138	15.0	--	0.0847	0.344	0.0102	J	0.00138	0.0275	0.261	--	0.00435	0.138	0.757	V	0.0101	0.413	7.80	V	0.0120	0.138	0.842	--	0.0104	0.0689
DMMU-2 Mean	**0.0168**				**16.4**				0.0057				0.269				**1.02**				8.60				**0.728**			
% of Reference	**112**				**146**				45				62				**343**				77				**204**			
DMMU-3 Rep. 1	0.0206	J	0.0133	0.165	14.7	--	0.102	0.413	0.00528	J	0.00165	0.0330	0.236	--	0.00522	0.165	0.466	V, J	0.0121	0.495	7.46	V	0.0144	0.165	0.757	--	0.0125	0.0826
DMMU-3 Rep. 2	0.0180	J	0.0112	0.139	15.3	--	0.0856	0.348	0.00348	J	0.00139	0.0278	0.224	--	0.00440	0.139	0.653	V	0.0102	0.418	8.14	V	0.0121	0.139	0.749	--	0.0105	0.0696
DMMU-3 Rep. 3	0.0168	J	0.0118	0.146	14.5	--	0.0900	0.366	0.00351	J	0.00146	0.0293	0.195	--	0.00462	0.146	0.688	V	0.0108	0.439	7.96	V	0.0127	0.146	0.683	--	0.0110	0.0731
DMMU-3 Rep. 4	0.0184	J	0.0111	0.137	15.0	--	0.0845	0.343	0.00426	J	0.00137	0.0275	0.201	--	0.00434	0.137	0.784	V	0.0101	0.412	7.31	V	0.0120	0.137	0.696	--	0.0104	0.0687
DMMU-3 Rep. 5	0.0158	J	0.0110	0.137	15.0	--	0.0844	0.343	0.00261	J	0.00137	0.0274	0.207	--	0.00433	0.137	0.579	V	0.0101	0.411	8.03	V	0.0119	0.137	0.607	--	0.0104	0.0686
DMMU-3 Mean	**0.0179**				**14.9**				0.00383				0.213				**0.634**				7.78				**0.698**			
% of Reference	**119**				**133**				30				49				**214**				70				**195**			
DMMU-4 Rep. 1	0.0170	J	0.0108	0.134	15.9	--	0.0822	0.334	0.00401	J	0.00134	0.0267	0.262	--	0.00423	0.134	0.337	V, J	0.00983	0.401	7.33	V	0.0116	0.134	0.597	--	0.0101	0.0669
DMMU-4 Rep. 2	0.0150	J	0.0130	0.162	16.9	--	0.0994	0.404	0.00178	J	0.00162	0.0323	0.229	--	0.00511	0.162	0.331	V, J	0.0119	0.485	7.95	V	0.0141	0.162	0.611	--	0.0122	0.0808
DMMU-4 Rep. 3	0.0142	J	0.0112	0.139	12.5	--	0.0857	0.349	0.00697	J	0.00139	0.0279	0.207	--	0.00441	0.139	1.11	V	0.0102	0.418	5.64	V	0.0121	0.139	0.542	--	0.0105	0.0697
DMMU-4 Rep. 4	0.0166	J	0.0112	0.139	15.0	--	0.0852	0.346	0.00887	J	0.00139	0.0277	0.222	--	0.00438	0.139	1.29	V	0.0102	0.416	6.54	V	0.0121	0.139	0.734	--	0.0105	0.0693
DMMU-4 Rep. 5	0.0220	J	0.0125	0.155	16.3	--	0.0952	0.387	0.00727	J	0.00155	0.0310	0.259	--	0.00489	0.155	2.76	V	0.0114	0.464	15.1	V	0.0135	0.155	1.08	--	0.0117	0.0774
DMMU-4 Mean	0.0170				**15.3**				0.00578				0.236				**1.17**				8.51				**0.713**			
% of Reference	113				**136**				46				54				**393**				76				**199**			
DMMU-5 Rep. 1	0.0281	J	0.0116	0.145	15.0	--	0.178	0.723	0.00824	J	0.00145	0.0289	0.207	--	0.00457	0.145	1.76	V	0.0106	0.434	18.1	V	0.0126	0.145	1.18	--	0.0109	0.0723
DMMU-5 Rep. 2	0.0200	J	0.0118	0.147	16.9	--	0.0905	0.368	0.00280	J	0.00147	0.0294	0.233	--	0.00465	0.147	0.679	V	0.0108	0.442	9.73	V	0.0128	0.147	0.652	--	0.0111	0.0736
DMMU-5 Rep. 3	0.0253	J	0.0112	0.139	13.2	--	0.0855	0.348	0.0100	J	0.00139	0.0278	0.201	--	0.00439	0.139	2.50	V	0.0102	0.417	16.0	V	0.0121	0.139	1.06	--	0.0105	0.0695
DMMU-5 Rep. 4	0.0284	J	0.0112	0.139	12.9	--	0.0853	0.347	0.0114	J	0.00139	0.0278	0.184	--	0.00438	0.139	4.63	V	0.0102	0.416	17.8	V	0.0121	0.139	1.15	--	0.0105	0.0694
DMMU-5 Rep. 5	0.0327	J	0.0122	0.151	13.9	--	0.0186	0.0757	0.0115	J	0.00151	0.0303	0.176	--	0.00478	0.151	3.51	V	0.0111	0.454	24.6	V	0.0132	0.151	1.19	--	0.0114	0.0757
DMMU-5 Mean	**0.0269**				**14.4**				0.0088				0.200				**2.62**				**17.2**				**1.05**			
% of Reference	**179**				**128**				70				46				**882**				**155**				**293**			
DMMU-6 Rep. 1	0.0205	J	0.0143	0.177	18.8	--	0.109	0.443	0.00602	J	0.00177	0.0354	0.290	--	0.00560	0.177	1.05	V	0.0130	0.531	9.73	V	0.0154	0.177	0.732	--	0.0134	0.0886
DMMU-6 Rep. 2	0.0156	J	0.0108	0.135	12.5	--	0.0828	0.337	0.0110	J	0.00135	0.0269	0.198	--	0.00426	0.135	2.57	V	0.00990	0.404	7.06	V	0.0117	0.135	0.607	--	0.0102	0.0674
DMMU-6 Rep. 3	<0.0577	U	0.0577	0.716	15.0	--	0.0881	0.358	<0.00716	U	0.00716	0.143	0.218	J	0.0226	0.716	0.922	V, J	0.0527	2.15	7.86	V	0.0623	0.716	0.593	--	0.0541	0.358
DMMU-6 Rep. 4	0.0156	J	0.0115	0.143	13.2	--	0.0878	0.357	0.00543	J	0.00143	0.0286	0.211	--	0.00451	0.143	1.47	V	0.0105	0.428	6.93	V	0.0124	0.143	0.637	--	0.0108	0.0714
DMMU-6 Rep. 5	0.0158	J	0.0115	0.143	13.0	--	0.0877	0.356	0.00841	J	0.00143	0.0285	0.215	--	0.00451	0.143	1.79	V	0.0105	0.428	7.30	V	0.0124	0.143	0.632	--	0.0108	0.0713
DMMU-6 Mean	**0.0250**				**14.5**				0.00760				0.226				**1.56**				7.78				**0.640**			
% of Reference	**167**				**129**				60				52				**526**				70				**179**			
DMMU-7 Rep. 1	0.0159	J	0.0117	0.146	13.5	--	0.0895	0.364	0.00378	J	0.00146	0.0291	0.218	--	0.00460	0.146	0.350	V, J	0.0107	0.437	7.81	V	0.0127	0.146	0.702	--	0.0110	0.0728
DMMU-7 Rep. 2	0.0179	J	0.0143	0.177	14.7	--	0.109	0.443	0.00337	J	0.00177	0.0354	0.228	--	0.00560	0.177	0.368	V, J	0.0130	0.532	9.05	V	0.0154	0.177	0.878	--	0.0134	0.0886
DMMU-7 Rep. 3	0.0149	J	0.0135	0.168	16.3	--	0.0206	0.0839	0.00252	J	0.00168	0.0336	0.229	--	0.00530	0.168	0.370	V, J	0.0123	0.503	9.32	V	0.0146	0.168	0.712	--	0.0127	0.0839
DMMU-7 Rep. 4	0.0168	J	0.0130	0.161	15.4	--	0.0198	0.0807	0.00516	J	0.00161	0.0323	0.209	--	0.00510	0.161	0.459	V, J	0.0119	0.484	7.91	V	0.0140	0.161	0.712	--	0.0122	0.0807
DMMU-7 Rep. 5	0.0134	J	0.0123	0.152	15.0	--	0.0187	0.0761	0.00640	J	0.00152	0.0305	0.223	--	0.00481	0.152	0.668	V	0.0112	0.457	8.64	V	0.0132	0.152	0.763	--	0.0115	0.0761
DMMU-7 Mean	0.0158				**15.0**				0.00425				0.221				0.443				8.55				**0.753**			
% of Reference	105				**133**				34				51				149				77				**211**			
DMMU-8 Rep. 1	0.0181	J	0.0120	0.150	15.5	--	0.0920	0.374	0.00553	J	0.00150	0.0299	0.185	--	0.00473	0.150	0.327	V, J	0.0110	0.449	7.82	V	0.0130	0.150	0.744	--	0.0113	0.0748
DMMU-8 Rep. 2	0.0152	J	0.0119	0.148	15.7	--	0.0908	0.369	0.00399	J	0.00148	0.0295	0.205	--	0.00467	0.148	0.380	V, J	0.0109	0.443	8.21	V	0.0128	0.148	0.596	--	0.0111	0.0738
DMMU-8 Rep. 3	0.0158	J	0.0123	0.153	14.2	--	0.0943	0.384	0.00291	J	0.00153	0.0307	0.214	--	0.00485	0.153	0.367	V, J	0.0113	0.460	7.94	V	0.0133	0.153	0.624	--	0.0116	0.0767
DMMU-8 Rep. 4	0.0162	J	0.0142	0.176	17.2	--	0.0217	0.0882	0.00653	J	0.00176	0.0353	0.195	--	0.00557	0.176	0.489	J	0.0130	0.529	8.80	V	0.0153	0.176	0.665	V	0.0133	0.0882
DMMU-8 Rep. 5	0.0212	J	0.0125	0.156	17.6	--	0.192	0.779	0.00265	J	0.00156	0.0312	0.188	--	0.00493	0.156	0.343	J	0.0115	0.468	7.21	V	0.0136	0.156	0.612	V	0.0118	0.0779
DMMU-8 Mean	**0.0173**				**16.0**				0.00432				0.197				0.381				8.00				**0.648**			
% of Reference	**115**				**143**				34				46				129				72				**181**			
REF Rep. 1	<0.0144	U	0.0144	0.179	11.1	--	0.0220	0.0893	0.0107	J	0.00179	0.0357	0.402	--	0.00564	0.179	0.371	V, J	0.0131	0.536	12.7	V	0.0155	0.179	0.414	V	0.0135	0.0893
REF Rep. 2	<0.0150	U	0.0150	0.187	11.3	--	0.0230	0.0933	0.0136	J	0.00187	0.0373	0.473	--	0.00590	0.187	0.288	V, J	0.0137	0.560	11.6	V	0.0162	0.187	0.361	V	0.0141	0.0933
REF Rep. 3	<0.0151	U	0.0151	0.188	12.2	--	0.0231	0.0938	0.0137	J	0.00188	0.0375	0.432	--	0.00593	0.188	0.235	V, J	0.0138	0.563	9.34	V	0.0163	0.188	0.301	V	0.0142	0.0938
REF Rep. 4	<0.0155	U	0.0155	0.192	10.3	--	0.118	0.481	0.0142	J	0.00192	0.0385	0.435	--	0.00608	0.192	0.339	V, J	0.0707	2.89	10.9	V	0.0837	0.962	0.346	V	0.0145	0.0962
REF Rep. 5	<0.0151	U	0.0151	0.188	11.3	--	0.0231	0.0938	0.0109	J	0.00188	0.0375	0.427	--	0.00593	0.188	0.250	V, J	0.0138	0.563	11.1	V	0.0163	0.188	0.365	V	0.0142	0.0938
REF Mean	0.0150				11.2				0.0126				0.434				0.297				11.1				0.357			
Pre-exposure Rep. 1	<0.0150	U	0.0150	0.186	9.67	--	0.0229	0.0932	0.0116	J	0.00186	0.0373	0.390	--	0.00589	0.186	0.394	V, J	0.0137	0.559	9.57	V	0.0162	0.186	0.299	V	0.0141	0.0932
Pre-exposure Rep. 2	<0.0128	U	0.0128	0.160	9.77	--	0.0196	0.0798	0.0145	J	0.00160	0.0319	0.345	--	0.00504	0.160	0.549	V	0.0117	0.479	11.3	V	0.0139	0.160	0.391	V	0.0120	0.0798
Pre-exposure Rep. 3	<0.0141	U	0.0141	0.176	11.3	--	0.0216	0.0878	0.0118	J	0.00176	0.0351	0.417	--	0.00555	0.176	0.282	V, J	0.0129	0.527	12.6	V	0.0153	0.176	0.469	V	0.0133	0.0878
Pre-exposure Mean	0.0140				10.2				0.0126				0.384				0.408				11.2				0.386			

TABLE 15 ***(continued)***

Analytical Results for Dry Weight Metals and TPHs in *Mercenaria mercenaria* Tissues

Analyte:	Mercury				Nickel				Selenium				Silver				Thallium				Zinc				Total Petroleum Hydrocarbons (TPHs)			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.0362	U	0.0362	0.0724	1.19	V	0.00260	0.147	2.14	--	0.162	0.294	0.144	--	0.00104	0.0736	0.00368	J	0.00102	0.0736	63.4	V	0.276	1.47	1154	--	282	667
DMMU-1 Rep. 2	0.0456	J	0.0335	0.0670	1.26	V	0.00255	0.144	2.28	--	0.158	0.288	0.124	--	0.00102	0.0720	0.00389	J	0.000994	0.0720	61.3	V	0.270	1.44	1482	--	296	700
DMMU-1 Rep. 3	0.0432	J	0.0327	0.0655	1.48	V	0.00250	0.141	2.55	--	0.155	0.283	0.128	--	0.00100	0.0707	0.00509	J	0.000975	0.0707	151	V	0.265	1.41	1246	--	290	688
DMMU-1 Rep. 4	0.0375	J	0.0329	0.0657	1.77	V	0.00775	0.438	2.27	--	0.481	0.875	0.116	J	0.00311	0.219	0.00481	J	0.00302	0.219	81.4	V	0.164	0.875	973	--	276	655
DMMU-1 Rep. 5	0.0453	J	0.0307	0.0614	1.80	V	0.00226	0.128	2.03	--	0.141	0.256	0.0884	--	0.000908	0.0639	0.00473	J	0.000882	0.0639	113	V	0.240	1.28	1051	--	269	637
DMMU-1 Mean	0.0416				1.50				**2.25**				0.120				**0.00444**				94.0				**1181**			
% of Reference	94				45				**137**				81				**157**				86				**352**			
DMMU-2 Rep. 1	0.0412	J	0.0351	0.0701	1.24	V	0.00255	0.144	2.30	--	0.159	0.289	0.0963	--	0.00102	0.0722	0.00491	J	0.000996	0.0722	312	V	0.542	2.89	367	J	289	685
DMMU-2 Rep. 2	0.0403	J	0.0359	0.0719	1.51	V	0.00253	0.143	2.34	--	0.158	0.286	0.0859	--	0.00102	0.0716	0.00444	J	0.000988	0.0716	319	V	0.538	2.86	3626	--	296	703
DMMU-2 Rep. 3	<0.0318	U	0.0318	0.0636	1.72	V	0.00242	0.137	2.07	--	0.150	0.273	0.0753	--	0.000971	0.0684	0.00451	J	0.000943	0.0684	179	V	0.257	1.37	499	J	274	650
DMMU-2 Rep. 4	0.0399	J	0.0347	0.0693	1.63	V	0.00251	0.142	2.04	--	0.156	0.283	0.0651	J	0.00101	0.0708	0.00425	J	0.000977	0.0708	73.7	V	0.266	1.42	2338	--	292	693
DMMU-2 Rep. 5	0.0336	J	0.0328	0.0656	1.52	V	0.00244	0.138	2.03	--	0.151	0.275	0.0574	J	0.000978	0.0689	0.00441	J	0.000950	0.0689	359	V	0.517	2.75	4924	--	274	650
DMMU-2 Mean	0.0374				1.52				**2.16**				0.0760				**0.00450**				249				2351			
% of Reference	84				46				**131**				51				**159**				227				700			
DMMU-3 Rep. 1	<0.0384	U	0.0384	0.0768	1.20	V	0.00292	0.165	2.17	--	0.182	0.330	0.124	--	0.00117	0.0826	0.00264	J	0.00114	0.0826	171	V	0.310	1.65	7975	--	333	788
DMMU-3 Rep. 2	0.0357	J	0.0329	0.0658	1.37	V	0.00246	0.139	2.30	--	0.153	0.278	0.0991	--	0.000988	0.0696	0.00306	J	0.000960	0.0696	68.6	V	0.261	1.39	22378	--	294	697
DMMU-3 Rep. 3	0.0456	J	0.0343	0.0686	1.27	V	0.00259	0.146	2.27	--	0.161	0.293	0.0768	--	0.00104	0.0731	0.00249	J	0.00101	0.0731	60.2	V	0.275	1.46	2029	--	301	714
DMMU-3 Rep. 4	0.0345	J	0.0338	0.0676	1.18	V	0.00243	0.137	2.21	--	0.151	0.275	0.111	--	0.000975	0.0687	0.00385	J	0.000948	0.0687	126	V	0.258	1.37	1139	--	281	665
DMMU-3 Rep. 5	0.0461	J	0.0319	0.0638	1.33	V	0.00243	0.137	2.31	--	0.151	0.274	0.0914	--	0.000974	0.0686	0.00274	J	0.000946	0.0686	114	V	0.258	1.37	1295	--	288	682
DMMU-3 Mean	0.0401				1.27				**2.25**				0.100				0.00296				108				**6963**			
% of Reference	91				38				**136**				67				104				99				**2073**			
DMMU-4 Rep. 1	0.0324	J	0.0313	0.0627	1.68	V	0.00237	0.134	2.07	--	0.147	0.267	0.122	--	0.000949	0.0669	0.00374	J	0.000923	0.0669	216	V	0.251	1.34	1073	--	276	653
DMMU-4 Rep. 2	<0.0404	U	0.0404	0.0808	1.67	V	0.00286	0.162	2.08	--	0.178	0.323	0.0896	--	0.00115	0.0808	0.00372	J	0.00112	0.0808	157	V	0.303	1.62	1379	--	320	758
DMMU-4 Rep. 3	0.0451	J	0.0341	0.0683	1.65	V	0.00247	0.139	1.60	--	0.153	0.279	0.0722	--	0.000990	0.0697	0.00335	J	0.000962	0.0697	114	V	0.262	1.39	2238	--	269	637
DMMU-4 Rep. 4	0.0437	J	0.0327	0.0654	2.04	V	0.00245	0.139	2.01	--	0.152	0.277	0.0896	--	0.000984	0.0693	0.00457	J	0.000956	0.0693	57.3	V	0.260	1.39	1604	--	283	669
DMMU-4 Rep. 5	<0.0366	U	0.0366	0.0731	2.40	V	0.00274	0.155	2.09	--	0.170	0.310	0.115	V	0.00110	0.0774	0.00511	V, J	0.00107	0.0774	114	V	0.291	1.55	1589	--	312	738
DMMU-4 Mean	0.0396				1.89				**1.97**				0.098				**0.00410**				132				**1577**			
% of Reference	90				56				**119**				66				**145**				120				**469**			
DMMU-5 Rep. 1	<0.0344	U	0.0344	0.0689	1.45	V	0.00256	0.145	2.08	--	0.159	0.289	0.125	V	0.00103	0.0723	0.00362	V, J	0.000998	0.0723	475	V	0.543	2.89	2181	--	295	698
DMMU-5 Rep. 2	<0.0362	U	0.0362	0.0724	1.10	V	0.00260	0.147	2.06	--	0.162	0.294	0.119	V	0.00104	0.0736	0.00309	V, J	0.00102	0.0736	244	V	0.276	1.47	18074	--	304	719
DMMU-5 Rep. 3	<0.0350	U	0.0350	0.0701	1.60	V	0.00246	0.139	1.96	--	0.153	0.278	0.0961	V	0.000987	0.0695	0.00375	V, J	0.000960	0.0695	92.7	V	0.261	1.39	15035	--	278	657
DMMU-5 Rep. 4	<0.0343	U	0.0343	0.0685	2.43	V	0.00246	0.139	1.84	--	0.153	0.278	0.0910	V	0.000985	0.0694	0.00402	V, J	0.000957	0.0694	53.2	V	0.261	1.39	14966	--	286	676
DMMU-5 Rep. 5	<0.0355	U	0.0355	0.0709	1.80	V	0.00268	0.151	1.72	--	0.166	0.303	0.0812	V	0.00107	0.0757	0.00348	V, J	0.00104	0.0757	55.0	V	0.0568	0.303	17955	--	318	755
DMMU-5 Mean	0.0351				1.68				**1.93**				0.102				**0.00359**				184				**13642**			
% of Reference	79				50				**117**				69				**127**				168				**4061**			
DMMU-6 Rep. 1	0.0608	J	0.0415	0.0830	2.24	V	0.00314	0.177	2.41	--	0.195	0.354	0.122	V	0.00126	0.0886	0.00443	V, J	0.00122	0.0886	156	V	0.333	1.77	18393	--	366	867
DMMU-6 Rep. 2	<0.0323	U	0.0323	0.0647	2.35	V	0.00238	0.135	1.90	--	0.148	0.269	0.0788	V	0.000956	0.0674	0.00404	V, J	0.000930	0.0674	84.9	V	0.253	1.35	4088	--	280	662
DMMU-6 Rep. 3	0.0363	J	0.0354	0.0707	1.90	V	0.0127	0.716	1.50	--	0.788	1.43	0.0847	V, J	0.00509	0.358	<0.00494	B, U	0.00494	0.358	111	V	0.269	1.43	8417	--	290	688
DMMU-6 Rep. 4	0.0407	J	0.0333	0.0667	2.14	V	0.00253	0.143	2.03	--	0.157	0.286	0.0717	V	0.00101	0.0714	0.00386	V, J	0.000985	0.0714	140	V	0.268	1.43	20863	--	277	656
DMMU-6 Rep. 5	0.0457	J	0.0339	0.0679	1.98	V	0.00252	0.143	1.96	--	0.157	0.285	0.0793	V	0.00101	0.0713	0.00385	V, J	0.000984	0.0713	77.2	V	0.268	1.43	21571	--	292	692
DMMU-6 Mean	0.0432				2.12				**1.96**				0.087				**0.00422**				114				**14667**			
% of Reference	98				63				**119**				59				**149**				104				**4366**			
DMMU-7 Rep. 1	<0.0359	U	0.0359	0.0719	1.11	V	0.00258	0.146	2.02	--	0.160	0.291	0.111	V	0.00103	0.0728	0.00262	V, J	0.00100	0.0728	190	V	0.273	1.46	21387	--	302	715
DMMU-7 Rep. 2	<0.0417	U	0.0417	0.0834	1.23	V	0.00314	0.177	2.48	--	0.195	0.354	0.167	V	0.00126	0.0886	0.00213	V, J	0.00122	0.0886	602	V	0.666	3.54	24505	--	372	881
DMMU-7 Rep. 3	<0.0393	U	0.0393	0.0787	1.25	V	0.00297	0.168	2.26	--	0.185	0.336	0.110	V	0.00119	0.0839	0.00201	V, J	0.00116	0.0839	185	V	0.315	1.68	20420	--	342	811
DMMU-7 Rep. 4	<0.0398	U	0.0398	0.0797	1.27	V	0.00286	0.161	2.19	--	0.177	0.323	0.0995	V	0.00115	0.0807	0.00226	V, J	0.00111	0.0807	305	V	0.303	1.61	11532	--	335	795
DMMU-7 Rep. 5	0.0404	J	0.0354	0.0708	1.26	V	0.00270	0.152	1.97	--	0.168	0.305	0.0914	V	0.00108	0.0761	0.00259	V, J	0.00105	0.0761	61.8	V	0.286	1.52	19160	--	309	733
DMMU-7 Mean	0.0394				1.22				**2.18**				0.116				0.00232				269				**19401**			
% of Reference	89				37				**132**				78				82				245				**5775**			
DMMU-8 Rep. 1	<0.0363	U	0.0363	0.0726	1.05	V	0.00265	0.150	2.22	--	0.165	0.299	0.114	V	0.00106	0.0748	0.00269	V, J	0.00103	0.0748	394	V	0.562	2.99	9008	--	313	741
DMMU-8 Rep. 2	<0.0357	U	0.0357	0.0714	1.12	V	0.00261	0.148	2.11	--	0.162	0.295	0.0945	V	0.00105	0.0738	0.00281	V, J	0.00102	0.0738	212	V	0.277	1.48	1000	--	301	713
DMMU-8 Rep. 3	0.0409	J	0.0368	0.0736	1.06	V	0.00272	0.153	2.02	--	0.169	0.307	0.0997	V	0.00109	0.0767	0.00261	V, J	0.00106	0.0767	224	V	0.288	1.53	23538	--	310	735
DMMU-8 Rep. 4	<0.0430	U	0.0430	0.0861	1.12	V	0.00312	0.176	1.98	--	0.194	0.353	0.0954	--	0.00125	0.0882	0.00335	J	0.00122	0.0882	209	V	0.331	1.76	19027	--	371	878
DMMU-8 Rep. 5	0.0404	J	0.0383	0.0767	1.05	V	0.00276	0.156	1.98	--	0.171	0.312	0.0870	--	0.00111	0.0779	0.00390	J	0.00108	0.0779	348	V	0.585	3.12	25391	--	320	757
DMMU-8 Mean	0.0393				1.08				**2.06**				0.098				0.00307				**277**				**15593**			
% of Reference	89				32				**125**				66				108				**253**				**4641**			
REF Rep. 1	<0.0419	U	0.0419	0.0837	3.05	V	0.00316	0.179	1.62	--	0.196	0.357	0.139	--	0.00123	0.0869	0.00304	J	0.00123	0.0893	103	V	0.335	1.79	<94	U	94	221
REF Rep. 2	<0.0436	U	0.0436	0.0872	3.58	V	0.00330	0.187	1.83	--	0.205	0.373	0.139	--	0.00129	0.0911	0.00317	J	0.00129	0.0933	116	V	0.351	1.87	437	J	386	915
REF Rep. 3	<0.0452	U	0.0452	0.0904	3.25	V	0.00332	0.188	1.59	--	0.206	0.375	0.175	--	0.00132	0.0927	0.00225	J	0.00129	0.0938	107	V	0.352	1.88	<390	U	390	925
REF Rep. 4	<0.0447	U	0.0447	0.0895	3.72	V	0.0170	0.962	1.69	--	0.212	0.385	0.128	--	0.00137	0.0962	0.00289	J	0.00133	0.0962	113	V	0.361	1.92	<388	U	388	919
REF Rep. 5	<0.0458	U	0.0458	0.0915	3.14	V	0.00332	0.188	1.52	--	0.206	0.375	0.164	--	0.00131	0.0920	0.00281	J	0.00129	0.0938	109	V	0.352	1.88	<371	U	371	880
REF Mean	0.0442				3.35				1.65				0.149				0.00283				110				336			
Pre-exposure Rep. 1	<0.0442	U	0.0442	0.0884	3.57	V	0.00330	0.186	1.71	--	0.205	0.373	0.147	--	0.00132	0.0929	0.00205	J	0.00129	0.0932	122	V	0.350	1.86	<95	U	95	227
Pre-exposure Rep. 2	<0.0377	U	0.0377	0.0754	3.11	V	0.00282	0.160	1.62	--	0.176	0.319	0.140	--	0.00113	0.0798	0.00271	J	0.00110	0.0798	106	V	0.300	1.60	<83	U	83	197
Pre-exposure Rep. 3	<0.0435	U	0.0435	0.0871	3.15	V	0.00311	0.176	1.97	--	0.193	0.351	0.174	--	0.00122	0.0861	0.00351	J	0.00121	0.0878	124	V	0.330	1.76	<92	U	92	218
Pre-exposure Mean	0.0418				3.28				1.77				0.154				0.00276				117				90			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL.

B = Analyte was found in the associated method blank. J = The value is between the MDL and the LRL. V = Analyte was detected in both sample and method blank.

Sources: Results from NWDLS and Eurofins-Stafford (TPHs). Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 16

Analytical Results for Dry Weight Metals and TPHs in *Alitta virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper				Lead			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.0146	U	0.0146	0.181	11.4	--	0.0223	0.0906	0.0121	J	0.00181	0.0362	0.401	--	0.00572	0.181	0.364	J	0.0133	0.543	11.1	V	0.0158	0.181	0.317	V	0.0137	0.0906
DMMU-1 Rep. 2	<0.0147	U	0.0147	0.183	11.9	--	0.0225	0.0913	0.0139	J	0.00183	0.0365	0.404	--	0.00577	0.183	0.514	J	0.0134	0.548	11.1	V	0.0159	0.183	0.356	V	0.0138	0.0913
DMMU-1 Rep. 3	<0.0150	U	0.0150	0.186	13.3	--	0.0229	0.0929	0.0132	J	0.00186	0.0372	0.447	--	0.00587	0.186	0.357	J	0.0137	0.558	11.1	V	0.0162	0.186	0.360	V	0.0140	0.0929
DMMU-1 Rep. 4	<0.0144	U	0.0144	0.179	11.7	--	0.0220	0.0894	0.0140	J	0.00179	0.0358	0.439	--	0.00565	0.179	0.375	J	0.0131	0.537	13.1	V	0.0156	0.179	0.447	V	0.0135	0.0894
DMMU-1 Rep. 5	<0.0162	U	0.0162	0.202	12.6	--	0.0248	0.101	0.00928	J	0.00202	0.0403	0.454	--	0.00637	0.202	0.311	J	0.0148	0.605	11.8	V	0.0175	0.202	0.327	V	0.0152	0.101
DMMU-1 Mean	0.0150				12.2				0.0125				**0.429**				0.384				11.6				0.361			
% of Reference	60				80				161				**228**				25				56				36			
DMMU-2 Rep. 1	<0.0153	U	0.0153	0.190	11.8	--	0.0234	0.0952	0.0135	J	0.00190	0.0381	0.509	--	0.00601	0.190	0.231	J	0.0140	0.571	14.6	V	0.0166	0.190	0.330	V	0.0144	0.0952
DMMU-2 Rep. 2	<0.0147	U	0.0147	0.183	11.2	--	0.0225	0.0915	0.0128	J	0.00183	0.0366	0.439	--	0.00578	0.183	0.367	J	0.0135	0.549	10.8	V	0.0159	0.183	0.313	V	0.0138	0.0915
DMMU-2 Rep. 3	<0.0154	U	0.0154	0.192	12.3	--	0.0236	0.0959	0.00901	J	0.00192	0.0384	0.434	--	0.00606	0.192	0.355	J	0.0141	0.575	11.0	V	0.0167	0.192	0.322	V	0.0145	0.0959
DMMU-2 Rep. 4	<0.0142	U	0.0142	0.177	13.1	--	0.0218	0.0884	0.0127	J	0.00177	0.0354	0.491	--	0.00559	0.177	0.396	J	0.0130	0.531	11.9	V	0.0154	0.177	0.331	V	0.0134	0.0884
DMMU-2 Rep. 5	<0.0150	U	0.0150	0.186	12.7	--	0.0229	0.0931	0.0106	J	0.00186	0.0372	0.420	--	0.00588	0.186	0.203	J	0.0137	0.559	11.3	V	0.0162	0.186	0.217	V	0.0141	0.0931
DMMU-2 Mean	0.0149				12.2				0.0117				**0.459**				0.310				11.9				0.303			
% of Reference	60				80				151				**244**				20				58				30			
DMMU-3 Rep. 1	<0.0144	U	0.0144	0.179	12.5	--	0.0220	0.0894	0.00965	J	0.00179	0.0357	0.536	--	0.00565	0.179	0.441	J	0.0131	0.536	11.3	V	0.0155	0.179	0.332	V	0.0135	0.0894
DMMU-3 Rep. 2	<0.0139	U	0.0139	0.172	12.2	--	0.0212	0.0862	0.0138	J	0.00172	0.0345	0.516	--	0.00545	0.172	0.339	J	0.0127	0.517	11.1	V	0.0150	0.172	0.347	V	0.0130	0.0862
DMMU-3 Rep. 3	<0.0149	U	0.0149	0.185	10.6	--	0.0227	0.0923	0.0113	J	0.00185	0.0369	0.415	--	0.00584	0.185	0.358	J	0.0136	0.554	9.40	V	0.0161	0.185	0.350	V	0.0139	0.0923
DMMU-3 Rep. 4	<0.0154	U	0.0154	0.191	12.1	--	0.0235	0.0956	0.0120	J	0.00191	0.0383	0.477	--	0.00604	0.191	0.365	J	0.0141	0.574	11.3	V	0.0166	0.191	0.392	V	0.0144	0.0956
DMMU-3 Rep. 5	<0.0147	U	0.0147	0.183	11.8	--	0.0225	0.0914	0.00841	J	0.00183	0.0366	0.463	--	0.00578	0.183	0.280	J	0.0134	0.549	11.0	V	0.0159	0.183	0.368	V	0.0138	0.0914
DMMU-3 Mean	0.0147				11.8				0.0110				**0.481**				0.357				10.8				0.358			
% of Reference	59				77				142				**256**				23				52				35			
DMMU-4 Rep. 1	<0.0167	U	0.0167	0.207	12.2	--	0.0255	0.104	0.0139	J	0.00207	0.0414	0.567	--	0.00655	0.207	0.408	J	0.0152	0.622	13.2	V	0.0180	0.207	0.400	V	0.0156	0.104
DMMU-4 Rep. 2	<0.0164	U	0.0164	0.204	11.3	--	0.0251	0.102	0.0122	J	0.00204	0.0408	0.468	--	0.00644	0.204	0.373	J	0.0150	0.612	12.3	V	0.0177	0.204	0.365	V	0.0154	0.102
DMMU-4 Rep. 3	<0.0160	U	0.0160	0.199	11.3	--	0.0244	0.0993	0.0143	J	0.00199	0.0397	0.412	--	0.00627	0.199	0.326	V, J	0.0146	0.596	11.9	V	0.0173	0.199	0.373	--	0.0150	0.0993
DMMU-4 Rep. 4	<0.0157	U	0.0157	0.195	10.9	--	0.0240	0.0974	0.0191	J	0.00195	0.0390	0.517	--	0.00615	0.195	0.632	V	0.0143	0.584	12.7	V	0.0169	0.195	0.391	--	0.0147	0.0974
DMMU-4 Rep. 5	<0.0159	U	0.0159	0.198	10.4	--	0.0243	0.0989	0.0115	J	0.00198	0.0395	0.405	--	0.00625	0.198	0.281	V, J	0.0145	0.593	12.9	V	0.0172	0.198	0.437	--	0.0149	0.0989
DMMU-4 Mean	0.0161				11.2				0.0142				**0.474**				0.404				12.6				0.393			
% of Reference	65				73				183				**252**				26				61				39			
DMMU-5 Rep. 1	<0.0143	U	0.0143	0.177	10.4	--	0.0218	0.0885	0.0117	J	0.00177	0.0354	0.420	--	0.00559	0.177	0.550	V	0.0130	0.531	12.7	V	0.0154	0.177	0.342	--	0.0134	0.0885
DMMU-5 Rep. 2	<0.0157	U	0.0157	0.195	12.7	--	0.0239	0.0974	0.0127	J	0.00195	0.0389	0.431	--	0.00615	0.195	0.288	V, J	0.0143	0.584	12.5	V	0.0169	0.195	0.275	--	0.0147	0.0974
DMMU-5 Rep. 3	<0.0137	U	0.0137	0.170	10.9	--	0.0209	0.0851	0.0114	J	0.00170	0.0340	0.427	--	0.00538	0.170	0.256	V, J	0.0125	0.510	10.8	V	0.0148	0.170	0.279	--	0.0128	0.0851
DMMU-5 Rep. 4	<0.0128	U	0.0128	0.159	11.5	--	0.0196	0.0795	0.0126	J	0.00159	0.0318	0.371	--	0.00503	0.159	0.321	V, J	0.0117	0.477	11.1	V	0.0138	0.159	0.318	--	0.0120	0.0795
DMMU-5 Rep. 5	<0.0144	U	0.0144	0.179	12.6	--	0.0221	0.0897	0.0109	J	0.00179	0.0359	0.421	--	0.00567	0.179	0.267	V, J	0.0132	0.538	11.7	V	0.0156	0.179	0.337	--	0.0136	0.0897
DMMU-5 Mean	0.0142				11.6				0.0119				**0.414**				0.336				11.8				0.310			
% of Reference	57				76				153				**220**				22				57				31			
DMMU-6 Rep. 1	<0.0138	U	0.0138	0.172	12.0	--	0.0211	0.0858	0.0132	J	0.00172	0.0343	0.415	--	0.00542	0.172	0.316	V, J	0.0126	0.515	11.7	V	0.0149	0.172	0.347	--	0.0130	0.0858
DMMU-6 Rep. 2	<0.0143	U	0.0143	0.178	11.8	--	0.0218	0.0888	0.0155	J	0.00178	0.0355	0.494	--	0.00561	0.178	0.528	V, J	0.0131	0.533	11.0	V	0.0155	0.178	0.428	--	0.0134	0.0888
DMMU-6 Rep. 3	<0.0154	U	0.0154	0.191	11.8	--	0.0235	0.0956	0.0134	J	0.00191	0.0382	0.522	--	0.00604	0.191	0.326	V, J	0.0140	0.573	12.7	V	0.0166	0.191	0.497	--	0.0144	0.0956
DMMU-6 Rep. 4	<0.0747	U	0.0747	0.928	11.4	--	0.0228	0.0928	0.0104	J	0.00186	0.0371	0.480	J	0.0293	0.928	0.266	V, J	0.0682	2.78	10.8	V	0.0161	0.186	0.386	J	0.0700	0.464
DMMU-6 Rep. 5	<0.0151	U	0.0151	0.187	11.5	--	0.0231	0.0937	0.0126	J	0.00187	0.0375	0.483	--	0.00592	0.187	0.301	V, J	0.0138	0.562	11.3	V	0.0163	0.187	0.298	--	0.0142	0.0937
DMMU-6 Mean	0.0267				11.7				0.0130				**0.479**				0.347				11.5				0.391			
% of Reference	107				76				168				**254**				22				56				38			
DMMU-7 Rep. 1	<0.0171	U	0.0171	0.212	10.8	--	0.0261	0.106	0.0134	J	0.00212	0.0424	0.532	--	0.00670	0.212	0.664	V	0.0156	0.636	11.1	V	0.0185	0.212	0.377	--	0.0160	0.106
DMMU-7 Rep. 2	<0.0144	U	0.0144	0.179	12.6	--	0.0220	0.0893	0.0113	J	0.00179	0.0357	0.489	--	0.00564	0.179	0.416	V, J	0.0131	0.536	11.0	V	0.0155	0.179	0.405	--	0.0135	0.0893
DMMU-7 Rep. 3	<0.0143	U	0.0143	0.178	12.0	--	0.0219	0.0891	0.0112	J	0.00178	0.0356	0.434	--	0.00563	0.178	0.241	V, J	0.0131	0.535	11.0	V	0.0155	0.178	0.353	--	0.0135	0.0891
DMMU-7 Rep. 4	<0.0155	U	0.0155	0.193	11.7	--	0.0237	0.0963	0.0158	J	0.00193	0.0385	0.479	--	0.00609	0.193	0.263	V, J	0.0142	0.578	11.3	V	0.0168	0.193	0.391	--	0.0145	0.0963
DMMU-7 Rep. 5	<0.0156	U	0.0156	0.193	11.0	--	0.0238	0.0966	0.0122	J	0.00193	0.0387	0.494	--	0.00611	0.193	0.321	V, J	0.0142	0.580	10.1	V	0.0168	0.193	0.415	--	0.0146	0.0966
DMMU-7 Mean	0.0154				11.6				0.0128				**0.486**				0.381				10.9				0.388			
% of Reference	62				76				165				**258**				24				53				38			
DMMU-8 Rep. 1	<0.0145	U	0.0145	0.180	10.5	--	0.0221	0.0899	0.00989	J	0.00180	0.0360	0.463	--	0.00568	0.180	0.374	V, J	0.0132	0.539	15.8	V	0.0156	0.180	0.451	--	0.0136	0.0899
DMMU-8 Rep. 2	<0.0131	U	0.0131	0.163	12.2	--	0.0201	0.0816	0.0136	J	0.00163	0.0327	0.452	--	0.00516	0.163	0.418	V, J	0.0120	0.490	12.1	V	0.0142	0.163	0.424	--	0.0123	0.0816
DMMU-8 Rep. 3	0.0183	J	0.0158	0.197	12.6	--	0.0242	0.0984	0.0132	J	0.00197	0.0394	0.572	--	0.00622	0.197	0.574	V, J	0.0145	0.591	14.0	V	0.0171	0.197	0.536	--	0.0149	0.0984
DMMU-8 Rep. 4	<0.0159	U	0.0159	0.197	13.5	--	0.0242	0.0985	0.0171	J	0.00197	0.0394	0.572	--	0.00622	0.197	0.405	V, J	0.0145	0.591	17.9	V	0.0171	0.197	0.436	--	0.0149	0.0985
DMMU-8 Rep. 5	<0.0164	U	0.0164	0.203	<0.0250	U	0.0250	0.102	0.0108	J	0.00203	0.0407	<0.00643	U	0.00643	0.203	<0.0150	B, U	0.0150	0.610	12.9	V	0.0177	0.203	<0.0154	U	0.0154	0.102
DMMU-8 Mean	0.0156				9.8				0.0129				0.413				0.357				14.5				0.372			
% of Reference	63				64				167				219				23				70				37			
REF Rep. 1	0.0183	J	0.0111	0.138	14.3	--	0.0850	0.346	0.00470	J	0.00138	0.0277	0.182	--	0.00437	0.138	0.868	V	0.0102	0.415	12.7	V	0.0120	0.138	0.732	--	0.0104	0.0691
REF Rep. 2	0.0228	J	0.0114	0.142	14.0	--	0.0872	0.355	0.00440	J	0.00142	0.0284	0.179	--	0.00448	0.142	1.08	V, J	0.0521	2.13	19.5	V	0.0617	0.709	0.882	--	0.0107	0.0709
REF Rep. 3	0.0330	J	0.0125	0.156	16.8	--	0.191	0.778	0.00560	J	0.00156	0.0311	0.212	--	0.00492	0.156	2.22	V, J	0.114	4.67	27.3	V	0.135	1.56	1.18	--	0.0118	0.0778
REF Rep. 4	0.0253	J	0.0151	0.188	17.4	--	0.0231	0.0938	0.00694	J	0.00188	0.0375	0.203	--	0.00593	0.188	1.58	V	0.0138	0.563	22.4	V	0.0163	0.188	1.03	--	0.0142	0.0938
REF Rep. 5	0.0248	J	0.0186	0.231	14.0	--	0.0285	0.116	0.0171	J	0.00231	0.0463	0.165	J	0.00731	0.231	2.05	V	0.0170	0.694	21.7	V	0.0201	0.231	1.26	--	0.0175	0.116
REF Mean	0.0248				15.3				0.0077				0.188				1.56				20.7				1.02			
Pre-exposure Rep. 1	0.0195	J	0.0127	0.158	16.8	--	0.195	0.792	0.00475	J	0.00158	0.0317	0.195	--	0.00500	0.158	0.698	V	0.0116	0.475	15.0	V	0.0138	0.158	0.533	--	0.0120	0.0792
Pre-exposure Rep. 2	0.0206	J	0.0122	0.151	14.1	--	0.0931	0.378	0.0133	J	0.00151	0.0303	0.159	--	0.00478	0.151	1.19	V	0.0111	0.454	11.2	V	0.0132	0.151	0.734	--	0.0114	0.0757
Pre-exposure Rep. 3	0.0199	J	0.0115	0.143	16.2	--	0.0881	0.358	0.0116	J	0.00143	0.0286	0.190	--	0.00453	0.143	1.00	V	0.0105	0.430	11.3	V	0.0125	0.143	0.817	--	0.0108	0.0716
Pre-exposure Mean	0.0200				15.7				0.0099				0.181				0.963				12.5				0.695			

TABLE 16 *(continued)*

Analytical Results for Dry Weight Metals and TPHs in *Alitta virens* Tissues

Analyte:	Mercury				Nickel				Selenium				Silver				Thallium				Zinc				Total Petroleum Hydrocarbons (TPHs)			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL	Result mg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.0453	U	0.0453	0.0906	2.93	V	0.00321	0.181	1.23	--	0.199	0.362	0.183	--	0.00129	0.0906	0.00326	J	0.00125	0.0906	96.2	V	0.340	1.81	305	--	95	225
DMMU-1 Rep. 2	<0.0445	U	0.0445	0.0891	3.93	V	0.00323	0.183	1.44	--	0.201	0.365	0.171	--	0.00130	0.0913	0.00365	J	0.00126	0.0913	118	V	0.343	1.83	366	J	356	845
DMMU-1 Rep. 3	<0.0437	U	0.0437	0.0875	3.89	V	0.00329	0.186	1.49	--	0.204	0.372	0.137	--	0.00132	0.0929	0.00390	J	0.00128	0.0929	112	V	0.349	1.86	1140	--	98	232
DMMU-1 Rep. 4	<0.0426	U	0.0426	0.0852	3.45	V	0.00317	0.179	1.44	--	0.197	0.358	0.195	--	0.00127	0.0894	0.00537	J	0.00123	0.0894	105	V	0.336	1.79	115	J	93	219
DMMU-1 Rep. 5	<0.0498	U	0.0498	0.0996	3.62	V	0.00357	0.202	1.63	--	0.222	0.403	0.164	--	0.00143	0.101	0.00343	J	0.00139	0.101	101	V	0.379	2.02	1759	--	105	247
DMMU-1 Mean	0.0452				**3.56**				1.45				0.170				0.00392				106				737			
% of Reference	123				**237**				75				127				146				106				4			
DMMU-2 Rep. 1	<0.0468	U	0.0468	0.0936	3.61	V	0.00337	0.190	1.61	--	0.209	0.381	0.191	--	0.00135	0.0952	0.00514	J	0.00131	0.0952	116	V	0.357	1.90	8219	--	377	893
DMMU-2 Rep. 2	<0.0448	U	0.0448	0.0897	3.41	V	0.00324	0.183	1.53	--	0.201	0.366	0.182	--	0.00130	0.0915	0.00384	J	0.00126	0.0915	115	V	0.344	1.83	4782	--	353	835
DMMU-2 Rep. 3	<0.0458	U	0.0458	0.0917	2.98	V	0.00339	0.192	1.61	--	0.211	0.384	0.149	--	0.00136	0.0959	0.00518	J	0.00132	0.0959	107	V	0.360	1.92	4846	--	365	866
DMMU-2 Rep. 4	<0.0430	U	0.0430	0.0859	3.64	V	0.00313	0.177	1.69	--	0.195	0.354	0.156	--	0.00126	0.0884	0.00442	J	0.00122	0.0884	112	V	0.332	1.77	6116	--	346	819
DMMU-2 Rep. 5	<0.0436	U	0.0436	0.0873	2.82	V	0.00330	0.186	1.62	--	0.205	0.372	0.143	--	0.00132	0.0931	0.00391	J	0.00128	0.0931	98.0	V	0.350	1.86	4757	--	387	916
DMMU-2 Mean	0.0448				**3.29**				1.61				0.164				**0.00450**				110				5744			
% of Reference	122				**219**				83				123				**167**				109				30			
DMMU-3 Rep. 1	<0.0431	U	0.0431	0.0861	3.20	V	0.00316	0.179	1.65	--	0.197	0.357	0.172	--	0.00127	0.0894	0.00536	J	0.00123	0.0894	113	V	0.336	1.79	8793	--	354	839
DMMU-3 Rep. 2	<0.0426	U	0.0426	0.0851	3.38	V	0.00305	0.172	1.68	--	0.190	0.345	0.162	--	0.00122	0.0862	0.00431	J	0.00119	0.0862	117	V	0.324	1.72	6448	--	333	790
DMMU-3 Rep. 3	<0.0462	U	0.0462	0.0923	3.27	V	0.00327	0.185	1.39	--	0.203	0.369	0.150	--	0.00131	0.0923	0.00425	J	0.00127	0.0923	107	V	0.347	1.85	6704	--	353	836
DMMU-3 Rep. 4	<0.0470	U	0.0470	0.0940	3.73	V	0.00339	0.191	1.60	--	0.210	0.383	0.160	--	0.00136	0.0956	0.00478	J	0.00132	0.0956	112	V	0.359	1.91	6981	--	376	892
DMMU-3 Rep. 5	<0.0427	U	0.0427	0.0854	3.43	V	0.00324	0.183	1.58	--	0.201	0.366	0.151	--	0.00130	0.0914	0.00439	J	0.00126	0.0914	114	V	0.343	1.83	14182	--	356	845
DMMU-3 Mean	0.0443				**3.40**				1.58				0.159				**0.00462**				113				8621			
% of Reference	121				**226**				82				119				**172**				112				45			
DMMU-4 Rep. 1	<0.0486	U	0.0486	0.0971	5.38	V	0.00367	0.207	1.54	--	0.228	0.414	0.257	--	0.00147	0.104	0.00559	J	0.00143	0.104	134	V	0.389	2.07	4560	--	415	981
DMMU-4 Rep. 2	<0.0489	U	0.0489	0.0979	4.10	V	0.00361	0.204	1.57	--	0.224	0.408	0.186	--	0.00145	0.102	0.00449	J	0.00141	0.102	117	V	0.383	2.04	5739	--	390	925
DMMU-4 Rep. 3	<0.0473	U	0.0473	0.0946	3.23	V	0.00351	0.199	1.32	--	0.218	0.397	0.150	--	0.00141	0.0993	0.00397	J	0.00137	0.0993	94.1	V	0.373	1.99	9297	--	382	905
DMMU-4 Rep. 4	<0.0479	U	0.0479	0.0958	4.09	V	0.00345	0.195	1.53	--	0.214	0.390	0.196	--	0.00138	0.0974	0.00584	J	0.00134	0.0974	109	V	0.366	1.95	4471	--	375	888
DMMU-4 Rep. 5	<0.0467	U	0.0467	0.0934	2.54	V	0.00350	0.198	1.38	--	0.217	0.395	0.181	--	0.00140	0.0989	0.00376	J	0.00136	0.0989	85.4	V	0.371	1.98	6386	--	375	889
DMMU-4 Mean	0.0479				**3.87**				1.47				**0.194**				**0.00473**				108				6090			
% of Reference	131				**258**				76				**145**				**176**				107				32			
DMMU-5 Rep. 1	<0.0415	U	0.0415	0.0830	3.66	V	0.00313	0.177	1.54	--	0.195	0.354	0.183	--	0.00126	0.0885	0.00319	J	0.00122	0.0885	106	V	0.332	1.77	10442	--	358	850
DMMU-5 Rep. 2	<0.0479	U	0.0479	0.0958	3.22	V	0.00345	0.195	1.67	--	0.214	0.389	0.163	--	0.00138	0.0974	0.00312	J	0.00134	0.0974	112	V	0.366	1.95	4631	--	395	937
DMMU-5 Rep. 3	<0.0410	U	0.0410	0.0820	2.87	V	0.00301	0.170	1.42	--	0.187	0.340	0.167	--	0.00121	0.0851	0.00255	J	0.00117	0.0851	98.1	V	0.319	1.70	4940	--	359	851
DMMU-5 Rep. 4	<0.0401	U	0.0401	0.0802	2.76	V	0.00282	0.159	1.59	--	0.175	0.318	0.151	--	0.00113	0.0795	0.00270	J	0.00110	0.0795	95.6	V	0.299	1.59	848	--	306	726
DMMU-5 Rep. 5	<0.0431	U	0.0431	0.0862	2.86	V	0.00318	0.179	1.66	--	0.197	0.359	0.179	--	0.00127	0.0897	0.00323	J	0.00124	0.0897	104	V	0.337	1.79	4270	--	350	830
DMMU-5 Mean	0.0427				**3.07**				1.58				0.169				0.00296				103				5026			
% of Reference	117				**205**				81				126				110				102				26			
DMMU-6 Rep. 1	<0.0412	U	0.0412	0.0824	3.20	V	0.00304	0.172	1.52	--	0.189	0.343	0.223	--	0.00122	0.0858	0.00532	J	0.00118	0.0858	102	V	0.322	1.72	3248	--	337	799
DMMU-6 Rep. 2	<0.0418	U	0.0418	0.0836	3.29	V	0.00314	0.178	1.56	--	0.195	0.355	0.212	--	0.00126	0.0888	0.00533	J	0.00123	0.0888	105	V	0.334	1.78	4545	--	337	798
DMMU-6 Rep. 3	<0.0478	U	0.0478	0.0955	4.13	V	0.00338	0.191	1.61	--	0.210	0.382	0.223	--	0.00136	0.0956	0.00554	J	0.00132	0.0956	113	V	0.359	1.91	3471	--	371	879
DMMU-6 Rep. 4	<0.0435	U	0.0435	0.0870	3.45	V	0.00328	0.186	1.07	J	1.02	1.86	0.177	J	0.00659	0.464	<0.00640	U	0.00640	0.464	101	V	0.348	1.86	383	J	364	862
DMMU-6 Rep. 5	<0.0448	U	0.0448	0.0896	3.55	V	0.00332	0.187	1.51	--	0.206	0.375	0.178	--	0.00133	0.0937	0.00431	J	0.00129	0.0937	105	V	0.352	1.87	3458	--	373	883
DMMU-6 Mean	0.0438				**3.52**				1.45				**0.203**				**0.00538**				105				3021			
% of Reference	120				**235**				75				**151**				**200**				105				16			
DMMU-7 Rep. 1	<0.0505	U	0.0505	0.101	3.48	V	0.00375	0.212	1.39	--	0.233	0.424	0.182	--	0.00151	0.106	0.00255	J	0.00146	0.106	106	V	0.398	2.12	4571	--	437	1036
DMMU-7 Rep. 2	<0.0427	U	0.0427	0.0854	3.59	V	0.00316	0.179	1.66	--	0.196	0.357	0.162	--	0.00127	0.0893	0.00322	J	0.00123	0.0893	120	V	0.335	1.79	5892	--	348	825
DMMU-7 Rep. 3	<0.0435	U	0.0435	0.0869	3.09	V	0.00315	0.178	1.51	--	0.196	0.356	0.161	--	0.00127	0.0891	0.00285	J	0.00123	0.0891	105	V	0.335	1.78	3920	--	358	849
DMMU-7 Rep. 4	<0.0480	U	0.0480	0.0959	3.04	V	0.00341	0.193	1.45	--	0.212	0.385	0.176	--	0.00137	0.0963	0.00328	J	0.00133	0.0963	111	V	0.362	1.93	5262	--	399	947
DMMU-7 Rep. 5	<0.0479	U	0.0479	0.0958	3.33	V	0.00342	0.193	1.42	--	0.213	0.387	0.205	--	0.00137	0.0966	0.00290	J	0.00133	0.0966	117	V	0.363	1.93	5505	--	389	923
DMMU-7 Mean	0.0465				**3.31**				1.49				0.177				0.00296				112				5030			
% of Reference	127				**220**				77				132				110				111				26			
DMMU-8 Rep. 1	<0.0439	U	0.0439	0.0877	2.87	V	0.00318	0.180	1.42	--	0.198	0.360	0.230	--	0.00128	0.0899	0.00324	J	0.00124	0.0899	98.6	V	0.338	1.80	3694	--	355	842
DMMU-8 Rep. 2	<0.0398	U	0.0398	0.0796	2.88	V	0.00289	0.163	1.52	--	0.180	0.327	0.146	--	0.00116	0.0816	0.00424	J	0.00113	0.0816	99.0	V	0.307	1.63	4008	--	324	768
DMMU-8 Rep. 3	<0.0478	U	0.0478	0.0957	4.11	V	0.00348	0.197	1.73	--	0.217	0.394	0.252	--	0.00140	0.0984	0.00650	J	0.00136	0.0984	125	V	0.370	1.97	4186	--	401	950
DMMU-8 Rep. 4	<0.0484	U	0.0484	0.0968	4.44	V	0.00349	0.197	1.50	--	0.217	0.394	0.202	--	0.00140	0.0985	0.00453	J	0.00136	0.0985	111	V	0.370	1.97	3696	--	407	963
DMMU-8 Rep. 5	<0.0481	U	0.0481	0.0961	3.43	V	0.00360	0.203	<0.224	U	0.224	0.407	0.154	--	0.00144	0.102	0.00142	J	0.00140	0.102	<0.0764	B, U	0.0764	0.407	<405	U	405	959
DMMU-8 Mean	0.0456				**3.55**				1.28				**0.197**				0.00399				86.7				3198			
% of Reference	124				**236**				66				**147**				148				86				17			
REF Rep. 1	<0.0322	U	0.0322	0.0643	1.10	V	0.00245	0.138	2.08	--	0.152	0.277	0.153	--	0.000951	0.0670	0.00207	J	0.000954	0.0691	56.9	--	0.260	1.38	21103	--	269	637
REF Rep. 2	<0.0354	U	0.0354	0.0709	1.29	V	0.0126	0.709	1.66	--	0.780	1.42	0.152	--	0.00101	0.0712	0.00199	J	0.000979	0.0709	177	--	0.266	1.42	17643	--	288	683
REF Rep. 3	<0.0374	U	0.0374	0.0747	1.89	V	0.0276	1.56	1.90	J	1.71	3.11	0.185	--	0.00109	0.0769	0.00342	J	0.00107	0.0778	146	--	0.584	3.11	23828	--	305	723
REF Rep. 4	<0.0450	U	0.0450	0.0900	1.61	V	0.00332	0.188	2.26	--	0.206	0.375	0.132	--	0.00129	0.0909	0.00225	J	0.00129	0.0938	64.1	--	0.0704	0.375	18318	--	376	890
REF Rep. 5	<0.0333	U	0.0333	0.0666	1.62	V	0.00410	0.231	1.79	--	0.255	0.463	0.0471	J	0.00257	0.181	0.00370	J	0.00160	0.116	59.3	--	0.0869	0.463	15267	--	275	652
REF Mean	0.0367				1.50				1.94				0.134				0.00269				101				19232			
Pre-exposure Rep. 1	<0.0367	U	0.0367	0.0734	1.43	V	0.00280	0.158	2.93	--	0.174	0.317	0.185	--	0.00112	0.0785	0.00238	J	0.00109	0.0792	359	--	0.595	3.17	3535	--	83	197
Pre-exposure Rep. 2	<0.0360	U	0.0360	0.0721	1.52	V	0.00268	0.151	2.23	--	0.166	0.303	0.191	--	0.00106	0.0745	0.00409	J	0.00104	0.0757	149	--	0.284	1.51	955	--	79	187
Pre-exposure Rep. 3	<0.0346	U	0.0346	0.0693	1.33	V	0.00253	0.143	2.56	--	0.158	0.286	0.145	--	0.00101	0.0713	0.00401	J	0.000988	0.0716	119	--	0.269	1.43	491	--	75	178
Pre-exposure Mean	0.0358				1.43				2.57				0.174				0.00349				209				1660			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL.

B = Analyte was found in the associated method blank. J = The value is between the MDL and the LRL. V = Analyte was detected in both sample and method blank.

Sources: Results from NWDLS and Eurofins-Stafford (TPHs).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 17

Analytical Results for Wet Weight PAHs in *Mercenaria mercenaria* Tissues

Analyte:	Total LPAH PAHs	Total HPAH PAHs	Total PAHs	Acenaphthene[LPAH]				Acenaphthylene[LPAH]				Anthracene[LPAH]				Benzo(a)anthracene[HPAH]				Benzo(a)pyrene[HPAH]				Benzo(b&k)fluoranthene[HPAH]				Benzo(g,h,i)perylene[HPAH]			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	28.6	47.6	76.2	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<9.52	U	9.52	9.52	<4.76	U	4.76	4.76
DMMU-1 Rep. 2	29.9	49.9	79.8	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<9.98	U	9.98	9.98	<4.99	U	4.99	4.99
DMMU-1 Rep. 3	28.4	47.3	75.7	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<9.47	U	9.47	9.47	<4.73	U	4.73	4.73
DMMU-1 Rep. 4	29.6	49.3	78.9	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<9.86	U	9.86	9.86	<4.93	U	4.93	4.93
DMMU-1 Rep. 5	29.2	58.4	87.5	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<9.73	U	9.73	9.73	<4.86	U	4.86	4.86	<9.73	U	9.73	9.73	<4.86	U	4.86	4.86
DMMU-1 Mean	29.1	50.5	79.6	4.85				4.85				4.85				5.83				4.85				9.71				4.85			
Adjusted Concentration				4.85				4.85				4.85				9.91				10.2				22.3				14.1			
% of Reference	206	215	212	207				207				207				248				207				207				207			
DMMU-3 Rep. 1	12.4	24.8	37.2	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<4.96	U	4.96	4.96	<2.48	U	2.48	2.48
DMMU-3 Rep. 2	11.9	23.8	35.7	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<4.76	U	4.76	4.76	<2.38	U	2.38	2.38
DMMU-3 Rep. 3	12.2	24.4	36.6	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<4.88	U	4.88	4.88	<2.44	U	2.44	2.44
DMMU-3 Rep. 4	14.7	24.5	39.2	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<4.90	U	4.90	4.90	<2.45	U	2.45	2.45
DMMU-3 Rep. 5	14.0	23.3	37.3	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33
DMMU-3 Mean	13.0	24.2	37.2	2.42				2.42				2.42				2.42				2.42				4.83				2.42			
Adjusted Concentration				2.42				2.42				2.42				4.11				5.07				11.1				7.01			
% of Reference	92	103	99	103				103				103				103				103				103				103			
DMMU-4 Rep. 1	29.6	49.4	79.0	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<9.88	U	9.88	9.88	<4.94	U	4.94	4.94
DMMU-4 Rep. 2	29.1	48.5	77.6	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<9.71	U	9.71	9.71	<4.85	U	4.85	4.85
DMMU-4 Rep. 3	29.8	59.5	89.3	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<9.92	U	9.92	9.92	<4.96	U	4.96	4.96	<9.92	U	9.92	9.92	<4.96	U	4.96	4.96
DMMU-4 Rep. 4	27.7	55.4	83.0	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<9.23	U	9.23	9.23	<4.61	U	4.61	4.61	<9.23	U	9.23	9.23	<4.61	U	4.61	4.61
DMMU-4 Rep. 5	29.8	59.6	89.5	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<9.94	U	9.94	9.94	<4.97	U	4.97	4.97	<9.94	U	9.94	9.94	<4.97	U	4.97	4.97
DMMU-4 Mean	29.2	54.5	83.7	4.87				4.87				4.87				7.78				4.87				9.74				4.87			
Adjusted Concentration				4.87				4.87				4.87				13.2				10.2				22.4				14.1			
% of Reference	207	232	223	207				207				207				331				207				207				207			
DMMU-5 Rep. 1	14.8	24.6	39.4	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<4.92	U	4.92	4.92	<2.46	U	2.46	2.46
DMMU-5 Rep. 2	14.6	24.4	39.0	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<4.88	U	4.88	4.88	<2.44	U	2.44	2.44
DMMU-5 Rep. 3	14.5	24.1	38.6	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<4.83	U	4.83	4.83	<2.41	U	2.41	2.41
DMMU-5 Rep. 4	14.4	24.0	38.4	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<4.81	U	4.81	4.81	<2.40	U	2.40	2.40
DMMU-5 Rep. 5	14.9	24.8	39.7	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<4.95	U	4.95	4.95	<2.48	U	2.48	2.48
DMMU-5 Mean	14.6	24.4	39.0	2.44				2.44				2.44				2.44				2.44				4.88				2.44			
Adjusted Concentration				2.44				2.44				2.44				4.14				5.12				11.2				7.07			
% of Reference	104	104	104	104				104				104				104				104				104				104			
DMMU-7 Rep. 1	27.8	59.9	87.7	8.28	--	4.87	4.87	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	<9.75	U	9.75	9.75	<4.87	U	4.87	4.87	<9.75	U	9.75	9.75	<4.87	U	4.87	4.87
DMMU-7 Rep. 2	28.9	68.4	97.3	9.10	--	4.95	4.95	<4.95	U	4.95	4.95	<4.95	U	4.95	4.95	<9.90	U	9.90	9.90	<4.95	U	4.95	4.95	<9.90	U	9.90	9.90	<4.95	U	4.95	4.95
DMMU-7 Rep. 3	29.5	63.1	92.6	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92	<9.84	U	9.84	9.84	<4.92	U	4.92	4.92	<9.84	U	9.84	9.84	<4.92	U	4.92	4.92
DMMU-7 Rep. 4	74.4	124	199	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<24.9	U	24.9	24.9	<12.4	U	12.4	12.4
DMMU-7 Rep. 5	28.2	59.3	87.5	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70
DMMU-7 Mean	**37.8**	***75.0***	**113**	***7.88***				6.37				6.37				10.3				6.37				12.8				6.37			
Adjusted Concentration				***7.88***				6.37				6.37				17.4				13.4				29.3				18.5			
% of Reference	268	319	300	335				271				271				437				271				272				271			
DMMU-8 Rep. 1	14.8	24.6	39.4	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<4.92	U	4.92	4.92	<2.46	U	2.46	2.46
DMMU-8 Rep. 2	14.3	23.8	38.1	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38
DMMU-8 Rep. 3	17.8	24.8	42.6	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	5.36	--	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<4.96	U	4.96	4.96	<2.48	U	2.48	2.48
DMMU-8 Rep. 4	14.7	24.5	39.2	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<4.90	U	4.90	4.90	<2.45	U	2.45	2.45
DMMU-8 Rep. 5	13.5	22.5	36.0	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<4.50	U	4.50	4.50	<2.25	U	2.25	2.25
DMMU-8 Mean	15.0	24.0	39.1	2.40				2.40				**2.98**				2.40				2.40				4.81				2.40			
Adjusted Concentration				2.40				2.40				**2.98**				4.09				5.05				11.1				6.97			
% of Reference	106	102	104	102				102				127				102				102				102				102			
REF Rep. 1	13.9	23.1	37.0	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<4.63	U	4.63	4.63	<2.31	U	2.31	2.31
REF Rep. 2	13.8	23.0	36.8	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<4.60	U	4.60	4.60	<2.30	U	2.30	2.30
REF Rep. 3	14.2	23.7	37.9	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<4.73	U	4.73	4.73	<2.37	U	2.37	2.37
REF Rep. 4	14.3	23.9	38.2	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<4.77	U	4.77	4.77	<2.39	U	2.39	2.39
REF Rep. 5	14.3	23.8	38.1	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38
REF Mean	14.1	23.5	37.6	2.35				2.35				2.35				2.35				2.35				4.70				2.35			
Adjusted Concentration				2.35				2.35				2.35				4.00				4.94				10.8				6.82			
Pre-exposure Rep. 1	14.6	24.3	38.9	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<4.85	U	4.85	4.85	<2.43	U	2.43	2.43
Pre-exposure Rep. 2	14.9	29.9	44.8	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49
Pre-exposure Rep. 3	13.9	27.7	41.6	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<4.61	U	4.61	4.61	<2.31	U	2.31	2.31	<4.61	U	4.61	4.61	<2.31	U	2.31	2.31
Pre-exposure Mean	14.5	27.3	41.8	2.41				2.41				2.41				4.01				2.41				4.81				2.41			
Steady State Factor	x	x	x	1.0				1.0				1.0				1.7				2.1				2.3				2.9			
Eco. Effects Threshold	x	x	40000.0	7.3				x				x				x				x				x				x			
North Gulf of Mexico Bkgd	60.00	64.00	178	<20				<20				<20				<20				<20				11.0				<20			

TABLE 17 *(continued)*

Analytical Results for Wet Weight PAHs in *Mercenaria mercenaria* Tissues

Analyte:	Chrysene[HPAH]				Dibenzo(a,h)anthracene[HPAH]				Fluoranthene[HPAH]				Fluorene[LPAH]				Indeno(1,2,3-cd)pyrene[HPAH]				Naphthalene[LPAH]				Phenanthrene[LPAH]				Pyrene[HPAH]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76	<4.76	U	4.76	4.76
DMMU-1 Rep. 2	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99	<4.99	U	4.99	4.99
DMMU-1 Rep. 3	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73	<4.73	U	4.73	4.73
DMMU-1 Rep. 4	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93	<4.93	U	4.93	4.93
DMMU-1 Rep. 5	<9.73	U	9.73	9.73	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86	<4.86	U	4.86	4.86
DMMU-1 Mean	5.83				4.85				4.85				4.85				4.85				4.85				4.85				4.85			
Adjusted Concentration	8.16				9.71				5.34				4.85				14.6				4.85				4.85				5.34			
% of Reference	248				207				207				207				207				207				207				207			
DMMU-3 Rep. 1	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	4.43	--	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48
DMMU-3 Rep. 2	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	5.23	--	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38
DMMU-3 Rep. 3	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	5.77	--	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44
DMMU-3 Rep. 4	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45
DMMU-3 Rep. 5	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33
DMMU-3 Mean	2.42				2.42				2.42				4.04				2.42				2.42				2.42				2.42			
Adjusted Concentration	3.38				4.83				2.66				4.04				7.25				2.42				2.42				2.66			
% of Reference	103				103				103				172				103				103				103				103			
DMMU-4 Rep. 1	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94	<4.94	U	4.94	4.94
DMMU-4 Rep. 2	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85	<4.85	U	4.85	4.85
DMMU-4 Rep. 3	<9.92	U	9.92	9.92	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96	<4.96	U	4.96	4.96
DMMU-4 Rep. 4	<9.23	U	9.23	9.23	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61	<4.61	U	4.61	4.61
DMMU-4 Rep. 5	<9.94	U	9.94	9.94	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97	<4.97	U	4.97	4.97
DMMU-4 Mean	7.78				4.87				4.87				4.87				4.87				4.87				4.87				4.87			
Adjusted Concentration	10.9				9.73				5.35				4.87				14.6				4.87				4.87				5.35			
% of Reference	331				207				207				207				207				207				207				207			
DMMU-5 Rep. 1	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46
DMMU-5 Rep. 2	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44
DMMU-5 Rep. 3	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41
DMMU-5 Rep. 4	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40	<2.40	U	2.40	2.40
DMMU-5 Rep. 5	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48
DMMU-05 Mean	2.44				2.44				2.44				2.44				2.44				2.44				2.44				2.44			
Adjusted Concentration	3.41				4.88				2.68				2.44				7.31				2.44				2.44				2.68			
% of Reference	104				104				104				104				104				104				104				104			
DMMU-7 Rep. 1	<9.75	U	9.75	9.75	<4.87	U	4.87	4.87	11.2	--	4.87	4.87	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	9.75	--	4.87	4.87	5.59	--	4.95	4.95
DMMU-7 Rep. 2	<9.90	U	9.90	9.90	<4.95	U	4.95	4.95	18.9	--	4.95	4.95	<4.95	U	4.95	4.95	<4.95	U	4.95	4.95	<4.95	U	4.95	4.95	8.31	--	4.95	4.95	9.55	--	4.95	4.95
DMMU-7 Rep. 3	<9.84	U	9.84	9.84	<4.92	U	4.92	4.92	8.97	--	4.92	4.92	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92	<4.92	U	4.92	4.92
DMMU-7 Rep. 4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4	<12.4	U	12.4	12.4
DMMU-7 Rep. 5	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70	7.56	--	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70
DMMU-7 Mean	10.3				6.37				***11.8***				6.37				6.37				6.37				**8.02**				**7.43**			
Adjusted Concentration	14.4				12.7				***13.0***				6.37				19.1				6.37				**8.02**				**8.18**			
% of Reference	437				271				502				271				271				271				341				316			
DMMU-8 Rep. 1	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46	<2.46	U	2.46	2.46
DMMU-8 Rep. 2	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38
DMMU-8 Rep. 3	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48	<2.48	U	2.48	2.48
DMMU-8 Rep. 4	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45	<2.45	U	2.45	2.45
DMMU-8 Rep. 5	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25	<2.25	U	2.25	2.25
DMMU-8 Mean	2.40				2.40				2.40				2.40				2.40				2.40				2.40				2.40			
Adjusted Concentration	3.37				4.81				2.64				2.40				7.21				2.40				2.40				2.64			
% of Reference	102				102				102				102				102				102				102				102			
REF Rep. 1	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31
REF Rep. 2	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30	<2.30	U	2.30	2.30
REF Rep. 3	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37
REF Rep. 4	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39
REF Rep. 5	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38
REF Mean	2.35				2.35				2.35				2.35				2.35				2.35				2.35				2.35			
Adjusted Concentration	3.29				4.70				2.59				2.35				7.05				2.35				2.35				2.59			
Pre-exposure Rep. 1	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43
Pre-exposure Rep. 2	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	C+, U	2.49	2.49
Pre-exposure Rep. 3	<4.61	U	4.61	4.61	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	C+, U	2.31	2.31
Pre-exposure Mean	4.01				2.41				2.41				2.41				2.41				2.41				2.41				2.41			
Steady State Factor	1.4				2.0				1.1				1.0				3.0				1.0				1.0				1.1			
Eco. Effects Threshold	x				x				8.8				x				x				x				x				x			
North Gulf of Mexico Bkgd	10.0				14.0				<20				<20				<20				<20				<20				<20			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

Italicized and **bolded values** indicate results that are statistically significantly greater than that of the reference tissues and also exceed the ecological effects threshold and (or) the upper boundary of the N. Gulf of Mexico background concentration (see Section 7.5.3 of SERIM for details).

< #.## = The analyte was not detected (ND) at or above the MDL. The value indicates the MDL (U-qualified). Non-detect (ND) results use the MDL for calculating average concentrations and total PAHs.

C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.

LPAH = Low molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

HPAH = High molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

Sources: Results from NWDLS;Results from NWDLS; [1] Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 18

Analytical Results for Wet Weight PAHs in *Alitta virens* Tissues

Analyte:	Total LPAH PAHs	Total HPAH PAHs	Total PAHs	Acenaphthene[LPAH]				Acenaphthylene[LPAH]				Anthracene[LPAH]				Benzo(a)anthracene[HPAH]				Benzo(a)pyrene[HPAH]				Benzo(b&k)fluoranthene[HPAH]				Benzo(g,h,i)perylene[HPAH]			
Sample-Replicate #	**Result µg/kg**	**Result µg/kg**	**Result µg/kg**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**
DMMU-1 Rep. 1	72.6	121	194	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<24.2	U	24.2	24.2	<12.1	U	12.1	12.1
DMMU-1 Rep. 2	26.8	53.6	80.3	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<8.93	U	8.93	8.93	<4.46	U	4.46	4.46	<8.93	U	8.93	8.93	<4.46	U	4.46	4.46
DMMU-1 Rep. 3	28.2	56.4	84.6	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70
DMMU-1 Rep. 4	27.2	54.5	81.7	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<9.07	U	9.07	9.07	<4.54	U	4.54	4.54	<9.07	U	9.07	9.07	<4.54	U	4.54	4.54
DMMU-1 Rep. 5	28.9	57.7	86.6	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<9.62	U	9.62	9.62	<4.81	U	4.81	4.81	<9.62	U	9.62	9.62	<4.81	U	4.81	4.81
DMMU-1 Mean	36.7	68.6	105	6.12				6.12				6.12				9.82				6.12				12.2				6.12			
Adjusted Concentration				6.12				6.12				6.12				16.7				12.9				28.2				17.8			
% of Reference	257	249	252	257				257				257				229				257				257				257			
DMMU-3 Rep. 1	18.0	24.4	42.4	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<4.63	U	4.63	4.63	<2.31	U	2.31	2.31
DMMU-3 Rep. 2	23.3	24.5	47.8	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<4.62	U	4.62	4.62	<2.31	U	2.31	2.31
DMMU-3 Rep. 3	17.1	24.7	41.8	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<4.68	U	4.68	4.68	<2.34	U	2.34	2.34
DMMU-3 Rep. 4	18.2	24.4	42.6	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<4.74	U	4.74	4.74	<2.37	U	2.37	2.37
DMMU-3 Rep. 5	29.1	23.2	52.3	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<4.64	U	4.64	4.64	<2.32	U	2.32	2.32
DMMU-3 Mean	21.1	24.2	**45.4**	2.33				2.33				2.33				2.33				2.33				4.66				2.33			
Adjusted Concentration				2.33				2.33				2.33				3.96				4.89				10.7				6.76			
% of Reference	148	88	108	98				98				98				54				98				98				98			
DMMU-4 Rep. 1	14.5	24.2	38.7	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<4.84	U	4.84	4.84	<2.42	U	2.42	2.42
DMMU-4 Rep. 2	14.8	24.7	39.5	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<4.93	U	4.93	4.93	<2.47	U	2.47	2.47
DMMU-4 Rep. 3	13.7	22.9	36.6	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<4.57	U	4.57	4.57	<2.29	U	2.29	2.29
DMMU-4 Rep. 4	13.4	22.4	35.8	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<4.48	U	4.48	4.48	<2.24	U	2.24	2.24
DMMU-4 Rep. 5	13.3	22.2	35.5	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<4.43	U	4.43	4.43	<2.22	U	2.22	2.22
DMMU-4 Mean	13.9	23.3	37.2	2.33				2.33				2.33				2.33				2.33				4.65				2.33			
Adjusted Concentration				2.33				2.33				2.33				3.96				4.89				10.7				6.75			
% of Reference	97	84	89	98				98				98				54				98				98				98			
DMMU-5 Rep. 1	13.3	22.2	35.5	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<4.44	U	4.44	4.44	<2.22	U	2.22	2.22
DMMU-5 Rep. 2	13.7	22.8	36.5	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<4.56	U	4.56	4.56	<2.28	U	2.28	2.28
DMMU-5 Rep. 3	14.3	23.9	38.2	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<4.77	U	4.77	4.77	<2.39	U	2.39	2.39
DMMU-5 Rep. 4	14.3	23.9	38.2	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<4.78	U	4.78	4.78	<2.39	U	2.39	2.39
DMMU-5 Rep. 5	14.1	24.5	38.6	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	3.39	--	2.35	2.35	<4.69	U	4.69	4.69	<2.35	U	2.35	2.35
DMMU-5 Mean	13.9	23.5	37.4	2.33				2.33				2.33				2.33				**2.53**				4.65				2.33			
Adjusted Concentration				2.33				2.33				2.33				3.95				**5.32**				10.7				6.75			
% of Reference	97	85	89	98				98				98				54				107				98				98			
DMMU-7 Rep. 1	19.8	35.5	55.2	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	3.08	--	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<4.55	U	4.55	4.55	<2.28	U	2.28	2.28
DMMU-7 Rep. 2	30.6	56.9	87.4	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	5.57	--	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<4.93	U	4.93	4.93	<2.47	U	2.47	2.47
DMMU-7 Rep. 3	22.1	41.9	64.1	<2.50	U	2.50	2.50	<2.50	U	2.5	2.50	3.21	--	2.50	2.50	<2.50	U	2.50	2.50	<2.50	U	2.50	2.50	<5.00	U	5.00	5.00	<2.50	U	2.50	2.50
DMMU-7 Rep. 4	18.4	37.8	56.1	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	2.61	--	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<4.71	U	4.71	4.71	<2.35	U	2.35	2.35
DMMU-7 Rep. 5	18.7	32.9	51.7	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	2.61	--	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<4.86	U	4.86	4.86	<2.43	U	2.43	2.43
DMMU-7 Mean	**21.9**	**41.0**	**62.9**	2.41				2.41				**3.42**				2.41				2.41				4.81				2.41			
Adjusted Concentration				2.41				2.41				**3.42**				4.09				5.05				11.1				6.98			
% of Reference	153	149	150	101				101				144				56				101				101				101			
DMMU-8 Rep. 1	14.0	23.4	37.4	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<4.68	U	4.68	4.68	<2.34	U	2.34	2.34
DMMU-8 Rep. 2	14.3	23.8	38.1	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<4.76	U	4.76	4.76	<2.38	U	2.38	2.38
DMMU-8 Rep. 3	13.4	22.3	35.7	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<4.46	U	4.46	4.46	<2.23	U	2.23	2.23
DMMU-8 Rep. 4	13.7	22.9	36.7	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<4.59	U	4.59	4.59	<2.29	U	2.29	2.29
DMMU-8 Rep. 5	13.9	23.2	37.1	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<4.64	U	4.64	4.64	<2.32	U	2.32	2.32
DMMU-8 Mean	13.9	23.1	37.0	2.31				2.31				2.31				2.31				2.31				4.63				2.31			
Adjusted Concentration				2.31				2.31				2.31				3.93				4.86				10.6				6.70			
% of Reference	97	84	88	97				97				97				54				97				97				97			
REF Rep. 1	14.1	28.2	42.3	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<4.70	U	4.70	4.70	<2.35	U	2.35	2.35	<4.70	U	4.70	4.70	<2.35	U	2.35	2.35
REF Rep. 2	14.3	28.5	42.8	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38
REF Rep. 3	14.8	29.6	44.5	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<4.94	U	4.94	4.94	<2.47	U	2.47	2.47	<4.94	U	4.94	4.94	<2.47	U	2.47	2.47
REF Rep. 4	14.0	28.0	41.9	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33
REF Rep. 5	14.2	23.6	37.8	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<4.73	U	4.73	4.73	<2.36	U	2.36	2.36
REF Mean	14.3	27.6	41.9	2.38				2.38				2.38				4.28				2.38				4.76				2.38			
Adjusted Concentration				2.38				2.38				2.38				7.28				4.99				10.9				6.90			
Pre-exposure Rep. 1	28.1	48.7	76.8	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<2.44	U	2.44	2.44	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	<9.75	U	9.75	9.75	<4.87	U	4.87	4.87
Pre-exposure Rep. 2	28.7	49.8	78.5	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<2.49	U	2.49	2.49	<4.98	U	4.98	4.98	<4.98	U	4.98	4.98	<9.96	U	9.96	9.96	<4.98	U	4.98	4.98
Pre-exposure Rep. 3	19.4	48.3	67.7	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<2.41	U	2.41	2.41	<4.83	U	4.83	4.83	<4.83	U	4.83	4.83	<9.65	U	9.65	9.65	<4.83	U	4.83	4.83
Pre-exposure Mean	25.4	48.9	74.3	2.45				2.45				2.45				4.89				4.89				9.79				4.89			
Steady State Factor	x	x	x	1.0				1.0				1.0				1.7				2.1				2.3				2.9			
Eco. Effects Threshold	x	x	40000.0	1.2				x				x				x				x				x				x			
North Gulf of Mexico Bkgd	60.00	64.00	178	<20				<20				<20				<20				<20				27.0 (16.0)				<20			

TABLE 18 *(continued)*

Analytical Results for Wet Weight PAHs in *Alitta virens* Tissues

Analyte:	Chrysene[HPAH]				Dibenzo(a,h)anthracene[HPAH]				Fluoranthene[HPAH]				Fluorene[LPAH]				Indeno(1,2,3-cd)pyrene[HPAH]				Naphthalene[LPAH]				Phenanthrene[LPAH]				Pyrene[HPAH]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1	<12.1	U	12.1	12.1
DMMU-1 Rep. 2	<8.93	U	8.93	8.93	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46	<4.46	U	4.46	4.46
DMMU-1 Rep. 3	<9.40	U	9.40	9.40	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70	<4.70	U	4.70	4.70
DMMU-1 Rep. 4	<9.07	U	9.07	9.07	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54	<4.54	U	4.54	4.54
DMMU-1 Rep. 5	<9.62	U	9.62	9.62	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81	<4.81	U	4.81	4.81
DMMU-1 Mean	9.82				6.12				6.12				6.12				6.12				6.12				6.12				6.12			
Adjusted Concentration	13.8				12.2				6.73				6.12				18.4				6.12				6.12				6.73			
% of Reference	229				257				257				257				257				257				257				257			
DMMU-3 Rep. 1	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	2.76	--	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	6.00	--	2.31	2.31	3.57	--	2.31	2.31
DMMU-3 Rep. 2	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	5.84	--	2.31	2.31	<2.31	U	2.31	2.31	<2.31	U	2.31	2.31	8.24	--	2.31	2.31	3.70	--	2.31	2.31
DMMU-3 Rep. 3	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	5.41	--	2.34	2.34	3.59	--	2.34	2.34
DMMU-3 Rep. 4	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	3.05	--	2.37	2.37	<2.37	U	2.37	2.37	<2.37	U	2.37	2.37	5.65	--	2.37	2.37	3.05	--	2.37	2.37
DMMU-3 Rep. 5	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	8.16	--	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	11.7	--	2.32	2.32	<2.32	U	2.32	2.32
DMMU-3 Mean	2.33				2.33				2.33				**4.43**				2.33				2.33				**7.40**				**3.25**			
Adjusted Concentration	3.26				4.66				2.56				**4.43**				6.99				2.33				**7.40**				**3.57**			
% of Reference	54				98				98				186				98				98				311				137			
DMMU-4 Rep. 1	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42	<2.42	U	2.42	2.42
DMMU-4 Rep. 2	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47
DMMU-4 Rep. 3	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29
DMMU-4 Rep. 4	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24	<2.24	U	2.24	2.24
DMMU-4 Rep. 5	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22
DMMU-4 Mean	2.33				2.33				2.33				2.33				2.33				2.33				2.33				2.33			
Adjusted Concentration	3.26				4.66				2.56				2.33				6.98				2.33				2.33				2.56			
% of Reference	54				98				98				98				98				98				98				98			
DMMU-5 Rep. 1	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22	<2.22	U	2.22	2.22
DMMU-5 Rep. 2	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28
DMMU-5 Rep. 3	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39
DMMU-5 Rep. 4	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39	<2.39	U	2.39	2.39
DMMU-5 Rep. 5	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35
DMMU-05 Mean	2.33				2.33				2.33				2.33				2.33				2.33				2.33				2.33			
Adjusted Concentration	3.26				4.65				2.56				2.33				6.98				2.33				2.33				2.56			
% of Reference	54				98				98				98				98				98				98				98			
DMMU-7 Rep. 1	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	8.25	--	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	<2.28	U	2.28	2.28	7.56	--	2.28	2.28	8.98	--	2.28	2.28
DMMU-7 Rep. 2	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	17.1	--	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	15.1	--	2.47	2.47	20.0	--	2.47	2.47
DMMU-7 Rep. 3	<2.50	U	2.50	2.50	<2.50	U	2.50	2.50	9.44	--	2.50	2.50	<2.50	U	2.50	2.50	<2.50	U	2.50	2.50	<2.50	U	2.50	2.50	8.90	--	2.50	2.50	12.5	--	2.50	2.50
DMMU-7 Rep. 4	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	7.97	--	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	6.35	--	2.35	2.35	11.0	--	2.35	2.35
DMMU-7 Rep. 5	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	6.01	--	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	<2.43	U	2.43	2.43	6.38	--	2.43	2.43	7.49	--	2.43	2.43
DMMU-7 Mean	2.41				2.41				**9.75**				2.41				2.41				2.41				**8.86**				**12.0**			
Adjusted Concentration	3.37				4.81				**10.7**				2.41				7.22				2.41				**8.86**				**13.2**			
% of Reference	56				101				410				101				101				101				372				504			
DMMU-8 Rep. 1	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34	<2.34	U	2.34	2.34
DMMU-8 Rep. 2	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38
DMMU-8 Rep. 3	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23	<2.23	U	2.23	2.23
DMMU-8 Rep. 4	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29	<2.29	U	2.29	2.29
DMMU-8 Rep. 5	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32	<2.32	U	2.32	2.32
DMMU-8 Mean	2.31				2.31				2.31				2.31				2.31				2.31				2.31				2.31			
Adjusted Concentration	3.24				4.62				2.54				2.31				6.94				2.31				2.31				2.54			
% of Reference	54				97				97				97				97				97				97				97			
REF Rep. 1	<4.70	U	4.70	4.70	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	U	2.35	2.35	<2.35	C+, U	2.35	2.35
REF Rep. 2	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	U	2.38	2.38	<2.38	C+, U	2.38	2.38
REF Rep. 3	<4.94	U	4.94	4.94	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	U	2.47	2.47	<2.47	C+, U	2.47	2.47
REF Rep. 4	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	U	2.33	2.33	<2.33	C+, U	2.33	2.33
REF Rep. 5	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36	<2.36	U	2.36	2.36
REF Mean	4.28				2.38				2.38				2.38				2.38				2.38				2.38				2.38			
Adjusted Concentration	5.99				4.76				2.62				2.38				7.13				2.38				2.38				2.62			
Pre-exposure Rep. 1	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	<4.87	U	4.87	4.87	<2.44	U	2.44	2.44	<4.87	U	4.87	4.87	15.9	--	2.44	2.44	<2.44	U	2.44	2.44	<4.87	U	4.87	4.87
Pre-exposure Rep. 2	<4.98	U	4.98	4.98	<4.98	U	4.98	4.98	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49	<4.98	U	4.98	4.98	16.2	--	2.49	2.49	<2.49	U	2.49	2.49	<4.98	U	4.98	4.98
Pre-exposure Rep. 3	<4.83	U	4.83	4.83	<4.83	U	4.83	4.83	<4.83	U	4.83	4.83	<2.41	U	2.41	2.41	<4.83	U	4.83	4.83	7.33	--	2.41	2.41	<2.41	U	2.41	2.41	<4.83	U	4.83	4.83
Pre-exposure Mean	4.89				4.89				4.89				2.45				4.89				13.1				2.45				4.89			
Steady State Factor	1.4				2.0				1.1				1.0				3.0				1.0				1.0				1.1			
Eco. Effects Threshold	x				x				12.8				x				x				x				x				x			
North Gulf of Mexico Bkgd	10.0				14.0				<20				<20				<20				<20				14-17				<20			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## and U-qualified indicates the analyte was not detected (ND) at or above the MDL. The value indicates the MDL. Non-detect (ND) results use the MDL for calculating average concentrations and total PAHs.

C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.

LPAH = Low molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

HPAH = High molecular weight PAH as defined in the *Regional Implementation Agreement* by USEPA/USACE (2003).

Sources: Results from Results from NWDLS; [1] Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 19
Analytical Results for Dry Weight PAHs in *Mercenaria mercenaria* Tissues

Analyte:	Total LPAH PAHs	Total HPAH PAHs	Total PAHs	Acenaphthene[LPAH]				Acenaphthylene[LPAH]				Anthracene[LPAH]				Benzo(a)anthracene[HPAH]				Benzo(a)pyrene[HPAH]				Benzo(b&k)fluoranthene[HPAH]				Benzo(g,h,i)perylene[HPAH]			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	210	350	560	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<70.1	U	70.1	70.1	<35.0	U	35.0	35.0
DMMU-1 Rep. 2	215	359	575	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<71.9	U	71.9	71.9	<35.9	U	35.9	35.9
DMMU-1 Rep. 3	200	333	533	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<66.7	U	66.7	66.7	<33.3	U	33.3	33.3
DMMU-1 Rep. 4	199	332	531	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<66.5	U	66.5	66.5	<33.2	U	33.2	33.2
DMMU-1 Rep. 5	187	373	560	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<62.2	U	62.2	62.2	<31.1	U	31.1	31.1	<62.2	U	62.2	62.2	<31.1	U	31.1	31.1
DMMU-1 Mean	202	350	552	33.7				33.7				33.7				39.9				33.7				67.5				33.7			
% of Reference	153	159	157	153				153				153				182				153				154				153			
DMMU-3 Rep. 1	103	205	308	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<41.0	U	41.0	41.0	<20.5	U	20.5	20.5
DMMU-3 Rep. 2	83.5	167	251	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<33.4	U	33.4	33.4	<16.7	U	16.7	16.7
DMMU-3 Rep. 3	88.5	177	266	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<35.4	U	35.4	35.4	<17.7	U	17.7	17.7
DMMU-3 Rep. 4	102	170	272	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<33.9	U	33.9	33.9	<17.0	U	17.0	17.0
DMMU-3 Rep. 5	96	160	256	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<32.0	U	32.0	32.0	<16.0	U	16.0	16.0
DMMU-3 Mean	95	176	270	17.6				17.6				17.6				17.6				17.6				35.1				17.6			
% of Reference	72	80	77	80				80				80				80				80				80				80			
DMMU-4 Rep. 1	198	330	528	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<66.1	U	66.1	66.1	<33.0	U	33.0	33.0
DMMU-4 Rep. 2	235	392	627	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<78.5	U	78.5	78.5	<39.2	U	39.2	39.2
DMMU-4 Rep. 3	208	416	625	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<69.4	U	69.4	69.4	<34.7	U	34.7	34.7	<69.4	U	69.4	69.4	<34.7	U	34.7	34.7
DMMU-4 Rep. 4	191	383	575	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<63.9	U	63.9	63.9	<31.9	U	31.9	31.9	<63.9	U	63.9	63.9	<31.9	U	31.9	31.9
DMMU-4 Rep. 5	231	462	693	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<76.9	U	76.9	76.9	<38.5	U	38.5	38.5	<76.9	U	76.9	76.9	<38.5	U	38.5	38.5
DMMU-4 Mean	213	397	609	35.5				35.5				35.5				56.5				35.5				71.0				35.5			
% of Reference	161	181	173	161				161				161				257				161				162				161			
DMMU-5 Rep. 1	107	178	285	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<35.6	U	35.6	35.6	<17.8	U	17.8	17.8
DMMU-5 Rep. 2	109	181	290	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<36.2	U	36.2	36.2	<18.1	U	18.1	18.1
DMMU-5 Rep. 3	101	169	270	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<33.8	U	33.8	33.8	<16.9	U	16.9	16.9
DMMU-5 Rep. 4	99.6	166	266	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<33.2	U	33.2	33.2	<16.6	U	16.6	16.6
DMMU-5 Rep. 5	112	187	299	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<37.5	U	37.5	37.5	<18.7	U	18.7	18.7
DMMU-5 Mean	106	176	282	17.6				17.6				17.6				17.6				17.6				35.3				17.6			
% of Reference	80	80	80	80				80				80				80				80				80				80			
DMMU-7 Rep. 1	203	356	559	60.5	--	35.6	35.6	<35.6	U	35.6	35.6	<35.6	U	35.6	35.6	<71.2	U	71.2	71.2	<35.6	U	35.6	35.6	<71.2	U	71.2	71.2	<35.6	U	35.6	35.6
DMMU-7 Rep. 2	259	444	703	81.6	--	44.4	44.4	<44.4	U	44.4	44.4	<44.4	U	44.4	44.4	<88.8	U	88.8	88.8	<44.4	U	44.4	44.4	<88.8	U	88.8	88.8	<44.4	U	44.4	44.4
DMMU-7 Rep. 3	248	454	702	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3	<82.6	U	82.6	82.6	<41.3	U	41.3	41.3	<82.6	U	82.6	82.6	<41.3	U	41.3	41.3
DMMU-7 Rep. 4	599	998	1597	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<200	U	200	200	<99.8	U	99.8	99.8
DMMU-7 Rep. 5	215	394	609	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8	<71.6	U	71.6	71.6	<35.8	U	35.8	35.8	<71.6	U	71.6	71.6	<35.8	U	35.8	35.8
DMMU-7 Mean	**305**	**529**	**834**	**63.8**				51.4				51.4				82.8				51.4				102.8				51.4			
% of Reference	231	241	237	291				234				234				377				234				234				234			
DMMU-8 Rep. 1	113	188	301	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<37.5	U	37.5	37.5	<18.8	U	18.8	18.8
DMMU-8 Rep. 2	105	175	280	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<35.1	U	35.1	35.1	<17.5	U	17.5	17.5
DMMU-8 Rep. 3	136	190	326	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	41.1	--	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<38.0	U	38.0	38.0	<19.0	U	19.0	19.0
DMMU-8 Rep. 4	130	216	346	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<43.2	U	43.2	43.2	<21.6	U	21.6	21.6
DMMU-8 Rep. 5	105	175	280	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<35.0	U	35.0	35.0	<17.5	U	17.5	17.5
DMMU-8 Mean	118	189	307	18.9				18.9				**23.3**				18.9				18.9				37.8				18.9			
% of Reference	89	86	87	86				86				106				86				86				86				86			
REF Rep. 1	124	207	331	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<41.3	U	41.3	41.3	<20.7	U	20.7	20.7
REF Rep. 2	128	214	342	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<42.7	U	42.7	42.7	<21.4	U	21.4	21.4
REF Rep. 3	135	225	360	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<44.9	U	44.9	44.9	<22.5	U	22.5	22.5
REF Rep. 4	137	229	367	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<45.9	U	45.9	45.9	<22.9	U	22.9	22.9
REF Rep. 5	134	223	357	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<44.6	U	44.6	44.6	<22.3	U	22.3	22.3
REF Mean	132	220	351	22.0				22.0				22.0				22.0				22.0				43.9				22.0			
Pre-exposure Rep. 1	135	225	360	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<45.1	U	45.1	45.1	<22.5	U	22.5	22.5
Pre-exposure Rep. 2	120	240	360	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0
Pre-exposure Rep. 3	122	243	365	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<40.5	U	40.5	40.5	<20.3	U	20.3	20.3	<40.5	U	40.5	40.5	<20.3	U	20.3	20.3
Pre-exposure Mean	126	236	362	20.9				20.9				20.9				34.3				20.9				41.9				20.9			

TABLE 19 *(continued)*
Analytical Results for Dry Weight PAHs in *Mercenaria mercenaria* Tissues

Analyte:	Chrysene[HPAH]				Dibenzo(a,h)anthracene[HPAH]				Fluoranthene[HPAH]				Fluorene[LPAH]				Indeno(1,2,3-cd)pyrene[HPAH]				Naphthalene[LPAH]				Phenanthrene[LPAH]				Pyrene[HPAH]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0	<35.0	U	35.0	35.0
DMMU-1 Rep. 2	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9	<35.9	U	35.9	35.9
DMMU-1 Rep. 3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3	<33.3	U	33.3	33.3
DMMU-1 Rep. 4	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2	<33.2	U	33.2	33.2
DMMU-1 Rep. 5	<62.2	U	62.2	62.2	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1	<31.1	U	31.1	31.1
DMMU-1 Mean	39.9				33.7				33.7				33.7				33.7				33.7				33.7				33.7			
% of Reference	182				153				153				153				153				153				153				153			
DMMU-3 Rep. 1	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	36.6	--	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5	<20.5	U	20.5	20.5
DMMU-3 Rep. 2	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	36.7	--	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7	<16.7	U	16.7	16.7
DMMU-3 Rep. 3	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	41.9	--	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7	<17.7	U	17.7	17.7
DMMU-3 Rep. 4	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0
DMMU-3 Rep. 5	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0	<16.0	U	16.0	16.0
DMMU-3 Mean	17.6				17.6				17.6				29.6				17.6				17.6				17.6				17.6			
% of Reference	80				80				80				135				80				80				80				80			
DMMU-4 Rep. 1	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0	<33.0	U	33.0	33.0
DMMU-4 Rep. 2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2	<39.2	U	39.2	39.2
DMMU-4 Rep. 3	<69.4	U	69.4	69.4	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7	<34.7	U	34.7	34.7
DMMU-4 Rep. 4	<63.9	U	63.9	63.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9	<31.9	U	31.9	31.9
DMMU-4 Rep. 5	<76.9	U	76.9	76.9	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5	<38.5	U	38.5	38.5
DMMU-04 Mean	56.5				35.5				35.5				35.5				35.5				35.5				35.5				35.5			
% of Reference	257				161				161				161				161				161				161				161			
DMMU-5 Rep. 1	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8	<17.8	U	17.8	17.8
DMMU-5 Rep. 2	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1	<18.1	U	18.1	18.1
DMMU-5 Rep. 3	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9	<16.9	U	16.9	16.9
DMMU-5 Rep. 4	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6	<16.6	U	16.6	16.6
DMMU-5 Rep. 5	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7	<18.7	U	18.7	18.7
DMMU-5 Mean	17.6				17.6				17.6				17.6				17.6				17.6				17.6				17.6			
% of Reference	80				80				80				80				80				80				80				80			
DMMU-7 Rep. 1	<71.2	U	71.2	71.2	<35.6	U	35.6	35.6	81.7	--	35.6	35.6	<35.6	U	35.6	35.6	<35.6	U	35.6	35.6	<35.6	U	35.6	35.6	71.2	--	35.6	35.6	40.8	--	35.6	35.6
DMMU-7 Rep. 2	<88.8	U	88.8	88.8	<44.4	U	44.4	44.4	170	--	44.4	44.4	<44.4	U	44.4	44.4	<44.4	U	44.4	44.4	<44.4	U	44.4	44.4	74.5	--	44.4	44.4	85.7	--	44.4	44.4
DMMU-7 Rep. 3	<82.6	U	82.6	82.6	<41.3	U	41.3	41.3	75.3	--	41.3	41.3	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3	<41.3	U	41.3	41.3
DMMU-7 Rep. 4	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8	<99.8	U	99.8	99.8
DMMU-7 Rep. 5	<71.6	U	71.6	71.6	<35.8	U	35.8	35.8	57.6	--	35.8	35.8	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8	<35.8	U	35.8	35.8
DMMU-7 Mean	82.8				51.4				**96.9**				51.4				51.4				51.4				**64.5**				**60.7**			
% of Reference	377				234				441				234				234				234				294				276			
DMMU-8 Rep. 1	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8
DMMU-8 Rep. 2	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5
DMMU-8 Rep. 3	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0	<19.0	U	19.0	19.0
DMMU-8 Rep. 4	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6
DMMU-8 Rep. 5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5	<17.5	U	17.5	17.5
DMMU-8 Mean	18.9				18.9				18.9				18.9				18.9				18.9				18.9				18.9			
% of Reference	86				86				86				86				86				86				86				86			
REF Rep. 1	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7	<20.7	U	20.7	20.7
REF Rep. 2	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4	<21.4	U	21.4	21.4
REF Rep. 3	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5
REF Rep. 4	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9
REF Rep. 5	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3
REF Mean	22.0				22.0				22.0				22.0				22.0				22.0				22.0				22.0			
Pre-exposure Rep. 1	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5	<22.5	U	22.5	22.5
Pre-exposure Rep. 2	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	C+, U	20.0	20.0
Pre-exposure Rep. 3	<40.5	U	40.5	40.5	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	U	20.3	20.3	<20.3	C+, U	20.3	20.3
Pre-exposure Mean	34.3				20.9				20.9				20.9				20.9				20.9				20.9				20.9			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.
< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. Non-detect (ND) results use the MDL for calculating average concentrations and total PAHs. (J-qualified results use the value reported by the laboratory for calculating average concentrations and total PAHs.)
C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.
LPAH = Low molecular weight PAH as defined in the*Regional Implementation Agreement* by USEPA/USACE (2003).
HPAH = High molecular weight PAH as defined in the*Regional Implementation Agreement* by USEPA/USACE (2003).
Sources: Results from NWDLS.
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 20
Analytical Results for Dry Weight PAHs in *Alitta virens* Tissues

Analyte:	Total LPAH PAHs	Total HPAH PAHs	Total PAHs	Acenaphthene[LPAH]				Acenaphthylene[LPAH]				Anthracene[LPAH]				Benzo(a)anthracene[HPAH]				Benzo(a)pyrene[HPAH]				Benzo(b&k)fluoranthene[HPAH]				Benzo(g,h,i)perylene[HPAH]			
Sample-Replicate #	**Result µg/kg**	**Result µg/kg**	**Result µg/kg**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**	**Result µg/kg**	**Qualifier**	**MDL**	**LRL**
DMMU-1 Rep. 1	654	1091	1745	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<219	U	219	219	<109	U	109	109
DMMU-1 Rep. 2	245	489	734	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<81.5	U	81.5	81.5	<40.8	U	40.8	40.8	<81.5	U	81.5	81.5	<40.8	U	40.8	40.8
DMMU-1 Rep. 3	263	526	789	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<87.7	U	87.7	87.7	<43.8	U	43.8	43.8	<87.7	U	87.7	87.7	<43.8	U	43.8	43.8
DMMU-1 Rep. 4	244	487	731	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<81.1	U	81.1	81.1	<40.6	U	40.6	40.6	<81.1	U	81.1	81.1	<40.6	U	40.6	40.6
DMMU-1 Rep. 5	290	580	869	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<96.6	U	96.6	96.6	<48.3	U	48.3	48.3	<96.6	U	96.6	96.6	<48.3	U	48.3	48.3
DMMU-1 Mean	339	635	974	56.5				56.5				56.5				91.2				56.5				113				56.5			
% of Reference	314	302	306	314				314				314				277				314				314				314			
DMMU-3 Rep. 1	137	219	356	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	<41.5	U	41.5	41.5	<20.8	U	20.8	20.8
DMMU-3 Rep. 2	151	212	363	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0
DMMU-3 Rep. 3	158	228	386	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<43.2	U	43.2	43.2	<21.6	U	21.6	21.6
DMMU-3 Rep. 4	146	235	381	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<45.7	U	45.7	45.7	<22.9	U	22.9	22.9
DMMU-3 Rep. 5	190	211	401	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	<42.2	U	42.2	42.2	<21.1	U	21.1	21.1
DMMU-3 Mean	157	221	**378**	21.3				21.3				21.3				21.3				21.3				42.5				21.3			
% of Reference	145	105	119	118				118				118				65				118				118				118			
DMMU-4 Rep. 1	151	251	402	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<50.2	U	50.2	50.2	<25.1	U	25.1	25.1
DMMU-4 Rep. 2	151	251	402	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<50.3	U	50.3	50.3	<25.1	U	25.1	25.1
DMMU-4 Rep. 3	136	227	363	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<45.4	U	45.4	45.4	<22.7	U	22.7	22.7
DMMU-4 Rep. 4	132	220	352	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<44.0	U	44.0	44.0	<22.0	U	22.0	22.0
DMMU-4 Rep. 5	131	219	350	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<43.8	U	43.8	43.8	<21.9	U	21.9	21.9
DMMU-4 Mean	140	234	374	23.4				23.4				23.4				23.4				23.4				46.7				23.4			
% of Reference	130	111	118	130				130				130				71				130				130				130			
DMMU-5 Rep. 1	118	197	315	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<39.3	U	39.3	39.3	<19.7	U	19.7	19.7
DMMU-5 Rep. 2	133	222	355	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<44.4	U	44.4	44.4	<22.2	U	22.2	22.2
DMMU-5 Rep. 3	122	204	326	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<40.7	U	40.7	40.7	<20.4	U	20.4	20.4
DMMU-5 Rep. 4	115	192	307	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<38.3	U	38.3	38.3	<19.2	U	19.2	19.2
DMMU-5 Rep. 5	126	220	346	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	30.4	--	21.0	21.0	<42.1	U	42.1	42.1	<21.0	U	21.0	21.0
DMMU-5 Mean	123	207	330	20.5				20.5				20.5				20.5				**22.4**				41.0				20.5			
% of Reference	114	99	104	114				114				114				62				124				114				114			
DMMU-7 Rep. 1	209	352	561	<24.1	U	24.1	24.1	<24.1	U	24.1	24.1	32.7	--	24.1	24.1	<24.1	U	24.1	24.1	<24.1	U	24.1	24.1	<48.3	U	48.3	48.3	<24.1	U	24.1	24.1
DMMU-7 Rep. 2	277	491	768	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	50.3	--	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<44.6	U	44.6	44.6	<22.3	U	22.3	22.3
DMMU-7 Rep. 3	197	351	548	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	28.6	--	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<44.6	U	44.6	44.6	<22.3	U	22.3	22.3
DMMU-7 Rep. 4	178	344	522	<22.8	U	22.8	22.8	<22.8	U	22.8	22.8	25.3	--	22.8	22.8	<22.8	U	22.8	22.8	<22.8	U	22.8	22.8	<45.5	U	45.5	45.5	<22.8	U	22.8	22.8
DMMU-7 Rep. 5	181	295	476	<23.5	U	23.5	23.5	<23.5	U	23.5	23.5	25.2	--	23.5	23.5	<23.5	U	23.5	23.5	<23.5	U	23.5	23.5	<47.0	U	47.0	47.0	<23.5	U	23.5	23.5
DMMU-7 Mean	**208**	**367**	**575**	23.0				23.0				**32.4**				23.0				23.0				46.0				23.0			
% of Reference	193	175	181	128				128				180				70				128				128				128			
DMMU-8 Rep. 1	126	210	336	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<42.1	U	42.1	42.1	<21.0	U	21.0	21.0
DMMU-8 Rep. 2	116	194	311	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<38.9	U	38.9	38.9	<19.4	U	19.4	19.4
DMMU-8 Rep. 3	131	218	349	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<43.7	U	43.7	43.7	<21.8	U	21.8	21.8
DMMU-8 Rep. 4	136	226	362	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<45.2	U	45.2	45.2	<22.6	U	22.6	22.6
DMMU-8 Rep. 5	142	236	378	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<47.2	U	47.2	47.2	<23.6	U	23.6	23.6
DMMU-8 Mean	130	217	347	21.7				21.7				21.7				21.7				21.7				43.4				21.7			
% of Reference	120	103	109	120				120				120				66				120				120				120			
REF Rep. 1	97	195	292	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<32.5	U	32.5	32.5	<16.2	U	16.2	16.2	<32.5	U	32.5	32.5	<16.2	U	16.2	16.2
REF Rep. 2	102	204	306	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<34.0	U	34.0	34.0	<17.0	U	17.0	17.0	<34.0	U	34.0	34.0	<17.0	U	17.0	17.0
REF Rep. 3	115	231	346	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<38.5	U	38.5	38.5	<19.2	U	19.2	19.2	<38.5	U	38.5	38.5	<19.2	U	19.2	19.2
REF Rep. 4	131	263	394	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<43.7	U	43.7	43.7	<21.9	U	21.9	21.9	<43.7	U	43.7	43.7	<21.9	U	21.9	21.9
REF Rep. 5	94	157	251	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<31.5	U	31.5	31.5	<15.7	U	15.7	15.7
REF Mean	108	210	318	18.0				18.0				18.0				32.9				18.0				36.0				18.0			
Pre-exposure Rep. 1	222	384	606	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<38.4	U	38.4	38.4	<38.4	U	38.4	38.4	<76.9	U	76.9	76.9	<38.4	U	38.4	38.4
Pre-exposure Rep. 2	216	377	593	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<18.8	U	18.8	18.8	<37.7	U	37.7	37.7	<37.7	U	37.7	37.7	<75.4	U	75.4	75.4	<37.7	U	37.7	37.7
Pre-exposure Rep. 3	140	348	488	<17.4	U	17.4	17.4	<17.4	U	17.4	17.4	<17.4	U	17.4	17.4	<34.8	U	34.8	34.8	<34.8	U	34.8	34.8	<69.7	U	69.7	69.7	<34.8	U	34.8	34.8
Pre-exposure Mean	193	370	562	18.5				18.5				18.5				37.0				37.0				74.0				37.0			

TABLE 20 *(continued)*
Analytical Results for Dry Weight PAHs in *Alitta virens* Tissues

Analyte:	Chrysene[HPAH]				Dibenzo(a,h)anthracene[HPAH]				Fluoranthene[HPAH]				Fluorene[LPAH]				Indeno(1,2,3-cd)pyrene[HPAH]				Naphthalene[LPAH]				Phenanthrene[LPAH]				Pyrene[HPAH]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109	<109	U	109	109
DMMU-1 Rep. 2	<81.5	U	81.5	81.5	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8	<40.8	U	40.8	40.8
DMMU-1 Rep. 3	<87.7	U	87.7	87.7	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8	<43.8	U	43.8	43.8
DMMU-1 Rep. 4	<81.1	U	81.1	81.1	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6	<40.6	U	40.6	40.6
DMMU-1 Rep. 5	<96.6	U	96.6	96.6	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3	<48.3	U	48.3	48.3
DMMU-1 Mean	91.2				56.5				56.5				56.5				56.5				56.5				56.5				56.5			
% of Reference	277				314				314				314				314				314				314				314			
DMMU-3 Rep. 1	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	24.7	--	20.8	20.8	<20.8	U	20.8	20.8	<20.8	U	20.8	20.8	53.8	--	20.8	20.8	32.1	--	20.8	20.8
DMMU-3 Rep. 2	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	50.5	--	20.0	20.0	<20.0	U	20.0	20.0	<20.0	U	20.0	20.0	71.3	--	20.0	20.0	32.0	--	20.0	20.0
DMMU-3 Rep. 3	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	<21.6	U	21.6	21.6	50.0	--	21.6	21.6	33.2	--	21.6	21.6
DMMU-3 Rep. 4	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	29.4	--	22.9	22.9	<22.9	U	22.9	22.9	<22.9	U	22.9	22.9	54.4	--	22.9	22.9	29.4	--	22.9	22.9
DMMU-3 Rep. 5	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	74.3	--	21.1	21.1	<21.1	U	21.1	21.1	<21.1	U	21.1	21.1	106	--	21.1	21.1	<21.1	U	21.1	21.1
DMMU-3 Mean	21.3				21.3				21.3				**40.1**				21.3				21.3				**67.1**				**29.6**			
% of Reference	65				118				118				223				118				118				373				164			
DMMU-4 Rep. 1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1
DMMU-4 Rep. 2	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1	<25.1	U	25.1	25.1
DMMU-4 Rep. 3	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7	<22.7	U	22.7	22.7
DMMU-4 Rep. 4	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0	<22.0	U	22.0	22.0
DMMU-4 Rep. 5	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9
DMMU-4 Mean	23.4				23.4				23.4				23.4				23.4				23.4				23.4				23.4			
% of Reference	71				130				130				130				130				130				130				130			
DMMU-5 Rep. 1	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7	<19.7	U	19.7	19.7
DMMU-5 Rep. 2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2	<22.2	U	22.2	22.2
DMMU-5 Rep. 3	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4	<20.4	U	20.4	20.4
DMMU-5 Rep. 4	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2
DMMU-5 Rep. 5	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0
DMMU-5 Mean	20.5				20.5				20.5				20.5				20.5				20.5				20.5				20.5			
% of Reference	62				114				114				114				114				114				114				114			
DMMU-7 Rep. 1	<24.1	U	24.1	24.1	<24.1	U	24.1	24.1	87.5	--	24.1	24.1	<24.1	U	24.1	24.1	<24.1	U	24.1	24.1	<24.1	U	24.1	24.1	80.2	--	24.1	24.1	95.2	--	24.1	24.1
DMMU-7 Rep. 2	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	155	--	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	137	--	22.3	22.3	180	--	22.3	22.3
DMMU-7 Rep. 3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	84.1	--	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	<22.3	U	22.3	22.3	79.3	--	22.3	22.3	111	--	22.3	22.3
DMMU-7 Rep. 4	<22.8	U	22.8	22.8	<22.8	U	22.8	22.8	77.1	--	22.8	22.8	<22.8	U	22.8	22.8	<22.8	U	22.8	22.8	<22.8	U	22.8	22.8	61.4	--	22.8	22.8	107	--	22.8	22.8
DMMU-7 Rep. 5	<23.5	U	23.5	23.5	<23.5	U	23.5	23.5	58.1	--	23.5	23.5	<23.5	U	23.5	23.5	<23.5	U	23.5	23.5	<23.5	U	23.5	23.5	61.6	--	23.5	23.5	72.4	--	23.5	23.5
DMMU-7 Mean	23.0				23.0				**92.4**				23.0				23.0				23.0				**83.9**				**113**			
% of Reference	70				128				513				128				128				128				466				628			
DMMU-8 Rep. 1	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0	<21.0	U	21.0	21.0
DMMU-8 Rep. 2	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4	<19.4	U	19.4	19.4
DMMU-8 Rep. 3	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8	<21.8	U	21.8	21.8
DMMU-8 Rep. 4	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6	<22.6	U	22.6	22.6
DMMU-8 Rep. 5	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6	<23.6	U	23.6	23.6
DMMU-8 Mean	21.7				21.7				21.7				21.7				21.7				21.7				21.7				21.7			
% of Reference	66				120				120				120				120				120				120				120			
REF Rep. 1	<32.5	U	32.5	32.5	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	U	16.2	16.2	<16.2	C+, U	16.2	16.2
REF Rep. 2	<34.0	U	34.0	34.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	U	17.0	17.0	<17.0	C+, U	17.0	17.0
REF Rep. 3	<38.5	U	38.5	38.5	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	U	19.2	19.2	<19.2	C+, U	19.2	19.2
REF Rep. 4	<43.7	U	43.7	43.7	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	U	21.9	21.9	<21.9	C+, U	21.9	21.9
REF Rep. 5	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7	<15.7	U	15.7	15.7
REF Mean	32.9				18.0				18.0				18.0				18.0				18				18.0				18.0			
Pre-exposure Rep. 1	<38.4	U	38.4	38.4	<38.4	U	38.4	38.4	<38.4	U	38.4	38.4	<19.2	U	19.2	19.2	<38.4	U	38.4	38.4	126	--	19.2	19.2	<19.2	U	19.2	19.2	<38.4	U	38.4	38.4
Pre-exposure Rep. 2	<37.7	U	37.7	37.7	<37.7	U	37.7	37.7	<37.7	U	37.7	37.7	<18.8	U	18.8	18.8	<37.7	U	37.7	37.7	122	--	18.8	18.8	<18.8	U	18.8	18.8	<37.7	U	37.7	37.7
Pre-exposure Rep. 3	<34.8	U	34.8	34.8	<34.8	U	34.8	34.8	<34.8	U	34.8	34.8	<17.4	U	17.4	17.4	<34.8	U	34.8	34.8	52.9	--	17.4	17.4	<17.4	U	17.4	17.4	<34.8	U	34.8	34.8
Pre-exposure Mean	37.0				37.0				37.0				18.5				37.0				100.3				18.5				37.0			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MD

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. Non-detect (ND) results use the MDL for calculating average concentrations and total PAHs. (J-qualified results use the value reported by the laboratory for calculating average concentrations and total PAHs.)

C+ = The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.

LPAH = Low molecular weight PAH as defined in the*Regional Implementation Agreement* by USEPA/USACE (2003).

HPAH = High molecular weight PAH as defined in the*Regional Implementation Agreement* by USEPA/USACE (2003).

Sources: Results from NWDLS.

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 21

Analytical Results for Wet Weight Organotins in *Mercenaria mercenaria* and *Alitta virens* Tissues

Analyte:	*Mercenaria mercenaria* Monobutyltin				*Alitta virens* Monobutyltin			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<0.536	U H*- H3	0.536	3.00	<1.05	U H*- H3	1.05	5.88
DMMU-1 Rep. 2	<0.531	U H*- H3	0.531	2.97	<0.536	U H F2 F1 *-H3	0.536	3.00
DMMU-1 Rep. 3	<0.536	U H*- H3	0.536	3.00	<1.05	U H*- H3	1.05	5.88
DMMU-1 Rep. 4	<0.531	U H*- H3	0.531	2.97	<1.03	U H*- H3	1.03	5.77
DMMU-1 Rep. 5	<0.536	U H*- H3	0.536	3.00	<1.05	U H*- H3	1.05	5.88
DMMU-1 Mean	0.534				0.943			
% of Reference	84				177			
REF Rep. 1	<1.05	U H H3	1.05	5.88	<0.531	U H H3	0.531	2.97
REF Rep. 2	<0.531	U H H3 F1	0.531	2.97	<0.531	U H H3	0.531	2.97
REF Rep. 3	<0.536	U H H3	0.536	3.00	<0.531	U H*- H3	0.531	2.97
REF Rep. 4	<0.536	U H H3	0.536	3.00	<0.536	U H*- H3	0.536	3.00
REF Rep. 5	<0.536	U H H3	0.536	3.00	<0.531	U H*- H3	0.531	2.97
REF Mean	0.638				0.532			
Pre-exposure Rep. 1	<1.07	U H H3	1.07	6.00	<1.12	U H*- H3	1.12	6.25
Pre-exposure Rep. 2	<1.12	U H H3	1.12	6.25	<1.07	U H*- H3	1.07	6.00
Pre-exposure Rep. 3	<1.09	U H H3	1.09	6.12	<1.12	U H*- H3	1.12	6.25
Pre-exposure Mean	1.09				1.10			
Eco. Effects Threshold[1]	x				x			
North Gulf of Mexico Bkgd[1]	x				x			

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. Non-detect (ND) results use the MDL for calculating total organotins. (J-qualified results use the value reported by the laboratory for calculating total organotins.)

F1 = MS and/or MSD recovery exceeds control limits. F2 = MS/MSD RPD exceeds control limits. H = Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements. H3 = Sample was received and analyzed past holding time. This does not meet regulatory requirements.*- LCS and/or LCSD is outside acceptance limits, low biased.

Sources: Results from Eurofins-Stafford

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 22
Analytical Results for Dry Weight Organotins in *Mercenaria mercenaria* and *Alitta virens* Tissues

Analyte:	*Mercenaria mercenaria* Monobutyltin				*Alitta virens* Monobutyltin			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1	<3.94	U H *- H3	3.94	22.1	<9.55	U H *- H3	9.55	53.5
DMMU-1 Rep. 2	<3.82	U H *- H3	3.82	21.4	<4.87	U,H,F2, F1, *- H3	4.87	27.3
DMMU-1 Rep. 3	<3.77	U H *- H3	3.77	21.1	<9.81	U H *- H3	9.81	55.0
DMMU-1 Rep. 4	<3.59	U H *- H3	3.59	20.1	<9.20	U H *- H3	9.20	51.5
DMMU-1 Rep. 5	<3.44	U H *- H3	3.44	19.2	<10.6	U H *- H3	10.6	59.1
DMMU-1 Mean	3.71				8.80			
% of Reference	63				218			
REF Rep. 1	<9.38	U H H3	9.38	52.5	<3.66	U H H3	3.66	20.5
REF Rep. 2	<4.92	U H H3 F1	4.92	27.5	<3.79	U H H3	3.79	21.2
REF Rep. 3	<5.10	U H H3	5.10	28.6	<4.15	U H*- H3	4.15	23.2
REF Rep. 4	<5.15	U H H3	5.15	28.8	<5.01	U H*- H3	5.01	28.0
REF Rep. 5	<5.01	U H H3	5.01	28.0	<3.54	U H*- H3	3.54	19.8
REF Mean	5.91				4.03			
Pre-exposure Rep. 1	<9.91	U H H3	9.91	55.6	<8.82	U H*- H3	8.82	49.2
Pre-exposure Rep. 2	<9.03	U H H3	9.03	50.4	<8.11	U H*- H3	8.11	45.5
Pre-exposure Rep. 3	<9.56	U H H3	9.56	53.7	<8.06	U H*- H3	8.06	45.0
Pre-exposure Mean	9.50				8.33			

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL.
F1 = MS and/or MSD recovery exceeds control limits. F2 = MS/MSD RPD exceeds control limits. H = Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements. H3 = Sample was received and analyzed past holding time. This does not meet regulatory requirements.*- LCS and/or LCSD is outside acceptance limits, low biased.
Source: Results from Eurofins-Stafford
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 23

Analytical Results for Wet Weight SVOCs in *Mercenaria mercenaria* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1					<4.76	U	4.76	4.76																
DMMU-1 Rep. 2					<4.99	U	4.99	4.99																
DMMU-1 Rep. 3					<4.73	U	4.73	4.73																
DMMU-1 Rep. 4					<4.93	U	4.93	4.93																
DMMU-1 Rep. 5					<4.86	U	4.86	4.86																
DMMU-1 Mean					4.85																			
Adjusted Concentration					4.85																			
% of Reference					87																			
DMMU-2 Rep. 1					<2.39	U	2.39	2.39																
DMMU-2 Rep. 2					12.9	--	2.46	2.46																
DMMU-2 Rep. 3					14.9	--	2.49	2.49																
DMMU-2 Rep. 4					12.4	--	2.48	2.48																
DMMU-2 Rep. 5					9.82	--	2.49	2.49																
DMMU-2 Mean					10.5																			
Adjusted Concentration					10.5																			
% of Reference					188																			
DMMU-3 Rep. 1	8.11	V	2.48	2.48	8.24	V	2.48	2.48	<4.96	U	4.96	4.96	<2.48	U	2.48	2.48								
DMMU-3 Rep. 2	12.2	V	2.38	2.38	6.91	V	2.38	2.38	<4.76	U	4.76	4.76	<2.38	U	2.38	2.38								
DMMU-3 Rep. 3	7.62	V	2.44	2.44	6.75	V	2.44	2.44	<4.88	U	4.88	4.88	<2.44	U	2.44	2.44								
DMMU-3 Rep. 4	7.88	V	2.45	2.45	6.78	V	2.45	2.45	<4.90	U	4.90	4.90	<2.45	U	2.45	2.45								
DMMU-3 Rep. 5	9.19	V	2.33	2.33	4.84	V	2.33	2.33	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33								
DMMU-3 Mean	9.00				6.70				4.83				2.42											
Adjusted Concentration	25.2				6.70				4.83				2.42											
% of Reference	117				120				103				103											
DMMU-4 Rep. 1					<4.94	U	4.94	4.94																
DMMU-4 Rep. 2					<4.85	U	4.85	4.85																
DMMU-4 Rep. 3					<4.96	U	4.96	4.96																
DMMU-4 Rep. 4					<4.61	U	4.61	4.61																
DMMU-4 Rep. 5					<4.97	U	4.97	4.97																
DMMU-4 Mean					4.87																			
Adjusted Concentration					4.87																			
% of Reference					87																			
DMMU-5 Rep. 1					8.12	V	2.46	2.46									6.11	V	2.46	2.46	<2.46	U	2.46	2.46
DMMU-5 Rep. 2					4.83	V	2.44	2.44									5.06	V	2.44	2.44	<2.44	U	2.44	2.44
DMMU-5 Rep. 3					4.42	V	2.41	2.41									3.01	V	2.41	2.41	<2.41	U	2.41	2.41
DMMU-5 Rep. 4					4.92	V	2.40	2.40									4.57	V	2.40	2.40	14.2	--	2.40	2.40
DMMU-5 Rep. 5					4.90	V	2.48	2.48									6.43	V	2.48	2.48	<2.48	U	2.48	2.48
DMMU-5 Mean					5.44												5.04				4.80			
Adjusted Concentration					5.44												5.04				4.80			
% of Reference					98												144				204			
DMMU-6 Rep. 1					2.48	--	2.46	2.46																
DMMU-6 Rep. 2					14.0	--	2.43	2.43																
DMMU-6 Rep. 3					11.9	--	2.40	2.40																
DMMU-6 Rep. 4					5.07	--	2.46	2.46																
DMMU-6 Rep. 5					9.86	--	2.44	2.44																
DMMU-6 Mean					8.66																			
Adjusted Concentration					8.66																			
% of Reference					156																			
DMMU-7 Rep. 1					<4.87	U	4.87	4.87																
DMMU-7 Rep. 2					<4.95	U	4.95	4.95																
DMMU-7 Rep. 3					<4.92	U	4.92	4.92																
DMMU-7 Rep. 4					<12.4	U	12.4	12.4																
DMMU-7 Rep. 5					<4.70	U	4.70	4.70																
DMMU-7 Mean					6.37																			
Adjusted Concentration					6.37																			
% of Reference					114																			

TABLE 23 *(continued)*

Analytical Results for Wet Weight SVOCs in *Mercenaria mercenaria* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-8 Rep. 1	<2.46	B, U	2.46	2.46	6.96	V	2.46	2.46																
DMMU-8 Rep. 2	<2.38	B, U	2.38	2.38	5.29	V	2.38	2.38																
DMMU-8 Rep. 3	<2.48	B, U	2.48	2.48	4.41	V	2.48	2.48																
DMMU-8 Rep. 4	<2.45	B, U	2.45	2.45	10.5	V	2.45	2.45																
DMMU-8 Rep. 5	<2.25	B, U	2.25	2.25	4.19	V	2.25	2.25																
DMMU-8 Mean	2.40				6.27																			
Adjusted Concentration	6.73				6.27																			
% of Reference	31				113																			
REF Rep. 1	6.14	V	2.31	2.31	6.50	V	2.31	2.31	<4.63	U	4.63	4.63	<2.31	U	2.31	2.31	5.32	V	2.31	2.31	<2.31	U	2.31	2.31
REF Rep. 2	7.84	V	2.30	2.30	6.47	V	2.30	2.30	<4.60	U	4.60	4.60	<2.30	U	2.30	2.30	5.04	V	2.30	2.30	<2.30	U	2.30	2.30
REF Rep. 3	5.97	V	2.37	2.37	4.62	V	2.37	2.37	<4.73	U	4.73	4.73	<2.37	U	2.37	2.37	<2.37	B, U	2.37	2.37	<2.37	U	2.37	2.37
REF Rep. 4	8.47	V	2.39	2.39	5.23	V	2.39	2.39	<4.77	U	4.77	4.77	<2.39	U	2.39	2.39	<2.39	B, U	2.39	2.39	<2.39	U	2.39	2.39
REF Rep. 5	10.0	V	2.38	2.38	5.01	V	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38	<2.38	B, U	2.38	2.38	<2.38	U	2.38	2.38
REF Mean	7.68				5.57				4.70				2.35				3.50				2.35			
Adjusted Concentration	21.5				5.57				4.70				2.35				3.50				2.35			
Pre-exposure Rep. 1	7.15	V	2.43	2.43	4.79	V	2.43	2.43	<4.85	U	4.85	4.85	<2.43	U	2.43	2.43	<2.43	B, U	2.43	2.43	<2.43	U	2.43	2.43
Pre-exposure Rep. 2	12.0	V	2.49	2.49	4.66	V	2.49	2.49	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49	<2.49	B, U	2.49	2.49	<2.49	U	2.49	2.49
Pre-exposure Rep. 3	7.45	V	2.31	2.31	3.82	V	2.31	2.31	<4.61	U	4.61	4.61	<2.31	U	2.31	2.31	<2.31	B, U	2.31	2.31	<2.31	U	2.31	2.31
Pre-exposure Mean	8.87				4.42				4.81				2.41				2.41				2.41			
Steady State Factor	2.8				1.0				1.0				1.0				1.0				1.0			
Eco. Effects Threshold	847.0				x				x				x				x				x			
North Gulf of Mexico Bkgd	x				x				x				x				x				x			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. U-qualified results use the MDL for calculating average concentrations (J-qualified results use the value reported by the laboratory for calculating average concentrations).

B-qualified indicates the analyte was found in the method blank. V-qualified indicates the analyte was detected in both the sample and the method blank.

Gray shaded areas indicate no data or analysis required.

Sources: Results from NWDLS; [1] Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 24

Analytical Results for Wet Weight SVOCs in *Alitta virens* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1					<12.1	U	12.1	12.1																
DMMU-1 Rep. 2					<4.46	U	4.46	4.46																
DMMU-1 Rep. 3					<4.70	U	4.70	4.70																
DMMU-1 Rep. 4					<4.54	U	4.54	4.54																
DMMU-1 Rep. 5					<4.81	U	4.81	4.81																
DMMU-1 Mean					6.12																			
Adjusted Concentration					6.12																			
% of Reference					132																			
DMMU-2 Rep. 1					8.50	--	2.32	2.32																
DMMU-2 Rep. 2					10.5	--	2.37	2.37																
DMMU-2 Rep. 3					9.52	--	2.34	2.34																
DMMU-2 Rep. 4					13.5	--	2.37	2.37																
DMMU-2 Rep. 5					10.9	--	2.28	2.28																
DMMU-2 Mean					**10.6**																			
Adjusted Concentration					**10.6**																			
% of Reference					228																			
DMMU-3 Rep. 1	13.8	V	2.31	2.31	3.91	V	2.31	2.31	<4.63	U	4.63	4.63	<2.31	U	2.31	2.31								
DMMU-3 Rep. 2	13.4	V	2.31	2.31	5.14	V	2.31	2.31	<4.62	U	4.62	4.62	<2.31	U	2.31	2.31								
DMMU-3 Rep. 3	9.61	V	2.34	2.34	3.70	V	2.34	2.34	<4.68	U	4.68	4.68	<2.34	U	2.34	2.34								
DMMU-3 Rep. 4	8.88	V	2.37	2.37	3.39	V	2.37	2.37	<4.74	U	4.74	4.74	<2.37	U	2.37	2.37								
DMMU-3 Rep. 5	11.5	V	2.32	2.32	9.31	V	2.32	2.32	<4.64	U	4.64	4.64	<2.32	U	2.32	2.32								
DMMU-3 Mean	11.4				5.09				4.66				2.33											
Adjusted Concentration	32.0				5.09				4.66				2.33											
% of Reference	137				110				98				98											
DMMU-4 Rep. 1					7.36	V	2.42	2.42																
DMMU-4 Rep. 2					7.30	V	2.47	2.47																
DMMU-4 Rep. 3					7.28	V	2.29	2.29																
DMMU-4 Rep. 4					7.49	V	2.24	2.24																
DMMU-4 Rep. 5					6.72	V	2.22	2.22																
DMMU-4 Mean					**7.23**																			
Adjusted Concentration					**7.23**																			
% of Reference					156																			
DMMU-5 Rep. 1					<2.22	B, U	2.22	2.22									5.18	V	2.22	2.22	<2.22	U	2.22	2.22
DMMU-5 Rep. 2					11.8	V	2.28	2.28									5.92	V	2.28	2.28	<2.28	U	2.28	2.28
DMMU-5 Rep. 3					<2.39	B, U	2.39	2.39									6.55	V	2.39	2.39	<2.39	U	2.39	2.39
DMMU-5 Rep. 4					<2.39	B, U	2.39	2.39									5.58	V	2.39	2.39	<2.39	U	2.39	2.39
DMMU-5 Rep. 5					<2.35	B, U	2.35	2.35									6.62	V	2.35	2.35	<2.35	U	2.35	2.35
DMMU-05 Mean					4.23												**5.97**				2.33			
Adjusted Concentration					4.23												**5.97**				2.33			
% of Reference					91												136				98			
DMMU-6 Rep. 1					10.9	--	2.39	2.39																
DMMU-6 Rep. 2					4.93	--	2.31	2.31																
DMMU-6 Rep. 3					2.28	--	2.24	2.24																
DMMU-6 Rep. 4					2.95	--	2.36	2.36																
DMMU-6 Rep. 5					<2.28	U	2.28	2.28																
DMMU-6 Mean					4.67																			
Adjusted Concentration					4.67																			
% of Reference					101																			
DMMU-7 Rep. 1					7.94	V	2.28	2.28																
DMMU-7 Rep. 2					7.41	V	2.47	2.47																
DMMU-7 Rep. 3					7.88	V	2.50	2.50																
DMMU-7 Rep. 4					5.83	V	2.35	2.35																
DMMU-7 Rep. 5					5.83	V	2.43	2.43																
DMMU-7 Mean					**6.98**																			
Adjusted Concentration					**6.98**																			
% of Reference					151																			

TABLE 24 *(continued)*

Analytical Results for Wet Weight SVOCs in *Alitta virens* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-8 Rep. 1	14.6	V	2.34	2.34	4.24	V	2.34	2.34																
DMMU-8 Rep. 2	21.4	V	2.38	2.38	7.40	V	2.38	2.38																
DMMU-8 Rep. 3	12.9	V	2.23	2.23	6.15	V	2.23	2.23																
DMMU-8 Rep. 4	14.1	V	2.29	2.29	5.97	V	2.29	2.29																
DMMU-8 Rep. 5	17.6	V	2.32	2.32	6.97	V	2.32	2.32																
DMMU-8 Mean	**16.1**				6.15																			
Adjusted Concentration	**45.1**				6.15																			
% of Reference	194				133																			
REF Rep. 1	3.69	V	2.35	2.35	5.56	V	2.35	2.35	<4.70	U	4.70	4.70	<2.35	U	2.35	2.35	3.97	V	2.35	2.35	<2.35	U	2.35	2.35
REF Rep. 2	5.39	V	2.38	2.38	3.25	V	2.38	2.38	<4.75	U	4.75	4.75	<2.38	U	2.38	2.38	4.82	V	2.38	2.38	<2.38	U	2.38	2.38
REF Rep. 3	22.2	V	2.47	2.47	4.41	V	2.47	2.47	<4.94	U	4.94	4.94	<2.47	U	2.47	2.47	3.18	V	2.47	2.47	<2.47	U	2.47	2.47
REF Rep. 4	7.96	V	2.33	2.33	5.34	V	2.33	2.33	<4.66	U	4.66	4.66	<2.33	U	2.33	2.33	5.20	V	2.33	2.33	<2.33	U	2.33	2.33
REF Rep. 5	<2.36	B, U	2.36	2.36	4.60	V	2.36	2.36	<4.73	U	4.73	4.73	<2.36	U	2.36	2.36	4.76	V	2.36	2.36	<2.36	U	2.36	2.36
REF Mean	8.32				4.63				4.76				2.38				4.39				2.38			
Adjusted Concentration	23.3				4.63				4.76				2.38				4.39				2.38			
Pre-exposure Rep. 1	<4.87	B, U	4.87	4.87	21.6	V	2.44	2.44	<4.87	U	4.87	4.87	<2.44	U	2.44	2.44	3.34	V	2.44	2.44	<4.87	U	4.87	4.87
Pre-exposure Rep. 2	<4.98	B, U	4.98	4.98	13.6	V	2.49	2.49	<4.98	U	4.98	4.98	<2.49	U	2.49	2.49	2.52	V	2.49	2.49	<4.98	U	4.98	4.98
Pre-exposure Rep. 3	45.6	V	4.83	4.83	3.46	V	2.41	2.41	<4.83	U	4.83	4.83	<2.41	U	2.41	2.41	3.57	V	2.41	2.41	<4.83	U	4.83	4.83
Pre-exposure Mean	18.5				12.9				4.89				2.45				3.14				4.89			
Steady State Factor	2.8				1.0				1.0				1.0				1.0				1.0			
Eco. Effects Threshold	x				x				x				x				x				x			
North Gulf of Mexico Bkgd	x				x				x				x				x				x			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. U-qualified results use the MDL for calculating average concentrations (J-qualified results use the value reported by the laboratory for calculating average concentrations).

B-qualified indicates the analyte was found in the method blank. V-qualified indicates the analyte was detected in both the sample and the method blank.

Gray shaded areas indicate no data or analysis required.

Sources: Results from NWDLS; [1] Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008).

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 25

Analytical Results for Dry Weight SVOCs in *Mercenaria mercenaria* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1					<35.0	U	35.0	35.0																
DMMU-1 Rep. 2					<35.9	U	35.9	35.9																
DMMU-1 Rep. 3					<33.3	U	33.3	33.3																
DMMU-1 Rep. 4					<33.2	U	33.2	33.2																
DMMU-1 Rep. 5					<31.1	U	31.1	31.1																
DMMU-1 Mean					33.7																			
% of Reference					76																			
DMMU-2 Rep. 1					<17.2	U	17.2	17.2																
DMMU-2 Rep. 2					93.0	--	17.7	17.7																
DMMU-2 Rep. 3					102	--	17.0	17.0																
DMMU-2 Rep. 4					87.8	--	17.5	17.5																
DMMU-2 Rep. 5					67.6	--	17.1	17.1																
DMMU-2 Mean					73.5																			
% of Reference					165																			
DMMU-3 Rep. 1	67.0	V	20.5	20.5	68.0	V	20.5	20.5	<41.0	U	41.0	41.0	<20.5	U	20.5	20.5								
DMMU-3 Rep. 2	85.3	V	16.7	16.7	48.4	V	16.7	16.7	<33.4	U	33.4	33.4	<16.7	U	16.7	16.7								
DMMU-3 Rep. 3	55.3	V	17.7	17.7	48.9	V	17.7	17.7	<35.4	U	35.4	35.4	<17.7	U	17.7	17.7								
DMMU-3 Rep. 4	54.6	V	17.0	17.0	46.9	V	17.0	17.0	<33.9	U	33.9	33.9	<17.0	U	17.0	17.0								
DMMU-3 Rep. 5	63.0	V	16.0	16.0	33.2	V	16.0	16.0	<32.0	U	32.0	32.0	<16.0	U	16.0	16.0								
DMMU-3 Mean	65.0				49.1				35.1				17.6											
% of Reference	90				110				80				80											
DMMU-4 Rep. 1					<33.0	U	33.0	33.0																
DMMU-4 Rep. 2					<39.2	U	39.2	39.2																
DMMU-4 Rep. 3					<34.7	U	34.7	34.7																
DMMU-4 Rep. 4					<31.9	U	31.9	31.9																
DMMU-4 Rep. 5					<38.5	U	38.5	38.5																
DMMU-4 Mean					35.5																			
% of Reference					80																			
DMMU-5 Rep. 1					58.7	V	17.8	17.8									44.2	V	17.8	17.8	<17.8	U	17.8	17.8
DMMU-5 Rep. 2					35.9	V	18.1	18.1									37.5	V	18.1	18.1	<18.1	U	18.1	18.1
DMMU-5 Rep. 3					31.0	V	16.9	16.9									21.1	V	16.9	16.9	<16.9	U	16.9	16.9
DMMU-5 Rep. 4					34.0	V	16.6	16.6									31.6	V	16.6	16.6	97.8	--	16.6	16.6
DMMU-5 Rep. 5					37.1	V	18.7	18.7									48.6	V	18.7	18.7	<18.7	U	18.7	18.7
DMMU-05 Mean					39.3												36.6				33.9			
% of Reference					88												113				154			
DMMU-6 Rep. 1					22.1	--	22.0	22.0																
DMMU-6 Rep. 2					94.1	--	16.4	16.4																
DMMU-6 Rep. 3					85.7	--	17.3	17.3																
DMMU-6 Rep. 4					36.3	--	17.6	17.6																
DMMU-6 Rep. 5					70.3	--	17.4	17.4																
DMMU-6 Mean					61.7																			
% of Reference					139																			
DMMU-7 Rep. 1					<35.6	U	35.6	35.6																
DMMU-7 Rep. 2					<44.4	U	44.4	44.4																
DMMU-7 Rep. 3					<41.3	U	41.3	41.3																
DMMU-7 Rep. 4					<99.8	U	99.8	99.8																
DMMU-7 Rep. 5					<35.8	U	35.8	35.8																
DMMU-7 Mean					51.4																			
% of Reference					115																			

TABLE 25 *(continued)*

Analytical Results for Dry Weight SVOCs in *Mercenaria mercenaria* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-8 Rep. 1	<18.8	B, U	18.8	18.8	53.1	V	18.8	18.8																
DMMU-8 Rep. 2	<17.5	B, U	17.5	17.5	39.1	V	17.5	17.5																
DMMU-8 Rep. 3	<19.0	B, U	19.0	19.0	33.8	V	19.0	19.0																
DMMU-8 Rep. 4	<21.6	B, U	21.6	21.6	92.8	V	21.6	21.6																
DMMU-8 Rep. 5	<17.5	B, U	17.5	17.5	32.7	V	17.5	17.5																
DMMU-8 Mean	18.9				50.3																			
% of Reference	26				113																			
HI-REF Rep. 1	54.8	V	20.7	20.7	58.1	V	20.7	20.7	<41.3	U	41.3	41.3	<20.7	U	20.7	20.7	47.5	V	20.7	20.7	<20.7	U	20.7	20.7
HI-REF Rep. 2	72.9	V	21.4	21.4	60.2	V	21.4	21.4	<42.7	U	42.7	42.7	<21.4	U	21.4	21.4	46.9	V	21.4	21.4	<21.4	U	21.4	21.4
HI-REF Rep. 3	56.7	V	22.5	22.5	43.8	V	22.5	22.5	<44.9	U	44.9	44.9	<22.5	U	22.5	22.5	<22.5	B, U	22.5	22.5	<22.5	U	22.5	22.5
HI-REF Rep. 4	81.5	V	22.9	22.9	50.3	V	22.9	22.9	<45.9	U	45.9	45.9	<22.9	U	22.9	22.9	<22.9	B, U	22.9	22.9	<22.9	U	22.9	22.9
HI-REF Rep. 5	94.1	V	22.3	22.3	47.0	V	22.3	22.3	<44.6	U	44.6	44.6	<22.3	U	22.3	22.3	<22.3	B, U	22.3	22.3	<22.3	U	22.3	22.3
HI-REF Mean	72.0				51.9				43.9				22.0				32.4				22.0			
Pre-exposure Rep. 1	66.4	V	22.5	22.5	44.5	V	22.5	22.5	<45.1	U	45.1	45.1	<22.5	U	22.5	22.5	<22.5	B, U	22.5	22.5	<22.5	U	22.5	22.5
Pre-exposure Rep. 2	96.6	V	20.0	20.0	37.5	V	20.0	20.0	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0	<20.0	B, U	20.0	20.0	<20.0	U	20.0	20.0
Pre-exposure Rep. 3	65.4	V	20.3	20.3	33.5	V	20.3	20.3	<40.5	U	40.5	40.5	<20.3	U	20.3	20.3	<20.3	B, U	20.3	20.3	<20.3	U	20.3	20.3
Pre-exposure Mean	76.1				38.5				41.9				20.9				20.9				20.9			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. U-qualified results use the MDL for calculating average concentrations (J-qualified results use the value reported by the laboratory for calculating average concentrations).

B-qualified indicates the analyte was found in the method blank. V-qualified indicates the analyte was detected in both the sample and the method blank.

Gray shaded areas indicate no data or analysis required.

Sources: Results from NWDLS

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 26

Analytical Results for Dry Weight SVOCs in *Alitta virens* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-1 Rep. 1					<109	U	109	109																
DMMU-1 Rep. 2					<40.8	U	40.8	40.8																
DMMU-1 Rep. 3					<43.8	U	43.8	43.8																
DMMU-1 Rep. 4					<40.6	U	40.6	40.6																
DMMU-1 Rep. 5					<48.3	U	48.3	48.3																
DMMU-1 Mean					56.5																			
% of Reference					160																			
DMMU-2 Rep. 1					80.8	--	22.1	22.1																
DMMU-2 Rep. 2					95.3	--	21.6	21.6																
DMMU-2 Rep. 3					91.7	--	22.5	22.5																
DMMU-2 Rep. 4					121	--	21.2	21.2																
DMMU-2 Rep. 5					101	--	21.2	21.2																
DMMU-2 Mean					**98.0**																			
% of Reference					277																			
DMMU-3 Rep. 1	124	V	20.8	20.8	35.1	V	20.8	20.8	<41.5	U	41.5	41.5	<20.8	U	20.8	20.8								
DMMU-3 Rep. 2	116	V	20.0	20.0	44.4	V	20.0	20.0	<40.0	U	40.0	40.0	<20.0	U	20.0	20.0								
DMMU-3 Rep. 3	88.7	V	21.6	21.6	34.2	V	21.6	21.6	<43.2	U	43.2	43.2	<21.6	U	21.6	21.6								
DMMU-3 Rep. 4	85.6	V	22.9	22.9	32.7	V	22.9	22.9	<45.7	U	45.7	45.7	<22.9	U	22.9	22.9								
DMMU-3 Rep. 5	105	V	21.1	21.1	84.8	V	21.1	21.1	<42.2	U	42.2	42.2	<21.1	U	21.1	21.1								
DMMU-3 Mean	104				46.2				42.5				21.3											
% of Reference	159				131				118				118											
DMMU-4 Rep. 1					76.2	V	25.1	25.1																
DMMU-4 Rep. 2					74.4	V	25.1	25.1																
DMMU-4 Rep. 3					72.3	V	22.7	22.7																
DMMU-4 Rep. 4					73.6	V	22.0	22.0																
DMMU-4 Rep. 5					66.5	V	21.9	21.9																
DMMU-4 Mean					**72.6**																			
% of Reference					205																			
DMMU-5 Rep. 1					<19.7	B, U	19.7	19.7									45.9	V	19.7	19.7	<19.7	U	19.7	19.7
DMMU-5 Rep. 2					115	V	22.2	22.2									57.7	V	22.2	22.2	<22.2	U	22.2	22.2
DMMU-5 Rep. 3					<20.4	B, U	20.4	20.4									55.9	V	20.4	20.4	<20.4	U	20.4	20.4
DMMU-5 Rep. 4					<19.2	B, U	19.2	19.2									44.7	V	19.2	19.2	<19.2	U	19.2	19.2
DMMU-5 Rep. 5					<21.0	B, U	21.0	21.0									59.4	V	21.0	21.0	<21.0	U	21.0	21.0
DMMU-05 Mean					39.1												**52.7**				20.5			
% of Reference					111												158				114			
DMMU-6 Rep. 1					93.6	--	20.5	20.5																
DMMU-6 Rep. 2					44.0	--	20.6	20.6																
DMMU-6 Rep. 3					22.0	--	21.6	21.6																
DMMU-6 Rep. 4					27.3	--	21.9	21.9																
DMMU-6 Rep. 5					<21.3	U	21.3	21.3																
DMMU-6 Mean					41.6																			
% of Reference					118																			
DMMU-7 Rep. 1					84.2	V	24.1	24.1																
DMMU-7 Rep. 2					66.9	V	22.3	22.3																
DMMU-7 Rep. 3					70.2	V	22.3	22.3																
DMMU-7 Rep. 4					56.4	V	22.8	22.8																
DMMU-7 Rep. 5					56.3	V	23.5	23.5																
DMMU-7 Mean					**66.8**																			
% of Reference					189																			

TABLE 26 *(continued)*

Analytical Results for Dry Weight SVOCs in *Alitta virens* Tissues

Analyte:	Bis(2-ethylhexyl) phthalate				Di-n-Butyl phthalate				2,4-dichlorophenol				2,6-dinitrotoluene (2,6 DNT)				Diethyl phthalate				Hexachlorocyclopentadiene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL	Result µg/kg	Qualifier	MDL	LRL
DMMU-8 Rep. 1	131	V	21.0	21.0	38.1	V	21.0	21.0																
DMMU-8 Rep. 2	175	V	19.4	19.4	60.4	V	19.4	19.4																
DMMU-8 Rep. 3	127	V	21.8	21.8	60.3	V	21.8	21.8																
DMMU-8 Rep. 4	139	V	22.6	22.6	58.8	V	22.6	22.6																
DMMU-8 Rep. 5	179	V	23.6	23.6	70.9	V	23.6	23.6																
DMMU-8 Mean	**150**				57.7																			
% of Reference	229				163																			
REF Rep. 1	25.5	V	16.2	16.2	38.4	V	16.2	16.2	<32.5	U	32.5	32.5	<16.2	U	16.2	16.2	27.5	V	16.2	16.2	<16.2	U	16.2	16.2
REF Rep. 2	38.5	V	17.0	17.0	23.2	V	17.0	17.0	<34.0	U	34.0	34.0	<17.0	U	17.0	17.0	34.4	V	17.0	17.0	<17.0	U	17.0	17.0
REF Rep. 3	173	V	19.2	19.2	34.3	V	19.2	19.2	<38.5	U	38.5	38.5	<19.2	U	19.2	19.2	24.8	V	19.2	19.2	<19.2	U	19.2	19.2
REF Rep. 4	74.7	V	21.9	21.9	50.1	V	21.9	21.9	<43.7	U	43.7	43.7	<21.9	U	21.9	21.9	48.8	V	21.9	21.9	<21.9	U	21.9	21.9
REF Rep. 5	<15.7	B, U	15.7	15.7	30.7	V	15.7	15.7	<31.5	U	31.5	31.5	<15.7	U	15.7	15.7	31.7	V	15.7	15.7	<15.7	U	15.7	15.7
REF Mean	65.5				35.3				36.0				18.0				33.4				18.0			
Pre-exposure Rep. 1	<38.4	B, U	38.4	38.4	170	V	19.2	19.2	<38.4	U	38.4	38.4	<19.2	U	19.2	19.2	26.4	V	19.2	19.2	<38.4	U	38.4	38.4
Pre-exposure Rep. 2	<37.7	B, U	37.7	37.7	103	V	18.8	18.8	<37.7	U	37.7	37.7	<18.8	U	18.8	18.8	19.1	V	18.8	18.8	<37.7	U	37.7	37.7
Pre-exposure Rep. 3	329	V	34.8	34.8	24.9	V	17.4	17.4	<34.8	U	34.8	34.8	<17.4	U	17.4	17.4	25.8	V	17.4	17.4	<34.8	U	34.8	34.8
Pre-exposure Mean	135				99.3				37.0				18.5				23.8				37.0			

Bolded values indicate a mean concentration of project tissue that is statistically significantly greater than that of the reference tissue and includes at least one replicate result greater than the MDL.

< #.## = The analyte was not detected (ND) at or above the MDL (U-qualified). The value indicates the MDL. U-qualified results use the MDL for calculating average concentrations (J-qualified results use the value reported by the laboratory for calculating average concentrations).

B-qualified indicates the analyte was found in the method blank. V-qualified indicates the analyte was detected in both the sample and the method blank.

Gray shaded areas indicate no data or analysis required.

Sources: Results from NWDLS

Compiled by: ANAMAR Environmental Consulting, Inc.

APPENDIX A THROUGH J

APPENDIX A

SAMPLING AND ANALYSIS PLAN
(PCCA APRIL 2021)

SECTION 103 SAMPLING AND ANALYSIS PLAN:
SAMPLING, CHEMICAL ANALYSIS, AND BIOASSESSMENT
OFFSHORE DISPOSAL of DREDGE MATERIAL

Harbor Island New Dock and Facilities Project
Port Aransas, Texas

Submitted to:

U.S. Army Corps of Engineers
Galveston District
2000 Fort Point Road Galveston, TX 77550

U.S. Environmental Protection Agency
Region 6
1445 Ross Ave.
Dallas, TX 75202-2733

Submitted by:

Port of Corpus Christi Authority
222 Power Street
Corpus Christi, TX 78403

April 2021

Project Management Title and Approval Sheet

Applicant: Port of Corpus Christi Authority of Nueces County

Point of Contact: Sarah L. Garza

Title: Director of Environmental Planning and Compliance

Signature:_____ Date: 8/4/2021

Regulatory Agency: U.S. Environmental Protection Agency, Region 6

Point of Contact: Charles W. Maguire,

Title: Director, Water Quality Division

Signature:_____ Date:_____

Regulatory Agency: U.S. Army Corps of Engineers (USACE), Southwestern Galveston District

Point of Contact: Joseph A. McMahan

Title: Chief, Regulatory Division

Signature:_____ Date:_____

Contractor 1:

Signature:_____ Date:_____

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1 PROJECT OVERVIEW

1.1 Introduction

The Port of Corpus Christi Authority (PCCA) submitted an application to the U.S. Army Corps of Engineers (USACE), Galveston District under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (Section 404/10) to construct a new terminal and facilities to load crude oil into marine vessels. This proposal includes dredging a berth at the proposed Harbor Island Terminal that is capable of supporting two very large crude carrier (VLCC) size vessels.

The Harbor Island New Dock and Facilities Project is located at the confluence of the Aransas Pass, Gulf Intracoastal Waterway (GIWW) by-pass channel (Lydia Ann Channel), and the Corpus Christi Ship Channel (CCSC) on the northern side of State Highway 361, between channel stations 40+00 and 70+00, on Harbor Island in Port Aransas, Nueces County, Texas. Waterborne access to the proposed terminals is imperative to fulfill the Project's purpose and need for the transport of crude oil via a terminal facility capable of accommodating up to two (2) VLCC deep-draft waterborne vessels.

The proposed dredge area is approximately 64.80 acres. The area within the proposed dredge footprint would be dredged to -54 ft. mean lower low water (MLLW), plus 4 ft. of advanced maintenance and a 2 ft. overdredge for a total Project depth of -60 ft. MLLW. Basin corners and edges would exhibit a 3 to 1 slope. As a result of the Project, approximately 6.5 million cubic yards (MCY) of material would be hydraulically and/or mechanical dredged. Refer to Figure 2 in Appendix A for a depiction of the proposed dredge footprint.

The purpose of this proposed sampling is to determine if the new work material sediments proposed to be dredged are acceptable for disposal in the Corpus Christi Offshore Dredge Material Disposal Site (ODMDS). This Sampling and Analysis Plan (SAP) was developed in compliance with the regulations outlined below.

1.2 Objectives

The USACE, Galveston District and Environmental Protection Agency Region 6 (EPA) must evaluate any proposed discharge of dredged material into ocean waters resulting from dredging of federally authorized navigational channels and nearby vicinities to determine the potential environmental impact of such activities. This evaluation is performed in accordance with the Ocean Dumping Regulations at 40 CFR 220-228 and with the O&M Dredging Regulations at 33 CFR 335-338.

The EPA and the USACE jointly developed national guidance to define technical procedures for testing dredged material for ocean disposal. The current national guidance manual, *Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Manual*, hereinafter referred to as the "Green Book", was issued in February 1991 (EPA/USACE, 1991). A Regional Implementation Agreement (RIA) designed to specify sampling, testing, and reporting procedures for dredged material proposed for ocean disposal in the

Gulf of Mexico off the Texas coast was jointly developed by EPA and USACE and finalized in 1992. A revision of the RIA was completed in July 2003.

According to the RIA, biological and chemical data greater than 5 years old may not be adequate to conduct ocean dumping evaluations. The Harbor Island New Dock and Facilities Project, located adjacent to the CCSC and approximately 2.9 miles inshore of the CCSC Jetties, is the focus of this SAP.

The results of the analyses and the other applicable subparts and sections of 40 CFR 227 Subparts B, C, D, E, G, and 228.4(e), will be analyzed by the USACE with concurrence from EPA to determine if the dredged material to be removed from the Harbor Island Terminal Berth is suitable for ocean disposal.

1.3 Project Authority & New Work Requirements

The Corpus Christi ODMDS was approved in 1989. The Site Management and Monitoring Plan includes two areas, one for maintenance material and the other for new work material. The material for this project would fall under the new work category.

On September 15, 2015, USEPA modified 40 CRF Part 228 to allow other entities besides the USACE to seek permit approval by USEPA to dispose of dredged material into ocean waters pursuant to the Marine Protection Research and Sanctuaries Act (Ocean Dumping Regulations). It is under this regulation that the PCCA is requesting the new work material dredged from the Harbor Island New Dock and Facilities dredge footprint be approved for disposal at the Corpus Christi New Work ODMDS. New work dredging requirements are detailed below.

Additionally, in 2020, USEPA Region 6 proposed to expand the New Work ODMDS to accommodate the placement of additional volumes of construction dredged material. The Expanded New Work ODMDS's geometric footprint is proposed to be enlarged within the limits of a recently completed USEPA Region 6 ecological surveyed area (Figure 1).

Figure 1. Corpus Christi ODMDS Ecological Survey Area

The proposed dredge area is approximately 64.80 acres. The area within the proposed dredge footprint would be dredged to -54 ft. MLLW, plus 4 ft. of advanced maintenance and a 2 ft. over dredge for a total Project depth of -60 ft. MLLW. Basin corners and edges would exhibit a 3 to 1 slope. As a result of the Project, approximately 6.5 MCY of material would be hydraulically and/or mechanical dredged. As further discussed in Section 1.4 – Tier I Evaluation, surficial soils within the proposed dredge footprint were previously managed under the Texas Railroad Commission (TXRRC). As such, the top 10 ft. of soils within current land areas of the proposed dredge footprint are to be relocated onsite and will not be part of the material being dredged for placement within the Corpus Christi New Work ODMDS. Therefore, this SAP does not include the collection or analysis of the top 10 ft. of material within current land portions of the proposed dredge footprint.

The method for dredging the material from the Harbor Island Terminal will be determined based on historically utilized procedures as well as an analysis of current procedures,

and will take into consideration dredging volumes, cost, and any dredging restrictions provided by EPA Region 6 upon concurrence.

1.4 Tier I Evaluation – Potential Sources of Contamination

Provided in the following sections is information related to previous material analysis at and adjacent to the proposed dredge footprint as well as background information on Harbor Island. This information is included within this SAP as a Tier I evaluation for the proposed Project.

1.4.1 Corpus Christi Ship Channel Improvement Project 2018

Sediment testing in close proximity to Harbor Island was performed in 2017 in the Corpus Christi Entrance Channel (360factors 2017). Six samples (CCNEW-04 A, B, and C and CCNEW-05 A, B, and C) were collected and composited into two sediment samples, CCNEW-04 and CCNEW-05, for analysis. Figure 2 below shows the location of the samples collected in the Corpus Christi Entrance Channel in comparison to the Harbor Island Loading Dock.

Figure 2. Corpus Christi Ship Channel Improvement Project Adjacent to Harbor Island New Dock and Facilities Project

Samples CCNEW-04 and CCNEW-05 were tested for physical, chemical, and toxicological parameters. A summary of the testing results is provided in the following sections.

1.4.1.1 Sediment Grain Size

Sample CCNEW-04 was described as silty sand, with mostly fine-grained sand, some fine clays, little gravel, and gray in color. This sample had 0.1% gravel, 70% sand, and 29.9% fines. Sample CCNEW-05 was described as silty sand, with mostly fine-grained sand, some fine clays, little gravel, and gray in color. This sample had 0.3% gravel, 70.9% sand, and 28.8% fines.

1.4.1.2 Sediment Chemistry

Sample CCNEW-04 had detected concentrations above the target detection limit (TDL) for multiple metals including arsenic, total chromium, copper, lead, nickel, and zinc. However, none of the detected concentrations of metals exceeded their corresponding screening criteria. Sample CCNEW-05 had detected concentrations above the TDL for multiple metals including, total chromium, copper, lead, nickel, and zinc. However, none of the detected concentrations of metals exceeded their corresponding screening criteria.

In both CCNEW-04 and CCNEW-05, the NOAA ERL marine sediment screening criteria was exceeded for dieldrin. However, these samples were flagged with a “U” qualifier which indicates that the analyte was included in the analysis, but not detected. As such, the result of the estimated concentration was set to the lab reporting limit, which was above the NOAA ERL for dieldrin. There were no other analytes detected above the TDL in any of the sediment samples for bulk chemistry.

1.4.1.3 Elutriate and Site Water Chemistry

The elutriate for sample CCNEW-04 had detected concentrations above the TDL for arsenic, mercury, and selenium. However, none of the detected concentrations exceeded the corresponding screening criteria, where available. The elutriate for sample CCNEW-05 had detected concentrations above the TDL for mercury and selenium. However, none of the detected concentrations exceeded the corresponding screening criteria, where available.

In both CCNEW-04 and CCNEW-05, the TCEQ TSWQS acute and WPA WQC CMC marine water screening criteria was exceeded for silver and toxaphene in both elutriate and site water samples. However, these samples were flagged with a “U” qualifier which indicates that the analyte was included in the analysis, but not detected. As such, the result of the estimated concentration was set to the lab reporting limit, which was above the TCEQ TSWQS acute and WPA WQC CMC marine water screening criteria for silver and toxaphene.

1.4.1.4 Elutriate Bioassay

Elutriate bioassays were conducted for 96-hours (or 48-hours for the early mysid age class test) using the 100% elutriate, in addition to 50% and 10% dilutions of the 100% elutriate. All concentrations, including the control and reference waters, were replicated five times. The standard test organisms *Americamysis (Mysidopsis) bahia* and *Menidia*

beryllina were used in survival tests in basic accordance with dredged material evaluation guidance.

In all cases, survival was above 90% in CCNEW-04 and CCNEW-05 site waters and 90% or greater in the undiluted elutriates. Since survival was not reduced by at least 10% relative to the site water (or dilution water), no statistical testing was required. Neither the *A. bahia* or the *M. beryllina* elutriate bioassays indicated any acute toxicity for CCNEW-04 and CCNEW-05 during any of the three bioassay methods used to assess sediment elutriates.

1.4.1.5 Whole Sediment Toxicity Bioassay

In accordance with the RIA, benthic tests were performed using *Americamysis (Mysidopsis) bahia* and *Leptocheirus plumulosus*, satisfying the requirement that the tests be performed using different species covering the three feeding strategies.

During the *L. plumulosus* 10-day sediment toxicity test, survival was low (40%) in the CCNew-05 (unfed) sediment compared to survival (95%) in the CCNew-05 (fed) treatment. This observation along with generally low sediment contaminant concentrations, suggests that poor nutritional quality of the CCNew-05 sediment, as indicated by low TOC, and subsequent starvation as the likely cause of the higher mortality observed in the CCNew-05 sediment. Based on the confounding effect of low sediment nutritional quality in CCNew-05, the results from the CCNew-05 (fed) study were utilized for open water placement evaluation. A much smaller effect on survival was observed in the CCNew-04 (unfed) treatment compared to the CCNEW-04 (fed) treatment, therefore the CCNew-04 (unfed) treatment was utilized for open water placement evaluation.

Survival of *L. plumulosus* in test sediments was compared to the 96% survival observed in the reference sediment exposure. Survival did not exceed the 20% difference from reference criteria for estuarine/marine amphipods, therefore additional statistical analyses were not required.

During the *A. bahia* 10-day sediment toxicity test, survival was 99% in the CCNEW-04 (unfed) sediment and 98% in the CCNEW-05 (unfed) sediment. Reference sediment survival was 99%. Survival did not exceed the 10% difference from reference criteria for *A. bahia* therefore additional statistical analyses were not required.

In summary, the results of the whole sediment toxicity test bioassays conducted for CCNEW-04 and CCNEW-05 indicated no acute toxicity and the sediments met the limiting permissible concentration (LPC) for open water dredged sediment placement.

1.4.1.6 Whole Sediment Bioaccumulation Bioassays

The bioaccumulation potentials of contaminants were evaluated through a 28-day whole sediment exposure test using *M. nasuta* and *N. virens*. Sample tissue concentrations in both organisms were compared to FDA action limits for these analytes. No sample exceeded FDA action limits for either organism. Concentrations of antimony and copper

in *M. nasuta* tissues exposed to CCNEW-04 and CCNEW-05 sediment exceeded Western Gulf of Mexico maximum background concentrations. Concentrations of antimony, zinc, and total PAHs in *N. virens* tissues exposed to CCNEW-04 and CCNEW-05 sediment exceeded Western Gulf of Mexico maximum background concentrations. However, the only statistically significant exceedance was for antimony in *N. virens* exposed to CCNEW-04 sediment. With antimony's low propensity to bioaccumulate and the low concentrations found in the project sediments, it was determined that no potential for significant undesirable effects due to bioaccumulation of antimony was expected.

In summary, the results of the whole sediment bioaccumulation bioassay testing and lines-of-evidence analysis indicate no significant contaminant bioaccumulation associated with CCNEW-04 and CCNEW-05 sediments. The CCNEW-04 and CCNEW-05 sediments met the LPC for open water dredged sediment placement.

1.4.2 Permitted Facilities and Chemical Releases

A review of the Port Aransas area from the U.S. Coast Guard National Response Center found 147 reported spills from 2015 through February 2020. These spills were primarily oils and fuels. In addition, a review of the permitted facilities at the EPA EnviroMapper website found numerous permit violations. The specific contaminants were not provided in most cases, while several violations were reported as bacterial releases.

1.4.3 Harbor Island Background Information

The property on Harbor Island that is now owned by the PCCA was for many decades (since the 1920s's) owned by private interest and was used as a crude oil receiving, shipping, and storage facility.

The PCCA purchased 15.126 acres of land from Fin-Tex Pipe Line Co. (Atofina) in January 31, 1996. This property included a number of oil storage tanks and one ship dock fronting on the CCSC that had existed since the 1930's. As a condition of the sale to the PCCA, Atofina agreed to remove the oil storage tanks and associated underground pipelines and remediate the site to TXRRC standards for industrial facilities. The oil storage tanks and associated underground pipelines were removed and cleanup action occurred. On June 4, 2003, the TXRRC issued a letter of concurrence for Atofina's Remediation Completion Report. A deed recordation of the property's past land use was filed with the County and on August 23, 2003, a "No Further Action" letter was submitted to Atofina by the TXRRC. A chronology listing the site cleanup activities at the former Atofina tank farm is provided in Appendix B.

The PCCA acquired ownership of 214.168 acres of land from Koch Pipeline Company, L.P. (Koch) on August 20 ,1996. Koch acquired this property from Exxon a couple of years earlier but never operated the terminal. This property included a number of oil storage tanks and two small ship docks fronting on the CCSC that had existed and been operated by Exxon since the 1930's. Exxon remediated contaminated soils on the property to TXRRC standards for industrial facilities from 1996 to 1999. On November 9, 1999, the TXRRC issued to Exxon a "No Further Action" letter for the site excluding the tank bottom

areas. In 2003, the PCCA removed the oil storage tanks from the site. In 2004 to late 2005, the Port of Corpus Christi Authority contracted with several companies to remove the aboveground and buried pipelines that were associated with the tank farm.

In the purchase agreement with Koch Pipeline, the PCCA did not have an agreement for cleanup of the contamination on the property. In 2003, staff negotiated a Site Remediation Agreement with ExxonMobil to remediate the pre-existing contamination immediately adjacent to or beneath the tanks and piping. On November 11, 2004 and on August 23, 2005, the PCCA provided a first and second report documenting the locations of the pre-existing contamination identified at the site. In July 2005, ExxonMobil contracted CRA to conduct remediation activities at the site. All of the remediation work was not completed as the landfarming permit with the RRC didn't allow for the full project. In January 2007, CRA was contracted again by ExxonMobil to assess the remaining locations of pre-existing contamination. The PCCA contracted an inspector to be onsite during the activities and split samples. On August 24, 2007, the PCCA had not yet heard from ExxonMobil regarding the results of the sampling and the design of the next phase of remediation so a letter summarizing the results and expectations for remediation was submitted to ExxonMobil. In December 2007, ExxonMobil submitted an additional Soil Delineation Report to TXRRC that summarized the sampling results at the site to date and proposed next steps.

In March 2008, the PCCA teleconferenced with ExxonMobil to discuss and agree upon remediation of the remaining areas of contamination at the site. ExxonMobil indicated at that time that the work probably wouldn't begin until late spring 2009 because they didn't think they could get the right equipment for the job before then.

In March 2009, ExxonMobil contracted CRA to conduct the remediation of the remaining areas of contamination at the site. At the same time, PCCA and ExxonMobil also entered into an agreement in which CRA would also conduct remediation of the areas that PCCA would be responsible for at the site, those areas that weren't immediately adjacent to tanks or pipes. In September 2009, ExxonMobil notified PCCA that they had completed remediation of all the areas on the site except for the areas in which the contamination extended under the Texas Treasure Parking lot and further advised that they would not be completing remediation of these areas until the Texas Treasure area was fully abandoned/demolished.

In October 2009, PCCA contracted GAINCO to conduct remediation of the areas at the site that PCCA had responsibility for and the areas extending under the Texas Treasure Parking Lot that ExxonMobil did not address. In December 2009, the project was shut down due to heavy rains and flooding at the site for most of the month. In April 2010, GAINCO was contracted to delineate the remaining areas and in May 2010, GAINCO remobilized to the site to continue remediation activities at the site. The remediation activities conducted by GAINCO were completed in August 2010 and a report of PCCA activities was provided to the TXRRC in February 2011.

ExxonMobil was directed by TXRRC to install groundwater monitoring wells and did so in 2011. Two quarterly sampling events were completed in 2011. In November 2012, ExxonMobil provided to TXRRC a complete report of the soil remediation and groundwater monitoring activities completed at the site by both PCCA and ExxonMobil. A deed recordation recommendation was included in the recommendations of future actions and subsequently approved by the TXRRC. A deed recordation of the property's past land use was filed with the County and included six areas that exceeded the identified clean up levels that could not be cleaned up due to obstructions. On January 5, 2015, a "No Further Action" letter was submitted to ExxonMobil by the TXRRC.

PCCA recently completed demolition work that removed the obstructions to the deed recorded hot spots. The remaining six hot spots were sampled in 2019 to determine current levels and extent of contamination. In November 2020, the areas exceeding the commercial/industrial were over excavated and the material was hauled to an approved landfill. PCCA is currently in the process of updating the deed record to remove the six identified hot spots and prohibit the use of groundwater in the upper groundwater bearing unit for potable water and/or irrigation purposes across the site. Additionally, PCCA has developed a Groundwater Management Plan for management of groundwater and storm water during construction activities.

A chronology listing the site cleanup activities at the former Atofina and Exxon tank farm are included as Appendix B. As surficial soils within land portions of the proposed dredge footprint were previously managed under the TXRRC and deed recorded, the top 10 ft. of soils within land areas are to be relocated onsite and will not be part of the material being dredged for placement within the Corpus Christi New Work ODMDS. Therefore, this SAP does not include the collection or analysis of the top 10 ft. of material within current land portions of the proposed dredge footprint.

1.4.4 Harbor Island Pre-Dredge Characterization Sampling

In 2019, PCCA collected pre-dredge characterization sampling. However, the bioassay sampling analysis was not completed at the time. Therefore, understanding that the protocol requires concurrent analyses for Tier II analysis, PCCA is proposing to repeat the prior sampling in order to also complete the chemical analysis concurrent with the elutriate sampling. The prior results of the chemistry analysis will be used for reference purposes only.

2 SCOPE OF WORK

2.1 General

Sediment, water, and elutriate samples, plus one duplicate of each will be collected from dredging units located within the proposed dredge footprint of the Harbor Island New Dock and Facilities Project as outlined in this SAP, and all collected sample material will be delivered to the analytical laboratories. The laboratories will be accredited through the National Environmental Laboratory Accreditation Program (NELAP) for the analytes/analyte groups and matrices to be analyzed. All samples will be collected within a schedule suitable to meet analytical hold-time requirements. The evaluation of samples will include chemical and physical analysis of sediment, water and standard elutriate samples. Procedures for sample collection, required volume, handling, preservation and storage, and shipment to the laboratory are outlined in the proceeding sections.

2.2 Project Area

Samples will be collected from the proposed Harbor Island New Dock and Facilities dredge footprint from the dredging units in and around the proposed berth. Sample collections will be made at the Harbor Island New Dock and Facilities dredge footprint as shown in Appendix A, Figure 3, and at the Corpus Christi ODMDS (as recently expanded by EPA) and the Reference Area (Figure 4).

2.3 Sample Location & Type

Samples for chemical and physical analysis will be collected from the Harbor Island New Dock and Facilities dredge footprint, Corpus Christi ODMDS and Reference Area. The proposed sampling locations will be determined in coordination with the EPA as close to the dredging event as possible while allowing time to collect and analyze samples, compile necessary reports, and allow for agency review and approval. Table 2 describes the anticipated samples that will be required for collection. Any deviations from the sampling locations identified in Table 2 shall be approved by EPA and USACE prior to collecting samples. The location and number of samples are described in the following sections.

2.3.1 Harbor Island New Dock and Facilities Dredge Footprint

Sediment, water, and elutriate samples, plus one duplicate of each are proposed to be collected within the Harbor Island New Dock and Facilities dredge footprint. Samples within the Harbor Island New Dock and Facilities dredge footprint will be collected from both terrestrial and submerged marine environments.

The proposed sampling plan is a stratified grid pattern sample plan intended to adequately collect samples across the entire dredge footprint. The samples will be spilt up into five sample areas each consisting of two to four sample locations in order to adequately cover the area to be dredged and to allow easy transition into sampling for offshore disposal in the future, if required. Each sample area represents a different land-use or signature on the aerial. Each sample area is designated by a number and each

sample location is designated by a letter (Appendix A). PCCA proposes to collect samples from sixteen sampling locations within the dredge footprint. Eight of the sampling locations will be positioned within the water and representative of the material to be excavated and/or dredged to -54' MLLW, plus a 4-foot advanced maintenance, and 2-foot allowable over-dredge for a total depth of -60 ft MLLW. The remaining 8 sampling locations will be representative of the dredge footprint currently onshore of Harbor Island. The top 10 feet of each sample will be discarded from the land locations and the remaining core sample retrieved will be split into two samples. The discarded sample represents sediment that will remain on site. A total of 24 samples will be collected throughout the dredge footprint.

The five sample areas have been further divided into eight (8) DMMUs. Each DMMU covers a specific area and depth and dredge material volume within the overall dredge footprint. Each land based DMMU will be characterized by two to three subsamples. Each water based DMMU will be characterized by four subsamples. A total of eight (8) composite samples will be prepared from the subsamples collected

- DMMU 1 is comprised of subsample locations 1A – 1C: Characterizes the surficial terrestrial sediment.
- DMMU 2 is comprised of subsample locations 1A – 1C: Characterizes the subsurface terrestrial sediment.
- DMMU 3 is comprised of subsample locations 2A – 2B: Characterizes the surficial terrestrial sediment.
- DMMU 4 is comprised of subsample locations 2A – 2B: Characterizes the subsurface terrestrial sediment.
- DMMU 5 is comprised of subsample locations 3A – 3C: Characterizes the surficial terrestrial sediment.
- DMMU 6 is comprised of subsample locations 3A – 3C: Characterizes the subsurface terrestrial sediment.
- DMMU 7 is comprised of subsample locations 4A – 4D: Characterizes the shallow marine sediment from existing depths to -60 ft. MLLW.
- DMMU 8 is comprised of subsample location 5A – 5D: Characterizes marine sediment from existing depths to -60 ft. MLLW.

2.3.2 Corpus Christi ODMDS

Surface sediment grab samples will be taken at three Corpus Christi ODMDS substations. The sediment samples collected will be utilized for chemical analysis.

- One (1) composite sediment sample collected from three (3) Corpus Christi New Work ODMDS substations for chemical and physical analysis.
- One (1) water sample

2.3.3 Reference Area Samples

Surface sediment grab samples will be taken at three Reference Area substations within the Reference Area. Sediment samples collected at the Reference area will be utilized for chemical, physical, and biological analysis.

- One (1) composite sediment sample collected from three (3) Reference Area substations for chemical analysis.
- One (1) composite sediment sample collected from three (3) Reference Area substations for physical and biological analysis.

2.4 General Instructions for Sample Collection

Sufficient sediment and water for all physical, chemical, and biological tests will be collected as specified in Tables 2 through 4 of this SAP. All sediment and water sample collection, handling, preservation, storage, and tracking will be conducted in accordance with this SAP and the protocols outlined in Chapter 8 of the Green Book. All samples must be collected within a 3- or 4-day window to meet analytical hold-time requirements. Specific instructions on sediment and water collection are provided Section 2.5 - Specific Instructions for Sediment Sampling and Section 2.6 - Specific Instructions for Water Sampling.

(1) **Station Positioning**. Latitude and longitude coordinates of the sample locations, ODMDS disposal areas, and Reference Area sampling substations are provided in Table 2 and represent proposed dredge material as anticipated in the permit application. The location of each sampling location and sampling substation will be determined and recorded in the field using a global positioning system (GPS) with +/- 10-meter accuracy. Land surface is estimated to be +10 feet MLLW. Water depth will be measured by fathometer or sounding chain and adjusted for tidal elevation using real-time updated water levels from the National Oceanic and Atmospheric Administration (NOAA) or, as a backup, the predicted tides for this project, which is at Port Aransas, Tide Station # 8775237. Alternatively, water surface elevation may be determined using a survey-grade GPS.

(2) **Conventional Water Quality**. Parameters within 1 meter of the surface at each water quality collection station will be measured and recorded, including water temperature, salinity, turbidity, dissolved oxygen and pH. Water depth at each substation will be noted and general site observations (air temperature, wind speed, sea-state, etc.) will also be recorded.

(3) **Sample Preservation and Storage**. A suitable method for preservation and shipment of sediment and water samples will be used, as indicated in Table 4 of this Scope of Work. Sample material will be placed in appropriately sized glass and/or plastic containers for sediment and water samples and labeled accordingly. Samples will be iced immediately after collection and be stored at 0°C to 6°C, never frozen, within 24 hours after collection. Samples should be protected from light during storage and transportation.

(4) **Chain-of-Custody Form.** A dated and signed chain-of-custody document will be furnished to record all collected samples. The chain of custody will clearly note the sample name, date and time of collection, container type, any special handling (i.e., filtering or acidification), type of analyses required by the NELAP laboratory, date relinquished, and signature of sample collection and shipping manager. Any

corrections made on the form will legibly preserve the error (i.e., no scratch-outs), and the initials of the responsible team member will be written adjacent to the correction. Additional guidance on appropriate chain-of-custody protocols can be found in reference guidance documents (EPA, 1986; EPA/USACE, 1995; EPA/USACE, 1998; Plumb, 1981).

(5) **Field Sampling Data Sheets.** Dated field sampling data sheets will be filled out and completed for each Sample ID. Data sheets will be specific to either sediment or water collection and consistent with EPA Region 6 approved forms completed for USACE Galveston District channel dredging work. In addition to these two data sheets, a Core Log and Daily Quality Control Report will be completed. Data forms are shown in Appendix C.

2.5 Specific Instructions for Sediment Sampling

Samples for chemical and physical analyses will be collected at 16 sampling locations, 8 on land and 8 in the water within the Harbor Island New Dock and Facilities dredge footprint. Composite sediment samples for toxicological analysis will also be collected. The terrestrial composite sampling has been designed such that three terrestrial locations will be split vertically into a “surficial” and “subsurface” horizon to be analyzed as separate DMMUs. Each land-based/terrestrial DMMU (DMMU 1-6) will be characterized by 2 to 3 subsamples. The land surface of terrestrial locations is estimated to be +10 ft. MLLW. As the top 10 ft. of soils within terrestrial locations of proposed dredge footprint are to be relocated onsite, the top 10 ft. of terrestrial material will be discarded from samples. As such, the surficial DMMUs (DMMU 1, 3, and 5) will characterize sediment from 0 ft. MLLW to a depth of approximately -30 ft. MLLW. The subsurface DMMUs (DMMU 2, 4, and 6) will characterize sediment from -30 ft. MLLW to -60 ft. MLLW, the proposed depth of dredge. Below are details related to each terrestrial DMMU.

- DMMU 1 is comprised of subsample locations 1A – 1C: Characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 2 is comprised of subsample locations 1A – 1C: Characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 3 is comprised of subsample locations 2A – 2B: Characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 4 is comprised of subsample locations 2A – 2B: Characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).
- DMMU 5 is comprised of subsample locations 3A – 3C: Characterizes the surficial terrestrial sediment (0 ft. MLLW to -30 ft. MLLW).
- DMMU 6 is comprised of subsample locations 3A – 3C: Characterizes the subsurface terrestrial sediment (-30 ft. MLLW to -60 ft. MLLW).

The marine sampling has been designed based on recent bathymetry data (Appendix E) such that shallow marine areas and deeper marine areas are analyzed as separate DMMUs. Both water-based/marine DMMUs (DMMU 7 and 8) will be characterized by six subsamples. At both DMMU 7 and 8, sediment will be collected from the existing depth to -60 ft. MLLW, the proposed depth of dredge.

- DMMU 7 is comprised of subsample locations 4A – 4D: Characterizes the shallow marine sediment from existing depths to -60 ft. MLLW.
- DMMU 8 is comprised of subsample location 5A – 5D: Characterizes marine sediment from existing depths to -60 ft. MLLW.

Sediment samples at the Harbor Island New Dock and Facilities dredge footprint will be collected using a Geoprobe or similar manufacturer drilling rig. Before and after each use, all parts will be thoroughly cleaned by flushing with ambient water to remove all remnant sample material, washing with Liquinox, rinsing with isopropyl alcohol, and then rinsing with deionized water. Cores will be collected in approximately 10-foot sections depending on sediment characteristics. During sampling, a clean new liner is used for each core section. The probe rods and sample tubes will be cleaned using clean water and phosphate-free soap; cycle the brush inside the probe rod or sample tube to remove contaminants. Rinse with clean water and allow to air-dry.

The drilling rig will be truck or buggy mounted. For terrestrial samples, the rig will be driven to the sample location. For samples over the water, the truck will be mounted on a barge or sampling vessel with a moonpool. The sampling vessel will be positioned so the moonpool is over the sample location and then will be anchored in place using spuds.

During coring, a decontaminated core catcher will be placed over the threaded end of the cutting shoe. In consolidated soils, a core catcher may not be required and may not be used. The core liner will be fitted to the cutting shoe and the entire assembly will be inserted into the sampling tube, the cutting shoe threaded to the sampling tube, and the entire assembly will be threaded and securely tightened to the drive head.

To collect the core material, the sampler will be positioned directly under the hammer with the cutting shoe centered between the toes of the probe foot. The sampler will be advanced into the sediment using pressure and percussion until the drive head reaches the sediment surface. The core assembly will then be recovered, and the core liner extracted from the sample tube. The physical characteristics of the recovered sample will be visually logged, and the sample material will be set aside to be homogenized with the other sections of the core from the same sample. The process will be repeated until reaching target penetration depth or refusal, whichever is encountered first. If one core does not produce enough sample material for analysis, additional cores will be collected near the target coordinates until the required volume is collected.

At each location, collected sediment samples will be placed directly into appropriately labeled 5-gallon buckets. Multiple samples may be required to fill each bucket. Buckets will be filled completely to avoid head space, lids tightly secured, and containers placed into an ice chest. These samples will later be thoroughly homogenized by the laboratory. Refer to Table 4 for sediment sample quantities to be collected. Additional samples collected representing each DMMU subsample, samples collected from the three ODMDS area substations, and samples collected from the Reference Area substations for chemical analysis will be composited. Equal portions of sediment from each

subsample or substation location will be placed into appropriately labeled pre-cleaned glass or Teflon-lined containers. The lids will be tightly secured, and the containers placed into an ice chest with sufficient cushioning material to prevent breakage during shipment. Sample material will be thoroughly composited at the analytical laboratory prior to analysis.

The collection of sediment samples will be completed using a surface grab sampler to collect the approximate top 2 ft. of sediment. Surface grab samples will be collected with a stainless-steel grab sampler capable of penetrating the sediment surface to a depth of about 1ft. and appropriately weighted to counteract currents during descent. Prior to collection at each station, the grab sampler will be flushed with ambient water to remove all remnant sample material, washed with Liquinox, rinsed with isopropyl alcohol, and then rinsed with deionized water to avoid cross-contamination among sample sites. Other sampling equipment (including stainless steel bowls, bins, and spoons) will also be thoroughly flushed with ambient water and rinsed with deionized water prior to sample collection at each station to avoid cross-contamination among sites. Samples collected from the DMMU subsample locations and the three ODMDS area substations for chemical analysis will be composited. Equal portions of sediment from each substation will be placed into appropriately labeled pre-cleaned glass or Teflon-lined containers. The lids will be tightly secured, and the containers placed into an ice chest with sufficient cushioning material to prevent breakage during shipment. Sample material will be thoroughly composited at the analytical laboratory prior to analysis.

All sample, subsample, and substation locations are detailed in Table 2 and Table 3.

2.6 Specific Instructions for Water Sampling

Water samples will be collected at the locations specified in Table 2. Water samples will be collected with a suitable non-contaminating water sampling device. Food-grade hoses will be used. Special care will be taken to avoid the introduction of contaminants from the sampling device and the containers. Water samples will be collected at a depth approximately one-half to two-thirds of the overall depth from the water surface to the sediment bottom but must be at least 1 meter above the sediment surface. These water-collection depths will provide sufficient clearance from fluid mud layers that may be present. Prior to sample collection, an initial volume of water equaling at least 10 times the hose volume will be pumped through the sampling device and discarded. The water sample will then be collected into suitable pre-cleaned and preserved sample containers as appropriate for analytical testing.

Instructions for collection of water samples is provided in Tables 2 through 4 and includes sample volume, container type, handling, storage, and labeling for each station.

- Harbor Island New Dock and Facilities Dredge Footprint –The sample will be placed into appropriately labeled pre-cleaned containers, filling the containers completely to avoid head space. The lids will then be tightly secured, and the containers will be stored at 4°C throughout the remaining sampling period and shipping. Exact sampling position will be recorded for each sample collection.

- Corpus Christi ODMDS –The sample will be placed into appropriately labeled pre-cleaned containers, filling the containers completely to avoid head space. The lids will then be tightly secured, and the containers will be stored at 4°C throughout the remaining sampling period and shipping. Exact sampling position will be recorded for each sample collection.

- Reference Area –The sample will be placed into appropriately labeled pre-cleaned containers, filling the containers completely to avoid head space. The lids will then be tightly secured, and the containers will be stored at 4°C throughout the remaining sampling period and shipping. Exact sampling position will be recorded for each sample collection.

2.7 Sample Shipment

All sample material will be delivered directly to the analytical laboratories. Shipping containers and packaging will protect the sample containers from breakage and holding sample temperatures between 2°C and 6°C. Samples will be shipped within 1 day of completion of all sampling activities.

Alternatively, shipments may be made using a refrigerator truck capable of maintaining temperatures between 2°C and 6°C, but all holding times must be met irrespective of shipping methods. The completed chain of custody form must be included with sample delivery regardless of the selected shipment alternative.

2.8 Schedule for Work Performed

The work described in this SAP will be completed according to the schedule presented in Table 1. Since the timing of the commencement of field sampling is not known at this time, the schedule is presented in number of days after field work is completed. It is anticipated that the sampling will be performed in mid to late 2021.

Table 1. Estimated Schedule for Tasks

Responsibility	Activity	Calendar Days After the Completion of Field Sampling
Contractor	Commencement of Field Sampling	To Be Determined
Contractor	Completion of Field Sampling	To Be Determined
Contractor	SPP Bioassays Begin	5
Contractor	SPP Bioassays Completed	7
Contractor	SP Bioassays Begin	19
Contractor	SP Bioassays Completed	21
Contractor	Bioaccumulation Begin	31
Contractor	Bioaccumulation Completed	34
Contractor	Chemical Bulk Analyses Completed	42
Contractor	Chemical Tissue Analyses Completed	118
Contractor	Submit Draft Report to PCCA	135
PCCA	Receive PCCA Comments on Draft Report	145
Contractor/PCCA	Submit Draft Report to USACE	155
USACE	USACE Review and Concurrence Request to EPA	185
EPA	EPA Comments Received by	215
Contractor/PCCA	Address EPA comments by	245
EPA	Final Report Approved by EPA	275

2.9 Deliverables

An evaluation report will be provided which will describe the testing specified herein and include data, interpretation, and conclusions. The field portion will describe sampling methods and materials, exact sample locations (latitude and longitude) and water depth at each sub-station, surface water quality parameters at each substation (pH, temperature, and salinity), daily observations, and any deviations from the SAP. After client review, any recommended changes will be incorporated, and a finalized plan will be provided to the client. A contamination report will be prepared and submitted from data collected in accordance with this SAP. Deliverables will include both a hard copy and electronic copy of the report, associated figures and tables, chemical and physical analysis, laboratory electronic data deliverables (EDD's) in Microsoft Excel format. Additionally, sampling data will be collected as described below:

"Geospatial data of all sample locations will be provided in one or more of the following formats/files: ESRI ArcGIS shapefile (*.shp, *.shx, and *.dbf), ArcGIS geodatabase file (*.mdb, *.gdb), comma separated values file (*.csv). Raw data, copies of physical field books, and digital data collector files will be included in addition to any processed data along with corresponding metadata for each. A minimum of latitude and longitude will be provided in State Plan Zone 5 Zone 5426 FIPS 4205 TX-South projection. If a different projection is used, information regarding the Horizontal Projection and/or Coordinate system details will be provided, along with Vertical Datum information.

All layers and database files that are created and deemed the deliverable, also known as the finished product, at the end of the initial data collection process and post analysis from said field data collections, will, at a minimum, fulfill the requirements of the default

metadata standards set forth in ArcMap or ArcMap Pro (title, summary, description, tags, citation, date field data was collected).”

3 PROJECT DESIGN

3.1 Design Assumptions

The field contractor will collect sediment and water samples from the Harbor Island Dock and Facility dredge footprint, CC ODMDS, and Reference Area as outlined in this SOW/SAP and ensure delivery of all collected samples to the analytical provider, as appropriate, within the specified holding times. Procedures for sample collection, required volume, handling, preservation and storage, and shipment are outlined in Section 3.

Close coordination by the field contractors, subconsultant, and testing laboratory with PCCA and USACE personnel is an essential component of this SOW/SAP.

If, at the time of sampling and analyzing, conditions require major deviation from the approach outlined in this SOW/SAP, the Contractor will discuss the deviation with the PCCA, who will then coordinate directly with USACE and USEPA.

Should there be a lack of material present at a sampling location, the field contractor, PCCA, the USACE Technical POC, and USEPA will jointly decide how to shift the sample locations. All details of the steps taken to arrive at a decision as to when/how to shift a sampling point will be noted in the field logs and documented in the final report.

3.2 Sample Sites

Table 2 shows the sample type and location for each sample to be collected. The locations are also depicted within the figures provided in Appendix A.

The Reference Area and ODMDS placement area samples will each consist of composites of three subsamples of equal volume collected at the locations described in the following table. Actual positions of each sample will be recorded and reported on the field data sheets. Figure 3 in Appendix A shows the location of the project samples, with their coordinates provided in Table 2. Reference and Placement Area samples are shown in Appendix A, Figure 4.

Table 2. Sample Locations and Compositing Scheme

Harbor Island New Dock and Facilities Dredge Footprint							
Area	**Location ID**	**Location Coordinates**	**Soil/ Sediment Interval**	**Sample Matrix**			**Notes**
				Soil/ Sediment	**Water**	**Elutriate**	
DMMU 1	1A	27.847502, -97.070783	0' to -30' MLLW	X		x	Site Water to be collected at location 4A
	1B	27.84651, -97.071294	0' to -30' MLLW	X			
	1C	27.845929, -97.069999	0' to -30' MLLW	X			
DMMU 2	1A	27.847502, -97.070783	-30' to -60' MLLW	X		x	Sie Water to be collected at location 4A
	1B	27.84651, -97.071294	-30' to -60' MLLW	X			
	1C	27.845929, -97.069999	-30' to -60' MLLW	X			
DMMU 3	2A	27.846365, -97.068123	0' to -30' MLLW	X		x	Site Water to be collected at location 4A
	2B	27.845583, -97.067716	0' to -30' MLLW	X			
DMMU 4	2A	27.846365, -97.068123	-30' to -60' MLLW	X		x	Site Water to be collected at location 4A
	2B	27.845583, -97.067716	-30' to -60' MLLW	X			
DMMU 5	3A	27.84649, -97.065651	0' to -30' MLLW	X		x	Site Water to be collected at location 4B
	3B	27.846002, -97.063431	0' to -30' MLLW	X			
	3C	27.845618, -97.065255	0' to -30' MLLW	X			
DMMU 6	3A	27.84649, -97.065651	-30' to -60' MLLW	X		x	Site Water to be collected at location 4B
	3B	27.846002, -97.063431	-30' to -60' MLLW	X			
	3C	27.845618, -	-30' to -60' MLLW	X			

		97.065255					
DMMU 7	4A	27.844886, -97.068894	Existing to -60' MLLW	X	x	x	Site Water to be collected at location 4B
	4B	27.844707, -97.065794	Existing to -60' MLLW	X	X		
	4C	27.84459, -97.063949	Existing to -60' MLLW	X			
	4D	27.844419, -97.067497	Existing to -60' MLLW	X			
DMMU 8	5A	27.843348, -97.068079	Existing to -60' MLLW	X		X	Site Water to be collected at location 5B
	5B	27.843758, -97.066214	Existing to -60' MLLW	X	X		
	5C	27.844124, -97.064389	Existing to -60' MLLW	X			
	5D	27.844903, -97.062166	Existing to -60' MLLW	x			
Corpus Christi New Work ODMDS							
Area	**Location ID**	**Location Coordinates**	**Soil/ Sediment Interval**	**Sample Matrix**			**Notes**
				Soil/ Sediment	**Water**	**Elutriate**	
ODMDS	ODMDS A	27.790753°, -96.999478°	N/A	X			Site Water to be Collected at ODMDS B
	ODMDS B	27.788836°, -96.997122°	N/A		X		
	ODMDS C	27.788157°, -97.00032°	N/A				
Reference Area							
Area	**Location ID**	**Location Coordinates**	**Soil/ Sediment Interval**	**Sample Matrix**			**Notes**
				Soil/ Sediment	**Water**	**Elutriate**	
Reference	REF A	27.84186°, -96.99377°	N/A	X			Site Water to be Collected at REF B
	REF B	27.84163°, -96.99364°	N/A		X		
	REF C	27.84140°, -96.99409°	N/A				

Table 3. Summary of Chemical, Biological, and Physical Analyses to Be Performed on Project Sediments and Water

Chemical and Physical Analysis		
Metals, OC Pesticides, Aroclors, Semivolatiles, Cyanide, Ammonia, TOC, TPH, Organotins, % Solids*, Grain Size*, pH		
SEDIMENT	**WATER**	**ELUTRIATE****
DMMU 1	NA	DMMU 1 Elutriate
1A (0'to-30') Composite		
1B (0'to-30') Composite		
1C (0'to-30') Composite		
DMMU 2	NA	DMMU 2 Elutriate
1A (30'to-60') Composite		
1B (30'to-60') Composite		
1C (30'to-60') Composite		
DMMU 3	NA	DMMU 3 Elutriate
2A (0'to-30') Composite		
2B (0'to-30') Composite		
DMMU 4	NA	DMMU 4 Elutriate
2A (30'to-60') Composite		
2B (30'to-60') Composite		
DMMU 5	NA	DMMU 5 Elutriate
3A (0'to-30') Composite		
3B (0'to-30') Composite		
3C (0'to-30') Composite		
DMMU 6	NA	DMMU 6 Elutriate
3A (30'to-60') Composite		
3B (30'to-60') Composite		
3C (30'to-60') Composite		
DMMU 7		DMMU 7 Elutriate
4A (existing to -60') Composite	4A SW	
4B (existing to -60') Composite	4B SW	
4C (existing to -60') Composite	NA	
4D (existing to -60') Composite	NA	
DMMU 8		DMMU 8 Elutriate
5A (existing to -60') Composite	NA	
5B (existing to -60') Composite	NA	
5C (existing to -60') Composite	5C SW	
5D (existing to -60') Composite	NA	
ODMDS Composite	ODMDS B SW	NA
REF Composite	NA	NA

Toxicology		
SPP BIOASSAY	**SP BIOASSAY**	**BIOACCUMULATION*** **
Zooplankton *Americamysis bahia (<24 hrs.), Crustacean Americamysis bahia,* Fish *Menidia beryllina* or *Cyprinodon variegatus*	Filter Feeder *Americamysis bahia,* & Deposit-Feeder / Burrower *Leptocheirus plumulosus* or *Ampelisca abdita*	Filter Feeder *Macoma nasuta,* & Deposit-Feeder / Burrower *Alitta virens* (formerly *Neanthes virens*)
DMMU 1 Elutriate	DMMU 1 Composite	DMMU 1 Composite
DMMU 2 Elutriate	DMMU 2 Composite	DMMU 2 Composite
DMMU 3 Elutriate	DMMU 3 Composite	DMMU 3 Composite
DMMU 4 Elutriate	DMMU 4 Composite	DMMU 4 Composite
DMMU 5 Elutriate	DMMU 5 Composite	DMMU 5 Composite
DMMU 6 Elutriate	DMMU 6 Composite	DMMU 6 Composite
DMMU 7 Elutriate	DMMU 7 Composite	DMMU 7 Composite
DMMU 8 Elutriate	DMMU 8 Composite	DMMU 8 Composite
NA	HI-20-REF Composite	HI-20-REF Composite

* % Solids and grain size will be determined for sediment samples only.
** Elutriate prepared from a composite of substations will use site water as described in Table 2.
*** Tissue will be analyzed for the presence of contaminants of concern (COCs) detected in project sediments and approved by USACE and EPA prior to completing analysis.

3.3 Sample Volumes and Containers

In order to complete all required analytical testing, approximately 30 gallons of sediment and 10 gallons of site water will be collected per sample location. Sediment and site water to be tested for physical and chemical constituents will be placed in Teflon-lined buckets. Sediment and site water to be tested for toxicological analyses will be placed in food-grade plastic buckets. Table 4 shows the approximate volumes required for each type of testing.

Table 4. Estimated Sample Volume Needed by Analytical Group

Analytical Group	Sediment per Sample	Site Water per Sample (gallons)
Metals	4 oz.	2
Organics	32 oz.	
TOC	4 oz.	NA
Elutriate Prep	2 gal	3-5
Physical Analysis	½ - 1 gal	NA
Toxicology	20-25 gal	3
Total Volume per Sample	30-35 gal (includes volume for archive and reanalysis, if required)	10-12 (includes volume for archive and reanalysis, if required)

All sediment and site water for the preparation of elutriates will be maintained at a temperature of 4°C during storage and sample transit to the laboratories. In addition, pre-cleaned and pre-preserved sample containers for background site water analysis will be provided by the laboratory as required by the testing protocols and specific EPA methodology. Tissue analysis will require approximately 70 g of material to complete all potential analyses, including quality control.

Sample labels will include at a minimum the sample ID, sample date and time, sample collector, matrix, preservative, if appropriate, and the project ID. Sample IDs will be linked to a project specific chain-of-custody form, which will include additional information for the laboratory to perform analytical testing in accordance with the requirements in this document.

3.4 Chain of Custody

Appropriate chain-of-custody protocols will be followed. Guidance can be found in EPA (1986), EPA/USACE (1995), EPA/USACE (1998), and Plumb (1981).

4 ANALYTICAL AND REPORTING REQUIREMENTS

4.1 Chemical Analyses

The analyses of samples will be as specified in Table 5. These samples include bulk sediment, water, elutriates and grain size. All analyses will be performed by a laboratory accredited by an accrediting authority recognized by the NELAP for the analytes/analyte groups and matrices to be analyzed. All analyses will be performed within the holding period described in the referenced guidance documents. Parameters to be analyzed are listed in Table 5, along with required detection limits. Sediment sample data will be reported as dry weight.

Table 5. Target Detection Levels [a] (TDLs) for Analysis by Sample Type

Chemical	Sediment	Tissue	Water/Elutriate
Metals[d]	**mg/kg**	**mg/kg**	**µg/l**
Antimony	2.5	0.1	3 (0.02)[c]
Arsenic	0.3[b]	0.1	1 (0.005)[c]
Beryllium	1[b]	0.1	0.2
Cadmium	0.1	0.1	1 (0.01)[c]
Chromium (total)	1[b]	0.05[b]	1
Chromium (3+)	1	50	1
Copper	1[b]	0.1	1 (0.1)[c]
Lead	0.3[b]	0.1	1 (0.02)[c]
Mercury	0.2	0.01	0.2 (0.0002)[c]
Nickel	0.5[b]	0.1	1 (0.1)[c]
Selenium	0.5[b]	0.2	2
Silver	0.2	0.1	1 (0.1)[c]
Thallium	0.2	0.1	1 (0.02)[c]
Zinc	2[b]	0.1[b]	1 (0.5)[c]
Conventional/Ancillary Parameters	**mg/kg**	**mg/kg**	**mg/l**
Ammonia	0.1	-	0.03
Cyanides	2	1	0.1d
Total Organic Carbon	0.1%	-	0.1%
Total Petroleum Hydrocarbons	5	50	0.1
Grain Size	1%	-	-
% Solids	0.1%	-	-
LPAH Compounds	**µg/kg**	**µg/kg**	**µg/l**
Naphthalene	20	20	0.8[b]
Acenaphthylene	20	20	1.0[b]
Acenaphthene	20	20	0.75[b]
Fluorene	20	20	0.6[b]
Phenanthrene	20	20	0.5[b]
Anthracene	20	20	0.6[b]
HPAH Compounds	**µg/kg**	**µg/kg**	**µg/l**

Chemical	Sediment	Tissue	Water/Elutriate
Fluoranthene	20	20	0.9[b]
Pyrene	20	20	1.5[b]
Benzo(a)anthracene	20	20	0.4[b]
Chrysene	20	20	0.3[b]
Benzo(b&k)fluoranthene	20	20	0.6[b]
Benzo(a)pyrene	20	20	0.3[b]
Indeno[1,2,3-c,d]pyrene	20	20	1.2[b]
Dibenzo[a,h]anthracene	20	20	1.3[b]
Benzo[g,h,i]perylene	20	20	1.2[b]
Organonitrogen Compounds	***µg/kg***	***µg/kg***	***µg/l***
Benzidine	5	5	1
3,3-Dichlorobenzidine	300[b]	-	3[b]
2,4-Dinitrotoluene	200[b]	-	2[b]
2,6-Dinitrotoluene	200[b]	-	2[b]
1,2-Diphenylhydrazine	10	100	1
Nitrobenzene	160[b]	-	0.9[b]
N-Nitrosodimethyl amine	-	-	3.1[b]
N-Nitrosodi-n-propylamine	150[b]	-	0.9[b]
N-Nitrosodiphenylamine	20	20	2.1[b]
Phthalate Esters	***µg/kg***	***µg/kg***	***µg/l***
Dimethyl Phthalate	50	20	1[b]
Diethyl Phthalate	50	20	1[b]
Di-n-butyl Phthalate	50	20	1[b]
Butyl Benzyl Phthalate	50	20	4[b]
Bis[2-ethylhexyl] Phthalate	50	20	2[b]
Di-n-octyl Phthalate	50	20	3[b]
Phenols/Substituted Phenols	***µg/kg***	***µg/kg***	***µg/l***
Phenol	100	20	10
2,4-Dimethylphenol	20	20	10
Pentachlorophenol	100	100	50
2,4,6-Trichlorophenol	140[b]	-	0.9[b]
4-Chloro-3-methylphenol	140[b]	-	0.7[b]
2-Nitrophenol	200[b]	-	2[b]
4-Nitrophenol	500[b]	-	5[b]
2,4-Dinitrophenol	500[b]	-	5[b]
2-Chlorophenol	110[b]	-	0.9[b]
2,4-Dichlorophenol	120[b]	-	0.8[b]
4,6-Dinitro-o-cresol	600	20	10
Polychlorinated Biphenyls	***µg/kg***	***µg/kg***	***µg/l***
Total PCB	1	2	0.01
Pesticides	***µg/kg***	***µg/kg***	***µg/l***

Chemical	Sediment	Tissue	Water/Elutriate
Aldrin	3[b]	6b	0.03[b]
Chlordane and Derivatives	3[b]	6b	0.03[b]
Dieldrin	5[b]	10	0.02
4,4'-DDD	5[b]	10	0.1
4,4'-DDE	5[b]	10	0.1
4,4'-DDT	5[b]	10	0.1
Endosulfan and Derivatives	5[b]	10	0.1
Endrin and Derivatives	5[b]	10	0.1
Heptachlor and Derivatives	3[b]	6b	0.1
Alpha-BHC	3[b]	6b	0.03
Beta-BHC	3[b]	6b	0.03
Delta-BHC	3[b]	6b	0.03
Gamma-BHC (Lindane)	3[b]	6b	0.1
Toxaphene	50	50	0.5
Chlorinated Hydrocarbons	***µg/kg***	***µg/kg***	***µg/l***
1,3-Dichlorobenzene	20	20	0.9[b]
1,4-Dichlorobenzene	20	20	1b
1,2-Dichlorobenzene	20	20	0.8[b]
1,2,4-Trichlorobenzene	10	20	0.9[b]
Hexachlorobenzene	10	20	0.4[b]
2-Chloronapthalene	160[b]	-	0.8[b]
Hexachlorocyclopentadiene	300[b]	-	3.0[b]
Hexachloroethane	100	40	0.9[b]
Hexachlorobutadiene	20	40	0.9[b]
Halogenated Ethers	***µg/kg***	***µg/kg***	***µg/l***
Bis(2-chloroethyl) ether	130[b]	-	0.9[b]
4-chlorophenyl phenyl ether	170[b]	-	0.6[b]
4-Bromophenyl phenyl ether	160[b]	-	0.4[b]
Bis(2-chloroisopropyl) ether	140[b]	-	0.7[b]
Bis(2-hloroethoxy) methane	130[b]	-	1[b]
Miscellaneous	***µg/kg***	***µg/kg***	***µg/l***
Isophorone	10	100	1
Organotins	0.01	0.01	0.01

[a]The primary source of these TDLs was U.S. EPA/USACE (1995), *QA/QC Guidance for Sampling and Analysis of Sediments, Water and Tissues for Dredged Material Evaluations*.

[b] These values are based on recommendations from the EPA Region 6 Laboratory in Houston; these values were based on data or other technical basis.

[c] The values in parentheses are based on EPA "clean techniques", (EPA 1600 series methods) which are applicable in instances where other TDLs are inadequate to assess EPA water quality criteria.

[d] Will be expressed as dissolved values in water samples, except for mercury and selenium, which will be reported as Total Recoverable Concentrations.

4.2 Laboratory Quality Control for Chemical Analysis

The Laboratory Quality Control program must include, but not be limited to:

a) Accreditation – The laboratory will have current accreditation status, consistent with standards adopted by the National Environmental Laboratory Accreditation Conference (NELAC).

b) Method Blanks – Will be performed at a frequency of one per batch of samples, per matrix type, per sample extraction or preparation method.

c) Laboratory Control Samples – Will be analyzed at a minimum of 1 per batch of 20 or fewer samples per matrix type, per sample extraction or preparation method, except for analytes for which spiking solutions are not available.

d) Matrix Spikes – Will be performed at a frequency of 1 in 20 samples per matrix type, per sample extraction or preparation method, except for analytes for which spiking solutions are not available. The spike concentration will be no greater than 25% to 50% of the maximum concentration along the linear segment of the instrument calibration curve for any analyte.

e) Matrix Spike Duplicates – Will be analyzed at a minimum of 1 in 20 samples per matrix type, per sample extraction or preparation method.

f) Surrogates – Surrogate compounds must be added to all samples, standards, and blanks for all organic chromatography methods except when the matrix precludes its use or when a surrogate is not available.

g) Calibration – Calibration of instrumentation and performance of periodic instrument checks according to manufacturer and EPA recommendations and appropriate SOPs.

h) Studies – Participation in performance evaluation and method studies available from EPA, American Society for Testing and Materials (ASTM), or other agency. Performance evaluation under such a program will be conducted at least on a semiannual basis.

i) Reagent Evaluation – Each new shipment or lot of solvent, reagent, or adsorbent will be evaluated for purity in accordance with appropriate SOPs.

j) Analytical Standards – Standards will be prepared and verified in accordance with appropriate SOPs.

k) Quality Control Review – Calculation of quality control (QC) limits and preparation of control charts will be performed in accordance with appropriate SOPs.

l) Outlier Data – Out-of-control events or outlier data will be noted, and corrective action will be taken in accordance with appropriate SOPs.

m) Detection and Reporting Limit – Method detection limit (MDL) and/or laboratory reporting limit (LRL) check standards will be analyzed one per bath as required to meet project TDLs.

n) Documentation – Documentation of all QC activities performed specifically in conjunction with this project will be furnished along with sample results. Copies of all raw data, lab notes, chromatograms, standard curves, etc. will be furnished upon request. EPA approved QCAR forms will be completed by the laboratory and supplied with other QC documentation. The CQAR form that will be used for this project is shown in Appendix E.

Chemical analysis of water and elutriate samples will be performed according to analytical methods in *Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act; Final Rule and Technical Amendments* in the October 8, 1991, *Federal Register* (56 FR 50758) (EPA, 1991) or later versions (http://www.ecfr.gov/cgi-bin/textidx?SID=bcb9f65726c8a9b5201aeb5084ca253f&node=se40.23.136_13&rgn=div8).

Sediment samples will be analyzed using SW0846 methods (EPA, 1986) or later versions. Table 5 lists the chemicals and their TDLs to be analyzed for in sediment, tissue, and water/elutriate samples. The following samples will undergo chemical analysis:

- Sediment samples from (8 total) DMMUs, composited from DMMU 1 substations (3 total), DMMU 2 substations (3 total), DMMU 3 substations (2 total), DMMU 4 substations (2 total), DMMU 5 substations (3 total), DMMU 6 substations (3 total), DMMU 7 substations (4 total) and DMMU 8 substations (4 total);
- Sediment samples from (1 total) ODMDS, composited from ODMDS substations (3 total);
- Sediment samples from the Reference Area (1 total), composited from reference substations (3 total);

Analyses will be conducted to concentrations less than or equal to the TDLs in Table 5. The laboratory's LRL should be lower than the TDL. LRLs will not be lower than the low calibration or LRL check standard for the appropriate method.

If MDLs for certain COCs are reported by the lab, the lab must verify them by including one MDL check sample in project sample batches for every 20 project samples (USACE, 2001). The lab will not report COCs detected at levels between the LRL and the MDL unless the MDL has been verified.

For elutriate samples, the lab will follow the protocol in Section 9.1 of the RIA for sample preparation. These samples are prepared using ambient water and sediment from each station. After the settling period,

- To analyze organic compounds, particulate matter will be removed from elutriate by high-speed centrifugation rather than by filtration, and the samples will undergo solvent extraction.
- To analyze metals, elutriate will be filtered, or centrifuged and filtered, through a 0.45-µm filter prior to analysis.

Elutriate sample results will be compared to Texas Surface Water Quality Standards (WQS) and Federal Water Quality Criteria (WQC). Samples to be analyzed for metals will be filtered through a clean 0.45-µm filter prior to sample analysis, except for mercury and selenium. Metals analyses will be reported as dissolved fraction, except mercury and selenium which will be reported as total.

Percent solids and grain size analysis will be conducted on each sediment sample using ASTM method D422. Sieve analysis will utilize U.S. standard sieve numbers 4, 10, 20, 40, 50, 70, 100, 140, and 200; results will be reported as percent finer by weight. Sediment samples will be reported as dry weight.

Tissue concentrations will be reported as dry weight and wet weight.

Detailed procedures for performing these tests can be found in EPA/USACE (1991) and EPA/USACE (2003) and are described below.

- Perform suspended particulate phase (SPP) bioassays on appropriately sensitive marine water-column organisms exposed to dilution water (artificial or natural seawater), control water, and dredged material dilution series (8 composite samples) from the Harbor Island New Dock and Facilities Project. Determine the existence of any significant difference in biological effects (survival) between dilution water and 100% dredged material treatment. If statistical significance exists, determine the LC_{50} and run appropriate models.
- Perform 10-day solid phase bioassays on appropriately sensitive benthic marine organisms exposed to the reference area, negative control (native organisms' sediment or similar clean control matrix), and proposed dredging site (8 composite samples) sediment samples from the Harbor Island New Dock and Facilities Project. Determine the existence of any significant difference between survival in test sediments and reference sediment.
- Perform one series of 28-day bioaccumulation tests with appropriate sensitive benthic marine organisms exposed to the reference area and proposed dredging site (8 composite samples) sediment samples from the Harbor Island New Dock and Facilities Project. Determine the existence of any significant difference between concentrations of chemicals of concern in tissues exposed to test sediments and 1) FDA Action Levels (where they exist) and 2) sediments from the reference areas. Chemical analyses of archive tissues samples will also be performed to determine background levels of COCs. Control site tissue will not be subjected to chemical analysis.

4.3 Water Column Bioassay, Solid Phase Bioassay/Bioaccumulation

4.3.1 Suspended Particulate Phase (Elutriate) Toxicity Analysis

Bioassay analysis of the SPP (elutriate) from each channel station noted above will be conducted. Procedures for performing these tests can be found in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (*EPA, 2002), Appendix E of the *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. –Testing Manual (*EPA/USACE, 1998), and the RIA. The recommended species are shown below. Changes from these species or those recommended in the RIA must receive written approval from USACE and EPA Region 6 prior to testing.

- Zooplankton -*Americamysis bahia*, ≤1 day old.
- Crustacean -*Americamysis bahia*, 1-5 days old.
- Fish – *Menidia beryllina*, 9-14 days old.

If target species necessary to complete analysis are not available, PCCA will coordinate with both USACE and EPA to determine an adequate substitute.

Sample Preparation:

- Mix one volume of sediment with 4 volumes of site water at room temperature, mix vigorously for 30 minutes, settle for 1 hr. and then siphon. The elutriate which is siphoned is the SPP to be tested.
- Initiate test within 24 hours after preparation of the SPP sample.
- Test elutriate for ammonia. If un-ionized ammonia is >0.40 mg/l, total ammonia is >30 mg/l, or any toxicity in the test is believed to be due to ammonia, a toxicity identification evaluation may be conducted to confirm that ammonia caused the observed toxicity.
- If the elutriate smells like hydrogen sulfide, it will be aerated until the odor is not detected.
- The laboratory will use either natural sea water or a commercially available artificial seawater such as Crystal Sea Marine Mix, Instant Ocean, Hawaiian Marine Mix, or equivalent. Mixing and aging of saltwater will occur in large, high-density polyethylene (HDPE) tanks held at appropriate test temperature.

Test Conditions:

- 96-hr exposure for crustaceans and fish; 48-hr exposure for zooplankton. Clean glass or new disposable food-grade, polypropylene test chambers.
- Five replications of 10 organisms each;

  - *Americamysis bahia*, 0.5 or 1-L beakers containing 375 or 750 mL test media, respectively
  - *Menidia beryllina*, 1-L beakers containing 750 mL test media
- Temperature: 20ºC ± 2 ºC.
- Salinity: 30‰ ± 2‰.
- Dissolved oxygen ≥40% saturation.
- Three dilutions (10, 50 and 100%) of SPP and a control treatment of 100% dilution water will be tested.
- Dilution water will be synthetic sea water.
- Survival counts will be recorded daily along with temperature, pH, salinity and dissolved oxygen. Ammonia will be measured at test initiation and termination.
- Feeding (*Artemia*):
  - o *Americamysis bahia* will be fed twice daily to minimize aggressive interactions.
  - *o Menidia beryllina* will be fed at 48-hr.
- Reference toxicant tests will be performed in accordance with Section 9.3.1 of the RIA (Appendix G.2.10.5.2 of the Inland Testing Manual (ITM)).

Acceptability Criteria:

- 90% control survival for fish and crustaceans.
- 70% control survival for zooplankton.

QA/QC:

- Reference toxicant bioassays on all animals. 96-hour tests unless there is a historical basis for a different time period.

Data Presentation:

- Name of Species.
- Number of replicates and number of animals per replicate.
- Survival from each replicate.
- Daily water quality data.
- Additional information as appropriate.

Data Analysis:
Reject test and repeat bioassay when:

- Mortality is > 10% in the control treatment or in the dilution water treatment for a particular test species (30% mortality/abnormality for zooplankton). Test repeated with dilution water will use artificial sea/salt mixture prepared in strict accordance with the manufacturer's instructions; adjusted to the salinity of the project area; and allowed to age (with aeration) to ensure all salts are in solution and pH has stabilized.

SPP is not toxic and the limiting permissible concentration (LPC) for water column toxicity is met when:

- Survival in all of the SPP treatments is greater than or equal to survival in the dilution water treatment.
- Survival in all of the SPP treatments is less than survival in the dilution water treatment, but the difference is ≤10%.
- Survival in the 100% SPP treatment is less than survival in the dilution water treatment, and the difference is >10% but statistical analysis show the 100% SPP treatment is not significantly different from the dilution water test.

Statistical procedures, recommended in the RIA, Section 9.3.3, for analyzing test data are described in detail in Section 13 of the Green Book and Appendix D of the ITM.

SPP is toxic and LPC for water column toxicity are not met when:

- Survival in the 100% SPP treatment is less than survival in the dilution water treatment, the difference is >10%, and statistical analysis shows that the 100% SPP treatment is significantly different from the dilution water test. When the 100% SPP treatment is toxic and LPC for water column toxicity is not met based on statistical analyses, the potential for water column toxicity will be modeled.
- STFATE will be used to model the dilution of dredged material effluent after discharge from a hopper dredge. Key parameters derived from the model for evaluating water-column toxicity are: 1) maximum concentration of dredged material in the water column outside the boundary of the disposal site during the 4-hour initial mixing period, and 2) maximum concentration in the water column in the marine environment after the 4-hour mixing period. The modeled concentrations of the dredged material are compared with the application factor of 0.01 of the 48- or 96-hour LC_{50}, to determine compliance.

The following points will be considered when making modeled concentrations comparisons with the 0.01 application factor:

- LC_{50} is the concentration of the SPP lethal to 50% of the organisms.
- If greater than 50% mortality occurs in at least one of the serial dilutions of the SPP treatments, it may be possible to calculate an LC_{50} value.
- If less than 50% mortality occurs in all of the SPP treatments, it is not possible to calculate an LC_{50}. In such cases, the LC_{50} is assumed to be >100%.

- If conditions are highly toxic, such that the 10% SPP treatment has greater than 50% mortality, further dilution must be made (new treatments of less than 10% dredged material elutriate) to attain a survival of greater than 50% and determine the LC_{50} by interpolation.
- If both modeled concentrations are less than the 0.01 of the LC_{50}, there is no indication of water column toxicity attributable to the dredged material and the LPC for water column toxicity has been met.
- If either of the modeled concentrations exceeds 0.01 of the LC_{50}, the discharge does not meet the LPC for water column toxicity and disposal of the dredged material is not supported.
- If an LC_{50} is determined, the LPC is calculated by multiplying the LC_{50} by an application factor (AF). If scientifically justified, a chemical-specific AF may be applied (40 CFR 227.27(a)(3); otherwise, a default AF of 0.01 will be applied (40 CFR 227.27(1)(2)).

Statistical calculations performed for any required SPP test are as follows:

> Cochran's test will determine the homogeneity of variances. If variances are homogeneous, or can be made homogeneous by data transformation, the Student's t-test will be performed utilizing 2 (n-1) degrees of freedom to determine if the differences in survival were significant. If variances are heterogeneous, a t-test will be used with only (n-1) degrees of freedom to determine the tabulated t-value. If necessary, a 96-hour LC_{50} would be calculated and a comparison made between the expected dilution from initial mixing and the LPC. Expected dilution calculations will be site-specific and based on available data from USACE, EPA, or other credible sources.

4.3.2 Solid Phase (Sediment) Bioassay

Sediment toxicity bioassays will be conducted on the composite sediment samples from each channel station, the reference area composite, and a true control.

Species:

- Amphipod – *Leptocheirus plumulosus:* mature species 3-5 mm in length, mixed sexes or *Ampelisca abdita* 3-5 mm in length (See Appendix E of the ITM for age, sex and species detail).

Toxicity testing will follow procedures described in section 11.2.1.1 of the Green Book and as specified in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Marine Invertebrates* (EPA, 1994) or *Standard Guide for Conducting 10-day Static Sediment Toxicity Tests with Marine and Estuarine Amphipods* (ASTM, 1994) or its most recent edition. Deviations must be approved by the USACE as coordinated with EPA Region 6 before they are implemented.

- Crustacean -*Americamysis bahia:* age 1-5 days old; 24-hour range in age (see Appendix E of the ITM for age, sex and species detail). Toxicity testing will follow procedures described in Section 11.2.1.1 of the Green Book and as specified in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Marine Invertebrates* (EPA, 1994).

If EPA method must be modified for the mysid test, deviations must be approved by USACE as coordinated with EPA Region 6 before they are implemented.

Sample Preparation:

- Measure ammonia in sediment pore water. If the ammonia concentration is >0.4 mg/l un-ionized ammonia or >30 mg/l total ammonia, the test sediment will be flushed with overlying water at up to 6 volume replacements per 24 hours, as described in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Marine Invertebrates* (EPA, 1994). Flushing will stop as soon as pore water ammonia levels are reduced to acceptable concentrations.
- Samples are stored at 4°C ± 2ºC. Test chambers will be loaded with sieved sediment the day prior to the beginning of the test, or several days prior if ammonia is to be purged. Preparation will follow Section 11.2.1.1 of the Green Book.
- Sediment settled for at least 24 hours before test initiation.
- If test sediment has a hydrogen sulfide odor, the test chamber will be gently aerated until there is about 4 mg/l oxygen at the sediment-water interface.

Test Conditions:

- Test with at least 2 cm of sediment.
- 10-day exposure
- Feeding:
  - *Leptocheirus plumulosus/Ampelisca abdita*: no feeding
  - *Americamysis bahia*: daily feeding, *Artemia*
- Clean glass or new disposable food-grade, polypropylene test chambers.
- Five replicates of 20 amphipods in 1-liter test chambers, five replicates of 20 crustaceans in 1-liter test chambers.
- Temperature: 20°C ± 2°C for *L. plumulosus*, 20°C ± 2°C *A. bahia*
- Salinity:
  - *Leptocheirus plumulosus/Ampelisca abdita*: 20‰ ± 2‰.
  - *Americamysis bahia*: 30‰ ± 2‰.
- Dissolved Oxygen: Maintained at ≥ 40% saturation.

- Synthetic or natural sea water will be used.
- Measure temperature, dissolved oxygen, salinity, ammonia, and pH daily.
- The test chambers will be observed daily for the presence of dead animals and the data will be recorded. Note that since molts of organisms cannot be distinguished from dead carcasses in some cases, the observations made during the test may not correlate with final survival numbers. Unusual behavior such as emergence of infauna, formation of tubes or burrows, algal or bacterial growth, etc., will be noted.

Acceptability Criteria:

- No more than 10% mysid or 20% amphipod true control mortality.

QA/QC:

- Reference toxicant bioassays on all animals. Twenty-four hour tests unless there is a historical basis for a different time period. Ammonia (as ammonium chloride) in water-only reference toxicant tests will be used for the amphipod mysid bioassays.

Data Presentation:

- Name of species.
- Number of replicates and number of animals per replicate.
- Survival.
- Daily water quality data.
- Other information, as pertinent.

Data Analysis:

No indication of adverse effects due to the dredged material and the LPC for the solid phase is met:

- Survival in dredge sediments is ≥ survival in the reference sediment.
- Survival in dredge sediments is less than survival in the reference sediments but the difference is ≤10% (20% for amphipods).
- Survival in dredge sediments is less than survival in the reference sediments and the difference is > 10% (20% for amphipods) but the difference in survival between the two is not statistically significant. Statistical procedures recommended for analyzing test data are described in detail in Section 13 of the Green Book and Appendix D of the ITM.

LPC for sediment is not met and disposal of the dredged material is not supported:

- Survival in dredge sediments is less than survival in the reference sediments and the difference is > 10% (20% for amphipods) and the difference in survival between the two is statistically significant.

Statistical comparisons of mean survival will be made for each organism and for the total number of organisms if mean survival for any test is less than that at the reference station. If the variances are homogeneous or can be made homogeneous by transformation, an Analysis of Variance (ANOVA) will be conducted to determine if the differences between the test and reference sample survivals are statistically significant. If variances are heterogeneous and cannot be made homogeneous by transformation, the Kruskal-Wallace test, a non-parametric rank-sum test, will be done. If the ANOVA indicates a statistically significant difference in survival between dredge and reference sediments, the Dunnett's Procedure will be applied to determine which test had a mean that was statistically different from the reference station.

4.3.3 Bioaccumulation

Bioaccumulation tests will be conducted as specified in Section 12.0 of the Green Book. Procedures for performing these tests can be found in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (*EPA,1991) and Appendix E of the *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual (*EPA/USACE, 1998). Bioaccumulation will be measured on sediments from each DMMU, the reference station, and the true control. Sediment for the true control will be uncontaminated sediment obtained from the location where test organisms were collected or clean beach sand.

Species:

Polychaete – *Neanthes virens* (formerly *Nereis virens*)
Mollusk – *Macoma nasuta*

Sample Preparation:

- Chemical analysis will be done on tissues of a random sample of each test species prior to exposure to test sediments.
- Measure ammonia in sediment pore water. If the ammonia concentration is > 60 mg/l total ammonia, the test sediment will be flushed with overlying water at up to 6 volume replacements per 24 hours as described in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Marine Invertebrates* (EPA, 1994). Flushing will stop as soon as pore water ammonia levels are reduced to acceptable concentrations. Note that flushing is not required when the test is conducted under flow-through conditions.
- Samples stored at 4°C ± 2ºC before testing. Test chambers will be loaded with sieved sediment the day prior to the beginning of the test. Preparation will follow Section 11.2.1.1 of the Green Book.
- Sediment settled for at least 24 hours before test initiation.
- If test sediment has a hydrogen sulfide odor, the test chamber will be gently aerated until there is about 4 mg/l oxygen at the sediment-water interface.

Test Conditions:

- Test with 4 cm of sediment.
- 28-day exposure, without feeding.
- Clean glass test chambers.
- Five replicates of polychaetes (or mollusks) in 5-gallon aquaria. Organism mass will be sufficient for analytical requirements; ≥20 grams.

Temperature:

- *Nereis virens*: 10°C - 20°C; optimal 20°C ± 2°C. adult weighing 3-15 grams (Appendix E, ITM)
- *Macoma nasuta*: 15°C ± 2°C; 2 – 4 years old; 28-45 mm shell length (Appendix E, ITM)
- Salinity: 30‰ ± 2‰.
- Dissolved Oxygen: Maintained at ≥ 40% saturation.
- Synthetic or natural sea water will be used. Water renewals will be provided every 48 hours for the duration of the test.
- Measure temperature, dissolved oxygen, salinity, and pH daily.
- Dead animals will be removed and unusual behavior such as emergence of infauna, formation of tubes or burrows, etc., by test organisms will be noted.
- 24-hour animal gut purge at end of test

Data Presentation:

- Name of species.
- Number of replicates and number of animals per replicate.
- Survival.
- Daily water quality data.
- Chemical concentrations in tissue
- Other information, as pertinent.

4.3.4 Data Analysis

The bioaccumulation potential of the material proposed to be dredged will be evaluated according to Section 6.3 of the Green Book. Statistical procedures described in Section 13 of the Green Book will be used to compare tissue concentrations between animals exposed to dredge sediments and those exposed to reference sediments. A statistically greater tissue residue in organisms exposed to dredge sediment than in organisms exposed to the reference area sediments does not necessarily indicate an environmental or human health problem.

Concentrations of COCs detected in tissues of benthic organisms exposed to the dredge sediments will be compared initially against applicable FDA Action Levels when such

levels have been set. These levels are based on human health and economic considerations and do not include the potential for impact on the ecosystem. FDA Action Levels are presented in table format in Appendix D of EPA's sediment quality survey, The Incidence and Severity of Sediment Contamination in Surface Waters of the U.S., Volume I: National Sediment Quality Survey (EPA, 1997b), and subsequent updates or can be obtained on-line from the FDA website.

If the concentrations of one or more COCs in tissues exposed to dredge sediments exceed the FDA Action Levels, then the dredged material does not meet the LPC for the solid phase and disposal of the dredged material without appropriate management is not supported.

If the tissue concentrations of all detected COCs are not greater than FDA levels ***or*** there are no FDA levels for the COCs, then the concentrations of COCs in tissues exposed to dredge sediments will be compared to the contaminant concentrations in the tissues exposed to the reference sediment.

If the contaminant concentrations in tissues exposed to dredge sediments do not statistically exceed the contaminant concentrations in tissues exposed to the reference sediment, the bioaccumulation LPC for the solid phase is met. No adverse effects are likely if the concentration in the dredged-material-exposed tissue is less than the reference-material-exposed tissue.

A statistically greater tissue residue in organisms exposed to dredge sediments than in organisms exposed to the reference sediment does not necessarily indicate increased environmental hazard or human health risk. Conversely, the lack of statistically greater tissue residues in dredge sediments compared to reference sediment would be strong evidence that the sediment from the dredging site would not result in increased environmental hazard or human health risk for the pollutants tested. Therefore, the following factors will be assessed to evaluate LPC compliance when the contaminant concentration in tissues exposed to the dredge sediments statistically exceeds the contaminant concentrations in tissues exposed to the reference sediment. The factors and their order of evaluation are as follows:

1. Statistical significance of the results from tests on dredge sediment from when compared to reference sediment results.
2. Magnitude by which bioaccumulation in organisms exposed to dredge sediments exceeds bioaccumulation in organisms exposed to the reference sediment.
3. Number of contaminants for which bioaccumulation in organisms exposed to dredge sediments is statistically greater than bioaccumulation in organisms exposed to the reference sediment.
4. Number of species in which bioaccumulation in organisms exposed to dredge sediments is statistically greater than bioaccumulation in organisms exposed to the reference sediment.

5. Toxicological importance of the contaminants whose bioaccumulation in organisms exposed to dredge sediments statistically exceeds that from the reference sediment.
6. Phylogenetic diversity of the species in which bioaccumulation in organisms exposed to dredge sediments statistically exceeds bioaccumulation in organisms exposed to the reference sediment.
7. Propensity for the contaminants with statistically significant bioaccumulation to biomagnify within aquatic food webs.
8. Magnitude of toxicity and number and phylogenetic diversity of species exhibiting greater mortality in dredge sediments than in the reference sediment.

If a compliance decision cannot be reached based on the evaluation sequence described above, USACE and EPA, with assistance from the contractor, will make recommendations on additional research that would be sufficient to document COC concentration in similar organisms collected from the Corpus Christi and Port Aransas vicinity for comparison to results ascertained in bioaccumulation tests conducted in association with this SAP. If a compliance decision still can't be reached, a sampling plan will be developed and agreed upon by both EPA and USACE to evaluate Factor 9.

9. Magnitude by which contaminants whose bioaccumulation in organisms exposed to sediment from the dredging site exceeds that of organisms exposed to the reference sediment also exceed the concentrations found in comparable species living in the vicinity of the proposed disposal site.

4.4 Data Submittal

A sediment evaluation report suitable for review by USACE and EPA will be prepared. The report will describe the testing specified herein and will include data, interpretation, and conclusions.

A CD-ROM will be provided and contain MS Word and/or Excel files used to compose the report, along with a PDF formatted version of the final report. Also, PDF files of all laboratory reports for chemical and physical analyses/characterization will be provided as well as Laboratory Electronic Data Deliverables (EDDs) in Excel format only.

5 REFERENCES

ANAMAR. 2015. *Final Report Sampling, Chemical Analysis, and Bioassessment Corpus Christi Ship Channel Port Aransas, Texas*

Plumb, R.H., Jr. 1981. *Procedure for Handling and Chemical Analysis of Sediment and Water Samples.* EPA/CE-81-1. Prepared by State University College at Buffalo, Great Lakes Laboratory, Buffalo, N.Y. U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS.

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U.S. EPA and USACE. 2003. *Regional Implementation Agreement for Testing and Reporting Requirements for Ocean Disposal of Dredged Material off the Louisiana and Texas Coasts Under Section 103 of The Marine Protection, Research and Sanctuaries Act*. U.S. Environmental Protection Agency, Region 6 and U.S. Army Corps of Engineers, Galveston and New Orleans Districts.

Appendix A – Project Figures

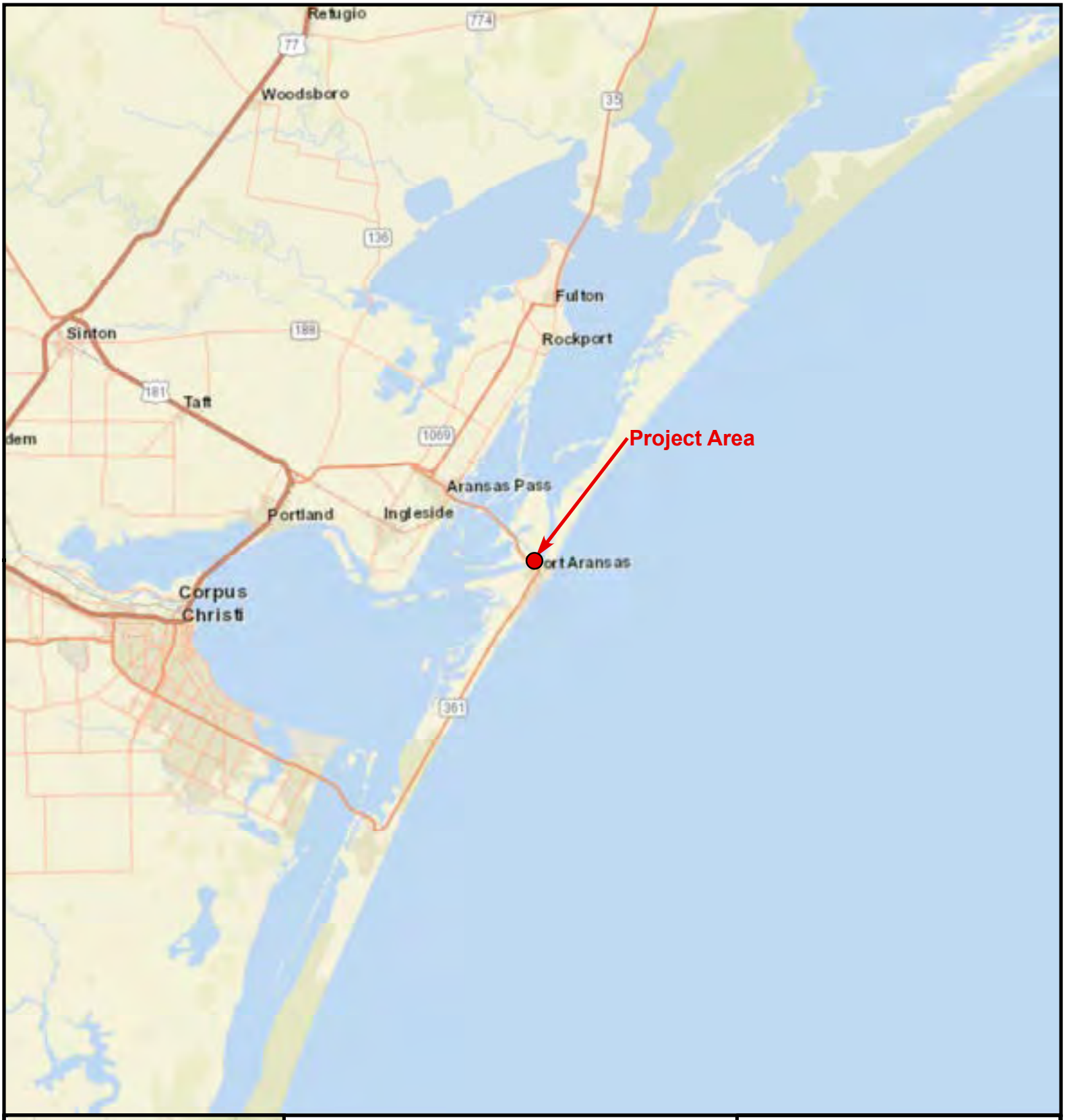


Figure 1: Vicinity Map

Harbor Island Dock
Port of Corpus Christi Authority
Nueces County, Texas

Date: Sep 25, 2020	
Prepared By: CG/JW	
Project: POCCA	
1 inch = 40,000 feet	

LOYD ENGINEERING, INC.

Legend

Proposed Project Layout and Dredge Footprint

Ship Channel Limits

N

0 0.05 0.1 0.2 Miles

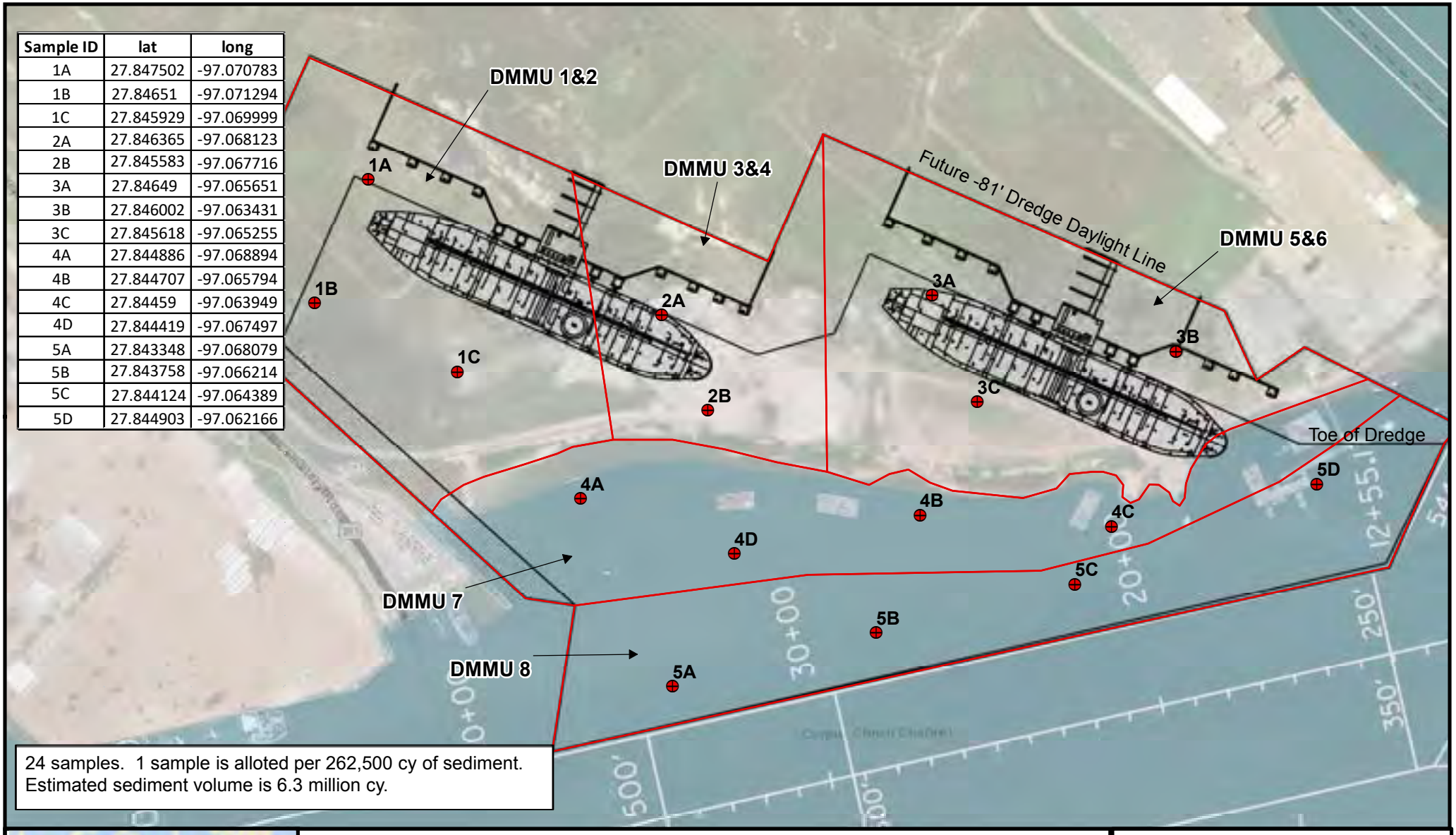
Figure 2: Project Layout with Dredge Footprint

Harbor Island Dock
Port of Corpus Christi Authority
Nueces County, Texas

Date: Sep 25, 2020	
Prepared By: CG/JW	
Project: POCCA	
1 inch = 500 feet	

LLOYD ENGINEERING, INC.

Sample ID	lat	long
1A	27.847502	-97.070783
1B	27.84651	-97.071294
1C	27.845929	-97.069999
2A	27.846365	-97.068123
2B	27.845583	-97.067716
3A	27.84649	-97.065651
3B	27.846002	-97.063431
3C	27.845618	-97.065255
4A	27.844886	-97.068894
4B	27.844707	-97.065794
4C	27.84459	-97.063949
4D	27.844419	-97.067497
5A	27.843348	-97.068079
5B	27.843758	-97.066214
5C	27.844124	-97.064389
5D	27.844903	-97.062166



24 samples. 1 sample is alloted per 262,500 cy of sediment.
Estimated sediment volume is 6.3 million cy.

Legend

- Proposed Sample Points
- DMMU

Proposed Project Layout

- Proposed Project Layout
- Ship Channel Limits

N

Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US
Basemap:Aerial Imagery, NAIP 2016

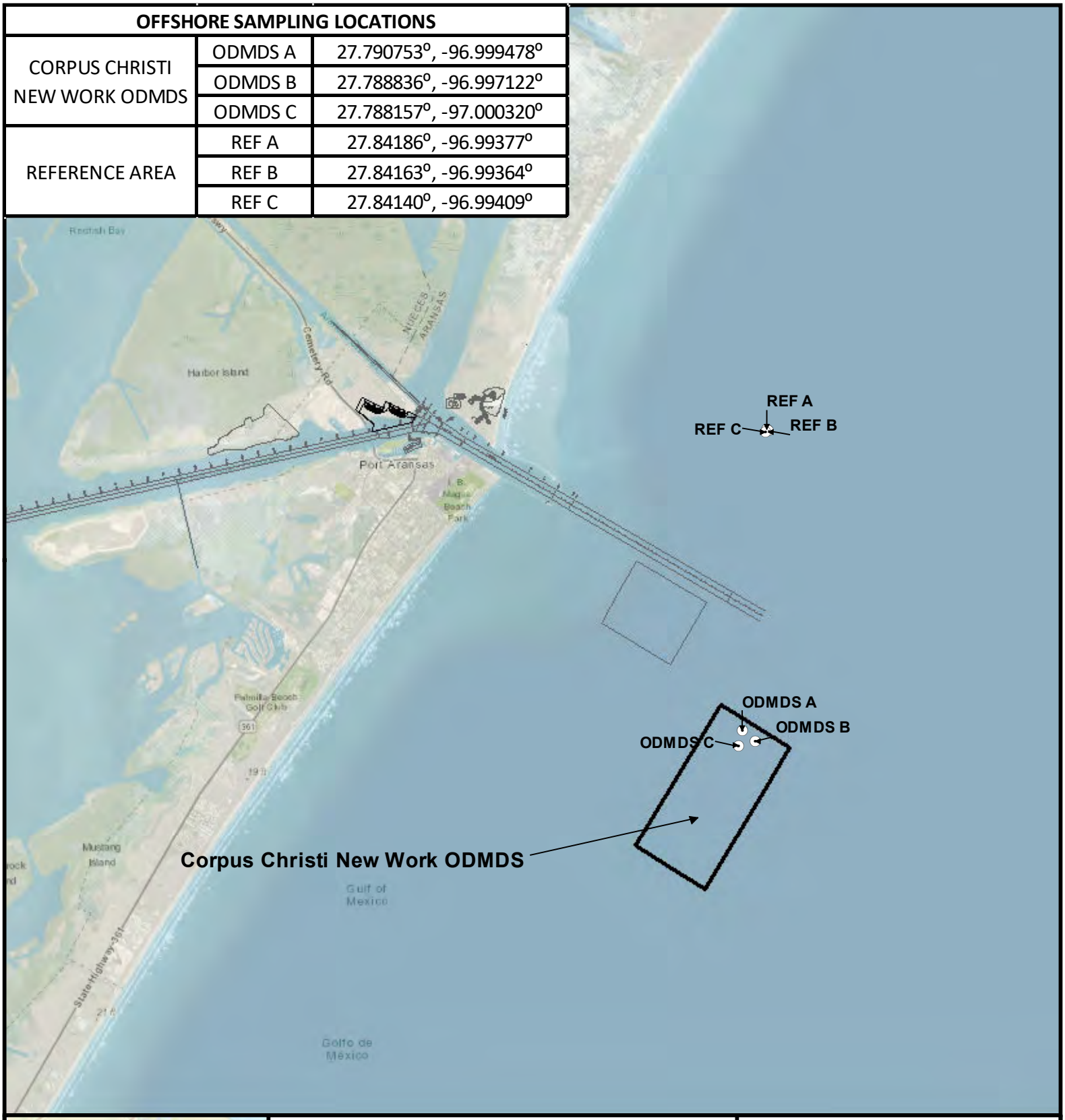
0 200 400 800 Feet

Figure 3: Harbor Island Sample Location Map

Harbor Island Dock
Port of Corpus Christi Authority
Nueces County, Texas

Date: May 5, 2021	LOYD ENGINEERING, INC.
Prepared By: CG/JW	
Project: POCCA	
1 inch = 400 feet	

OFFSHORE SAMPLING LOCATIONS		
CORPUS CHRISTI NEW WORK ODMDS	ODMDS A	27.790753°, -96.999478°
	ODMDS B	27.788836°, -96.997122°
	ODMDS C	27.788157°, -97.000320°
REFERENCE AREA	REF A	27.84186°, -96.99377°
	REF B	27.84163°, -96.99364°
	REF C	27.84140°, -96.99409°



Legend

- Offshore Sample Points
- Proposed Project Layout
- Ship Channel Limits
- Corpus Christi New Work ODMDS

N

0 1 2 4 Miles

Figure 4: Corpus Christi New Work ODMDS and Reference Area Sample Location Map

Harbor Island Dock
Port of Corpus Christi Authority
Nueces County, Texas

Date: Jul 14, 2021	
Prepared By: CG/JW	
Project: POCCA	
1 inch = 8,000 feet	LOYD ENGINEERING, INC.

Appendix B – Chronology of Atofina and Exxon Tank Farm Site Cleanup Activities

CHRONOLOGY OF SITE ACTIVITIES AT FORMER FINA TANK FARM

Completion Date	***Description of Activities Conducted***
01/1995	On behalf of PCCA for purchase of the property, IFC Kaiser conducted a Phase I site investigation including the installation of soil borings. The activities are summarized in the *Phase I Investigation* report and appendices.
09/07/1995	On behalf of PCCA, IFC Kaiser Engineers conducted a Phase II Investigation involving groundwater assessment and soil delineation activities. The activity was summarized in the report titled *Phase II Investigation Final Report*. **<Report Missing>**
1/31/1996	PCCA purchase the Former Fina Tank Farm property from Atofina.
11/1999	On behalf of Atofina, RMT collected soil samples and groundwater samples at the site. The activity was summarized in the report titled *Phase III Investigation and Risk-Based Evaluation*.
10/2000	On behalf of Atofina, RMT submitted to RRC, *Application for Land Farming* for remediation of impacted soils at the Former Fina Tank Farm site.
09/2001	On behalf of Atofina, RMT submitted to RRC the *Additional Soils and Groundwater Investigation, Groundwater Risk-Based Assessment and Remediation Workplan* proposing excavation of soils exceeding 5% TPH and treating via landfarming on site and in-situ tilling of areas between 1% and 5% TPH.
11/2001	On behalf of Atofina, RMT submitted an *Addendum to Remediation Workplan* proposing vacuum removal of PSH and continued groundwater sampling. **<Report Missing>**
11/8/2001	On behalf of Atofina, RMT submitted a letter addressing RRC comments regarding the Harbor Island Work Plan.
8/14/2002	PCCA contracted Envirotest to conduct a asbestos survey of the remaining structures on Harbor Island. Asbestos was found in several of the structures. The activities are summarized in the *Limited Asbestos Sampling* report.
11/2002	On behalf of Atofina, RMT remediated impacted soils at the site in accordance with RRC approval of 5% TPH cleanup level. The activities are summarized in the *Remediation Completion Report*.
3/18/2003	PCCA contracted Envirotest to conduct additional asbestos sampling in the sheetrock in the office buildings at the Former Atofina Tank Farm to narrow down asbestos content. The activities are summarized in the *Limited Asbestos Sampling* report.
08/2003	On behalf of Atofina and PCCA jointly, RMT conducted additional confirmation sampling in areas exceeding 1%. Some areas were identified as still exceeding 1%. RMT conducted additional in-situ treatment of those areas exceeding 1%.
08/29/2003	RRC submitted to Atofina a No-Further Action Letter for the site. PCCA deed recorded the remaining contaminated soils at the site.
9/8/2003	PCCA contracted ERM to conduct a survey of the septic tanks remaining on site at Harbor Island. The results are summarized in the *Harbor Island Tank Assessment: Septic* report.
11/19/2003	PCCA contracted Bexar Environmental to remove asbestos from remaining structures on Harbor Island. The activities are summarized in the *Asbestos*

CHRONOLOGY OF SITE ACTIVITIES AT FORMER FINA TANK FARM

Completion Date	***Description of Activities Conducted***
	Air Monitoring Report and the *Asbestos Abatement Closeout*.
12/22/2003	On behalf of PCCA, Rosengarten, Smith and Associates conducted confirmation sampling in tank farm area and previously remediated areas exceeding 1% TPH. The activities were summarized in a report titled *Soil Sampling Report for Former Fina Tank Farm*.
03/2004	On behalf of Atofina, RMT conducted a geo-statistical analysis of the analytical data for the site relative to the areas exceeding 1%. Statistically, all areas of the site are shown to be below 1% TPH. The summary of statistical activities is provided in the *Geo-Statistical Analysis of Analytical Data*.

CHRONOLOGY OF SITE ACTIVITIES AT FORMER EXXON TANK FARM

Completion Date	***Description of Activities Conducted***
04/15/1994	On behalf of Exxon Pipeline, KEI conducted an initial soil investigation. Exxon Pipeline had begun decommissioning the facility. Soil samples were collected on a 100' grid and submitted for analyses based on visual observations. The activity was summarized in the report titled *EPC Harbor Island Station Environmental Investigation*.
06/08/1994	On behalf of Exxon Pipeline, KEI prepared and submitted a remedial work plan for RRC approval.
07/15/1994	RRC approved the work plan with modifications.
10/19/1994	RRC issued a No Further Action Letter to Exxon Pipeline for soil assessment activities related to 1.1.2-trichloroethane (TCE) release.
08/16/1995	On behalf of Exxon Pipeline, KEI conducted soil remediation activities. Areas exceeding 10% Total Petroleum Hydrocarbons (TPH) were excavated and treated onsite. Areas between 5% and 10% TPH were remediated in place. The activity was summarized in the report titled *Soil Remediation Report*.
4/9/1996	PCCA purchases the Former Exxon Tank Farm property from Koch Pipeline.
07/29/1996	On behalf of PCCA for purchase of the property, Flour Daniels conducted verification sampling on areas exceeding 2% TPH to determine the effectiveness of the remediation activities and to establish an environmental baseline. The activity was summarized in the report titled *Verification Sampling Report*.
01/26/1998	On behalf of Exxon Pipeline, KEI conducted additional remediation activities in the area identified as Area 10. The activity was summarized in the report titled *Area 10 Remediation*.
06/22/1998	On behalf of PCCA, APT conducted soil sampling to verify the remediation efforts and remediation to 1% TPH cleanup level. The activity was summarized in the report titled *Confirmation Sampling Investigation*.
07/07/1999	On behalf of Exxon Pipeline, KEI conducted verification soil borings and then summarized site activities in a *Closure Report* and submitted it to the RRC.
07/17/1999	On behalf of Exxon Pipeline, KEI conducted additional remediation in those areas exceeding 2% TPH. The activity was summarized in the report titled *Additional Areas Remediation*.
11/9/1999	RRC issued a No Further Action Letter for soil assessment and product recovery activities that had occurred at the site but indicated an exclusion for the tank bottom areas that could not be assessed during the site activities.
3/12/2002	PCCA contracted J&J Insulation and Southern Ecology Management to remove asbestos from Former Exxon Buildings 3815, 4269, 4270, 4286, 4289, and 4290. The activities are summarized in the *Asbestos Abatement Report*.
8/14/2002	PCCA contracted Envirotest to conduct a asbestos survey of the remaining structures on Harbor Island. Asbestos was found in several of the structures. The activities are summarized in the *Limited Asbestos Sampling* report.
9/27/2002	PCCA contracted Southern Ecology Management to conduct a survey of the

CHRONOLOGY OF SITE ACTIVITIES AT FORMER EXXON TANK FARM

Completion Date	***Description of Activities Conducted***
	Former Exxon Tank Farm site to determine PCB content of remaining transformers. Transformers with PCB's were drained, removed and properly disposed of. The activities are summarized in the *Transformer Abatement Report*.
05/08/2003	PCCA contracted American Demolition to demolish the crude oil tanks.
09/05/2003	PCCA and ExxonMobil Pipeline Company entered into a Site Remediation Agreement which designated responsibilities for cleanup and a cleanup level of 1% TPH for the site.
9/8/2003	PCCA contracted ERM to conduct a survey of the septic tanks remaining on site at Harbor Island. The results are summarized in the *Harbor Island Tank Assessment: Septic* report.
11/19/2003	PCCA contracted Bexar Environmental to remove asbestos from remaining structures on Harbor Island. The activities are summarized in the *Asbestos Air Monitoring Report* and the *Asbestos Abatement Closeout*.
12/22/2003	On behalf of PCCA, Rosengarten, Smith and Associates conducted confirmation sampling in tank farm areas and previously remediated areas exceeding 1% TPH. The activities were summarized in a report titled *Soil Sampling Report for Former Exxon Tank Farm*.
02/29/2004	Pipeline Equities entered into a Surplus Sale Agreement with PCCA for removal of the piping at the site. PCCA contracted Ms. Rhoni Lahn to be onsite and oversee the removal activities. During this time PCCA identified areas of pre-existing contamination in accordance with the Site Remediation Agreement. Pipeline Equities did not complete the work and PCCA put out a contract to complete the removal activities.
3/2004	PCCA entered into a lease option agreement with Zachary for part of the Harbor Island site. Entrix was contracted by Zachary to conduct a wetland determination. The results of the activities are summarized in Wetland Assessment and Delineation PCCA-Zachary Property.
7/29/2004	Zachary contracted with ENSR to conduct an environmental investigation of the Harbor Island property to determine the extent of soil contamination within the proposed project area. Soil borings and monitor wells were installed. Soil and groundwater data summary tables were provided.
11/11/2004	International Divers was contracted by PCCA to remove the remaining pipe from the site and septic tanks and associated structures. PCCA again contracted Ms. Rhoni Lahn to be onsite and oversee the removal activities. Areas of pre-existing contamination were also identified in accordance with the Site Remediation Agreement. The areas of pre-existing contamination were summarized in a final report to Exxon titled *Hydrocarbon Contamination Report for Former Exxon Tank Farm*.
03/04/2005	On behalf of ExxonMobil, CRA submitted a Soil Remediation Workplan for approval to the RRC.
03/08/2005	RRC submits letter to ExxonMobil in response to Soil Remediation Workplan requesting additional information.
03/17/2005	On behalf of ExxonMobil, CRA submitted a response to RRC letter dated 03/08/2005 concerning the Soil Remediation Workplan requesting

CHRONOLOGY OF SITE ACTIVITIES AT FORMER EXXON TANK FARM

Completion Date	*Description of Activities Conducted*
	additional information.
03/22/2005	PCCA submitted a correction to the Hydrocarbon Contamination Report for Former Exxon Tank Farm that inaccurately stated that the pipe removal activities were completed.
07/05/2005	On behalf of ExxonMobil, CRA began investigation and remediation of the areas of pre-existing contamination identified during the tank demolition and pipeline removal activities. Areas were excavated based on visual observations and landfarmed onsite. Confirmation sampling was conducted to verify remediation to 1% TPH. The areas not remediated were sampled to identify if the remaining areas exceeded 1% TPH.
08/23/2005	CRA was contracted by PCCA to complete pipe removal activities and trench the site to identify and remove pipe in unmapped locations. PCCA again contracted Ms. Rhoni Lahn to be onsite and oversee the removal activities. Areas of pre-existing contamination were also identified in accordance with the Site Remediation Agreement. The areas of pre-existing contamination were summarized in a final report to Exxon titled *Second Hydrocarbon Contamination Report for Former Exxon Tank Farm*.
01/10/2007	CRA was contracted by ExxonMobil to conduct sampling of the pre-existing contamination locations identified in the *Second Hydrocarbon Contamination Report for Former Exxon Tank Farm*. Sampling consisted of an excavation at the center point and radial trenching in four directions to determine the visual extent of the contamination. Soil samples were submitted for confirmation. PCCA contracted Ms. Rhoni Lahn to represent PCCA during the activities and collect duplicate samples.
08/24/2007	PCCA summarized the results of the duplicate sampling and compared them to the results from the samples collected by CRA. Additionally, PCCA pointed out concerns with assessment strategies and assumptions made by CRA and ExxonMobil. The results were summarized in a letter report "Site Assessment Results for PCCA Harbor Island".
12/07/2007	CRA submitted to RRC a summary of the site activities including remediation and sampling activities conducted at the site from 2005 through 2007. The results were summarized in a report titled *Additional Soil Delineation Report*.
12/20/2007	RRC requested additional historical information on the site from ExxonMobil.
01/11/2008	On behalf of ExxonMobil, CRA submitted additional historical information to RRC regarding cleanup and site investigation activities at the site.
03/04/2008	On behalf of ExxonMobil, CRA submitted response to RRC letter dated 12/21/2007 with Soil Remediation Work Plan included.
04/02/2008	RRC provided comments on review of Soil Remediation Work Plan including requests for confirmation soil samples in native soils below landfarming area, evaluating BTEX in groundwater samples in excavations, further evaluating groundwater by installing groundwater wells, and providing a schedule and time line of proposed field activities.

CHRONOLOGY OF SITE ACTIVITIES AT FORMER EXXON TANK FARM

Completion Date	***Description of Activities Conducted***
02/23/2009	On behalf of ExxonMobil, CRA started onsite work to prepare the site for landfarming activities per the RRC approved work plan. PCCA and ExxonMobil entered into an agreement to also have CRA conduct the remediation for the areas that PCCA was responsible for at the end of the project.
03/10/2009	CRA began excavation and landfarming activities at the site in the areas previously identified as contaminated.
09/24/2009	CRA completed soil remediation of the areas that ExxonMobil was responsible and PCCA was notified that CRA did not have enough personnel to continue work at the site to address PCCA areas of responsibility.
9/4/2009	PCCA contracted GAINCO to install delineation soil borings in the area of the Former Texas Treasure parking lot fence line to determine the extent of soil contamination under the Former Texas Treasure parking lot and in Areas 109 and 106. The results were summarized in a report titled *Geoprobe Delineation Report - Preliminary*.
9/30/2009	PCCA contracted GAINCO to install additional delineation soil borings across the Former Texas Treasure parking lot.
10/14/2009	PCCA contracted GAINCO to conduct soil remediation of the areas of PCCA responsibility, remove debris from the site, and remove remaining buried pipelines identified during previous remediation efforts.
12/21/2009	PCCA terminated soil remediation activities and site restoration activities at the site due to heavy rains and flooding. Work will commence in spring 2010 when site has dried up.
04/29/2010	PCCA contracted GAINCO to install additional delineation soil borings in the areas in the Former Texas Treasure parking lot.
05/20/2010	PCCA contracted GAINCO to complete remediation of the remaining areas at the site.
06/25/2010	GAINCO completed remediation and site restoration activities at the site.
12/13/2010	PCCA contracted GAINCO to collect additional soil samples at the site to close data gaps in the remediation activities conducted at the site.
2/16/2011	PCCA submits *Environmental Activities Report for Former Exxon Pipeline – Harbor Island Station* to RRC and ExxonMobil documenting the remediation and soil boring activities conducted by PCCA at Harbor Island.
4/27/2011	CRA, on behalf of ExxonMobil, submitted *Groundwater Assessment Work Plan* to the RRC for approval of the locations of the monitor wells at the site.
9/19/2011	CRA contracted by ExxonMobil to install groundwater monitoring wells at the site and collect groundwater samples.
7/3/2012	CRA, on behalf of ExxonMobil, submitted *2011 Well Installation and Quarterly Groundwater Monitoring and Sampling Report* to the RRC documenting well installation and sampling activities.
11/12/2012	CRA, on behalf of ExxonMobil, submitted to RRC a *Remediation Summary Report* summarizing the results of remediation conducted to date.

CHRONOLOGY OF SITE ACTIVITIES AT FORMER EXXON TANK FARM

Completion Date	***Description of Activities Conducted***
10/23/2013	CRA, on behalf of ExxonMobil, submitted to RRC a *Harbor Island Closure Report* including recommendations for implementation of a Restrictive Covenant.
1/5/2015	No Further Action Letter received by ExxonMobil from the RRC.

Appendix C – Field Datasheet Forms

SEDIMENT SAMPLING FIELD SHEET

PROJECT: PCCA Harbor Island New Dock and Facilities Project

Lloyd Engineering, Inc.
6565 West Loop South, Suite 708
Bellaire, Texas 77401
Phone: 832-426-4656

Project #:	
Sample ID:	
Sampled By:	
Sample Date:	

SAMPLE COLLECTION INFORMATION

Start Sampling Time: _____ **End Sampling Time:** _____

Collection Method:
Double Van Veen Van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____
Sediment Preservation Method (circle one): "Wet" Ice Refrigerated Truck/Trailer Other

Sample Containers:
Type and Number: Teflon _____ Glass _____ Plastic _____ Ziploc _____ Other _____

Sediment Description: Can circle more than one texture , if applicable
Texture: Clay Silt Fine Sand Medium Sand Coarse Sand Shell Hash
Color: Lt. Brown Yellowish Orange Greenish Gray Olive Gray Lt. Gray Dk. Gray

Live Organisms? Describe.	Y	N	**Notes:**
Odor Present? Describe.	Y	N	
Organic Debris? Describe.	Y	N	
Picture of Sample?	Y	N	
Volume Collected:			
# Grabs Collected:			
Penetration Depth (cm):			

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum MLLW MLW NAVD 88 NGVD 29 Other:_____ **H-Datum NAD83 NAD27 WGS84 Other:**_____

Water Surface Elevation (circle method of measurement): RTK Real Time WLR Tide Tables Other:_____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID**:_____

- **Water Depth (ft):**_____ **GPS ID**: _____

= Sediment Elevation (ft): _____ **Latitude (Northing):** _____

Project Depth = _____ **Longitude (Easting)**: _____

Wind Speed (knots): 0-5 5-10 10-15 >15

Wind Direction: N NE E SE S SW W NW

Sea State: Calm 1-2 ft. 2-3 ft. 3-4 ft. 4-5 ft. >5 ft.

Weather: Sunny P. Cloudy Cloudy Rain (drizzle, mod, heavy)

Tidal Cycle: Low Mid High Slack Incoming Outgoing

Air Temp (°F): _____

Additional Observations, Notes: _____

Core Log (Sheet 1 of __)
PROJECT: PCCA Harbor Island New Dock and Facilities Project

Sample ID:_____ **Sampled By**:

Sampling Date:_____ **Working with a Subcontractor? Athena**

Start Sampling Time: **End Sampling Time**:

Collection Method (Circle one):

Vibracore Push Core Auger GeoProbe Total Volume Collected:_____

Sediment Container(s):

Type and Number: Teflon®_____ Glass_____ Plastic_____ Ziploc®_____ Other_____

Sediment Preservation Method (circle one): "Wet" Ice Refrigerated Truck/Trailer Other

V-Datum MLLW MLW NAVD 88 NGVD 29 Other:_____ **H-Datum NAD83 NAD27 WGS84 Other:**_____

Water Surface Elevation (circle method of measurement): RTK Real Time WLR Tide Tables Other:_____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID**:_____

- Water Depth (ft):_____ **GPS ID**: _____

= Top of Core Elevation (ft): _____ **Latitude (Northing):** _____

- Project Depth (ft): _____ **Longitude (Easting)**: _____

= Target Penetration (ft):

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 5–10 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other_____

Weather (circle one): Sunny P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S SW W NW

Notes:

Core Log (Sheet __ of __)

Project Name: PCCA Harbor Island **Sample ID**:_____

Date:_____ **Core diameter (inches):**_____ **Photograph(s) Taken (circle one):** Yes No

Core _____ Time_____ Core penetration length:_____ Bottom of core elevation (ft):_____ Recovery Length (ft):_____% Recovery_____		**Core** _____ Time_____ Core penetration length:_____ Bottom of core elevation (ft):_____ Recovery Length (ft):_____% Recovery_____	
Length (ft)	**CORE DESCRIPTION**	**Length (ft)**	**CORE DESCRIPTION**
Live Organisms? Yes No (**Describe**)		**Live Organisms?** Yes No (**Describe**)	
Oil Present? Yes No **Odor Present?** Yes No **Organic Debris?** Yes No		**Oil Present?** Yes No **Odor Present?** Yes No **Organic Debris?** Yes No	
Notes:		**Notes:**	

WATER CHEMISTRY FIELD SHEET

PROJECT: PCCA Harbor Island New Dock and Facilities Project

Lloyd Engineering, Inc.
6565 West Loop South, Suite 708
Bellaire, Texas 77401
Phone: 832-426-4656

Project #:	
Station ID:	
Sampled By:	
Sample Date:	

SAMPLE COLLECTION INFORMATION

Start Sampling Time: _____ **End Sampling Time:** _____

Collection Method:
Submersible Pump Direct Grab Van Dorn Peristaltic Pump Pneumatic Pump Other _____

Sample Containers:
Type and Number: Teflon _____ Glass _____ Plastic _____ Vials _____ Other _____

Sample Description:

Suspended Material? Describe. Y N

Odor? Describe. Y N

Water Color: _____

Volume Collected: _____

Notes: _____

STATION INFORMATION

Water Depth (ft): _____

Tidal Cycle: Low Slack / Mid Incoming / High Outgoing

Wind Speed (knots): 0-5 5-10 10-15 >15

Wind Direction: N NE E SE S SW W NW

Sea State: Calm 1-2 ft. 2-3 ft. 3-4 ft. 4-5 ft. >5 ft.

Weather: Sunny P. Cloudy Cloudy Rain (drizzle, mod, heavy)

Air Temp (^{o}F): : _____

In Situ Readings:	Near-Surface	Mid-Depth	Near-Bottom
Time:			
Depth (ft):			
Temp (^{o}C):			
pH (units):			
Salinity (ppt):			
Cond. (mS/cm) OR (µS/cm):			
DO (mg/L):			
DO (% sat.):			
Turbidity (NTU):			

Station Coordinates:

Longitude (Northing): _____

Latitude (Easting): _____

Waypoint #: _____

Addt'l Waypoint #: _____

General Conditions, Observations, Notes: _____

Daily Quality Control Report

PROJECT: PCCA Harbor Island

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

Lloyd Engineering, Inc.
6565 West Loop South, Suite 708
Bellaire, Texas 77401
Phone: 832-426-4656

Name: _____

Date: _____

Samples Collected: _____

Notes,Comments: _____

Appendix D – Bathymetry Survey Data

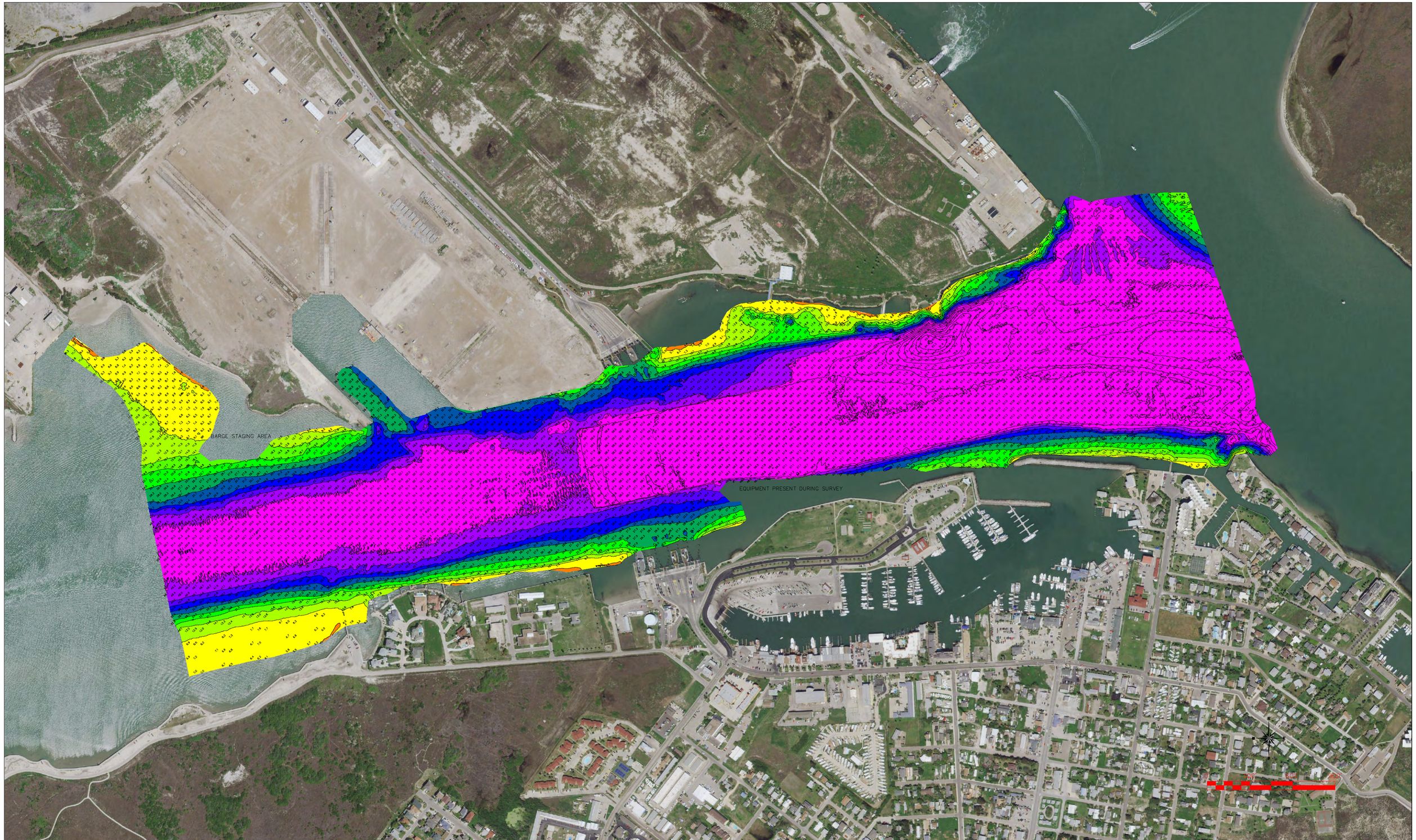
NOTES:
1) BATHYMETRIC & TOPOGRAPHIC DATA WERE RECORDED BY NAISMITH MARINE SERVICES ON JUNE 24-JULY 17, 2019.
   SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH ZONE, US FEET.
3) VERTICAL DATUM: MEAN LOWER LOW WATER
   REFERENCE MONUMENT "CG 71"
   N: 17196944.36
   E: 1448233.41
   ELEV: 5.8' MLLW (5.7' NAVD88)

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

LLOYD ENGINEERING, INC.
BATHYMETRIC & TOPOGRAPHIC SURVEY
HARBOR ISLAND
PORT ARANSAS, TEXAS

SCALE: 1"= 400'
DWN. BY: BSG
PLAN SHEET 1 OF 1
DATE: JULY 2019



NOTES:
1) BATHYMETRIC DATA WERE RECORDED BY NAISMITH MARINE SERVICES ON SEPTEMBER 23-24, 2019.
   SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH ZONE, US FEET.
3) VERTICAL DATUM: MEAN LOWER LOW WATER
   REFERENCE MONUMENT "CG 71"
   N: 17,196,944.36
   E: 1,448,233.41
   ELEV: 5.9' MLLW (5.7' NAVD88)

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

LLOYD ENGINEERING, INC.
MULTIBEAM BATHYMETRIC SURVEY
CORPUS CHRISTI SHIP CHANNEL
PORT ARANSAS, TEXAS

SCALE: 1" = 300'		DATE:
DWN. BY: BSG	PLAN SHEET 1 OF 1	SEPT. 2019

Appendix E – CQAR Form

EPA Region 6
Data Review and Validation Requirements
Dredged Material Disposal Evaluation

Project: _____

Project Initiation Date: _____

Project Sampling Dates:

Begin: _____

End: _____

Final Report Date: _____

Final Review Date: _____

Data acceptable (Y/N):

If data unacceptable summarize issues to be addressed:

I certify the review in this document conforms to all applicable regulatory and project-specific requirements.

_____
QA Officer

Project Review

The following sections must be completed prior to field sampling or laboratory analysis:

The SAP/QAPP was prepared and submitted for approval by the Corps of Engineers District Office and EPA Region 6.

Submitted by:
Date submitted:

The SAP/QAPP was approved by the Corps of Engineers District Office and EPA Region 6.

Approved by:

Any deviations from District-approved protocols for sampling or analysis were clearly stated to the District and approved by the District office and EPA Region 6.

Laboratory Information

Use one sheet for each laboratory that will perform analytical work for this project.

Laboratory Name/Identification:

Is lab NELAC certified? Yes/No If Yes, please supply certification number

Can lab meet the QC requirements below as specified in the SAP/QAPP?

Yes/No	
	Analytical requirement
	Instrumentation
	MDL's meet project TDL requirements
	Precision and accuracy
	Required turnaround time

Note below any requirements the laboratory is unable to meet.

Sample Custody

Was all required information on the chain-of-custody form:

(Yes/No)	
	Did chain of custody forms accompany samples to subcontract lab?
	Is the project identification on the chain of custody?
	Are the analyses requested printed on the sample containers?
	Were all samples correctly identified?
	Were the analyses correctly identified on the chain of custody or an attached document listed on the chain of custody?
	Were sample dates and times listed on the chain of custody?
	Were the chains of custody signed by both the relinquisher and receiver of the samples?
	Was the carrier identified on the chain of custody?
	If more than one chain of custody was needed for samples, are the chains of custody clearly numbered?
	Were samples packed on wet ice, with an expected receipt temperature of 4 ± 2°C?
	Were any sample conditions or irregularities (broken bottles, improper temperature) noted on the chain of custody or accompanying paperwork?
	Was the chain of custody submitted as part of the report to the primary contractor?
	Were all requested analyses performed?
	Was adequate sample volume provided to the contractor lab?
	If any anomalous behavior of the samples was found, was it noted in the lab case narrative?

Additional sample custody issues or deficiencies:

Analytical Review Summary

Were all raw data included in the final report?

(Yes/No)

	Prep logs
	Analytical logs
	Data reduction logs
	Calculations
	Data report
	QC Package

Verify that samples were prepared according to the method specified.

	10% check
	100% check

Verify that samples were analyzed according to the method specified.

	10% check
	100% check

Verify that data were properly transferred from run to data report.

	10% check
	100% check

Verify that QC was calculated and within limits and complete the QC forms provided in this package.

	10% check
	100% check

Additional data quality issues:

List of Acronyms

CCV	continuing calibration verification
IC	initial calibration
ICB	initial calibration blank
ICV	initial calibration verification
IS	internal standard
LCS/DLCS	laboratory control sample/duplicate laboratory control sample
LDR	linear dynamic range
LFB	laboratory fortified blank
MB	method blank
MDL	method detection limit
MN	*Macoma nasuta*
MS/MSD	matrix spike/matrix spike duplicate
NV	*Neanthes virens*
RL	reporting limit
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
RIA	EPA Region 6 - Regional Implementation Manual
SRM	standard reference material

Project Identification:

Reviewed by:

Review Date:

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed:

Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/Supplier Specific Recovery Limits			
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method Specifc spike recovery limits			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method Specifc recovery limits			
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis				
IC	Verify initial calibration for AA and mercury analysis performed daily	Method Specific Calibration requirements			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed:

Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/Supplier Specific Recovery Limits			
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method Specifc spike recovery limits			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method Specifc recovery limits			
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis				
IC	Verify initial calibration for AA and mercury analysis performed daily	Method Specific Calibration requirements			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed:

Matrix: ☐ Sediment ☐ Water/Elutriate ☒ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/Supplier Specific Recovery Limits			
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method Specifc spike recovery limits			
ICV	Immediately following calibration curve	Method Specifc spike recovery limits			
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method Specifc spike recovery limits			
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis				
IC	Verify initial calibration for AA and mercury analysis performed daily	Method Specific Calibration requirements			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☑ Pesticides ☐ PCBs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specific Recovery Limits			
CCV	At the beginning of every 12 hours of analysis	Method Specific Recovery Limits			
Surrogates	Every sample	Method Specific Recovery Limits			
Internal Standard	Every sample	Method Specific Recovery Limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☑ Pesticides/PCP ☐ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
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SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specific Recovery Limits			
CCV	At the beginning of every 12 hours of analysis	Method Specific Recovery Limits			
Surrogates	Every sample	Method Specific Recovery Limits			
Internal Standard	Every sample	Method Specific Recovery Limits			
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Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☑ Pesticides/PCP ☐ PCBs
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Analytical Method Used:

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Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides ☑ PCBs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
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SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
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Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides ☑ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
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ICV	Immediately following calibration curve	Method Specifc recovery limits			
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Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
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Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides ☑ PCBs
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
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MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☑ PAHs & PCP ☐ Pesticides ☐ PCBs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☑ PAHs & PCP ☐ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
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Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☑ PAHs ☐ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: 8151 & 8270D SIM

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides ☐ PCBs ☑ SVOCs

Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides/PCP ☐ PCBs ☑ SVOCs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)		Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
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IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: ☐ PAHs ☐ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: 8151 & 8270D SIM

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
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Surrogates	Every sample	Method Specifc recovery limits			
Internal Standard	Every sample	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			
ICB	Immediately after initial calibration	No analyte should be detected > RL			

Project Identification:

Reviewed by:

Review Date:

Parameter: TOC

Matrix: Sediment

Analytical Method Used:

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL			
MS/MSD	1 set per 20 samples or per batch	Method Specifc spike recovery and RSD precision limits			
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider			
ICV	Immediately following calibration curve	Method Specifc recovery limits			
CCV	At the beginning of every 12 hours of analysis	Method Specifc recovery limits			
IC	Verify after each initial calibration	Method Specific Acceptibility Limits			
MDL	Verify MDL study once per year for each analyte of interest	Updated annually			

Project Identification:

Reviewed by:

Review Date:

Part I	General Data Reporting Requirements	Included (Y/N)	Comments
SUMMARY TABULAR DATA AND PROJECT NARRATIVE			
Each of the following elements should be present as described.			
	A summary table listing the percent survival in all control, reference, and test samples		
	A summary table containing the LC_{50}/EC_{50} values for the suspended particulate phase (SPP) tests and statistical tests from the solid phase tests		
	A narrative which summarizes all of the deviations from the Green Book/Inland Testing Manual, Regional Implementation Agreement and SAP/QAPP protocols. Deviations of sample handling, test conditions, ammonia purging procedures, control performance, reference toxicant test performance, organism handling/acclimation, and water quality parameters should be provided in this section.		
	A summary table which documents collection dates and holding times for the test, control, and reference sediment samples. Holding times for site water, SPP, and lab saltwater for all tests should be included in this table.		
	The data narrative should describe the major biological project activities and results. Computerized tables of results, water quality, and other pertinent information should be placed in this portion of the biological data package.		
RAW BIOLOGICAL AND WATER QUALITY DATA FROM TESTS			
	Survival Data		
	Water Quality Parameters		
	Feeding Schedule and Amount (if applicable)		
	Organism Observations		
	Summary of Test Conditions		
TEST ORGANISM HOLDING, HANDLING AND ACCLIMATION			
	Organism Shipping Data Sheet (or equivalent) if Provided by Supplier		
	Copy of Overnight Shipping Airbill or Courier Tracking Information (if applicable)		
	Holding/Acclimation Records (including any required water quality, renewals, and feeding)		
	Mortality During Holding and Acclimation		
	Taxonomic Identification for Each Species (where available from vendor)		
REFERENCE TOXICANT DATA (where applicable)			
	Raw Bench Sheets For Reference Toxicant Tests		
	Reference Toxicant Stock & Test Solution Preparation Sheet		
	LC_{50}/EC_{50} Statistical Calculations		
	Updated Reference Toxicant Control Charts with Acceptability Limits		
STATISTICAL DATA FROM DREDGE MATERIAL TESTS			
	Provide all computer-generated statistical output information for the SPP and solid phase tests.		
INVALID TEST DATA			
	If a test was repeated for any reason, the data from the original test must be included in the final report. If a serious deviation occurs which has the potential to affect test acceptability, USACE and EPA must be contacted immediately to determine if a retest is needed.		

Part II	Test-Specific Information (additional to items specified in Part I)	Included (Y/N)	Comments
AMPHIPOD SOLID PHASE TEST			
	Pretest Overlying Water Renewal Log and Total Porewater Ammonia Data		
	Total/Unionized Porewater Ammonia Measured in Dummy Jars During Testing		
MYSID SOLID PHASE TEST			
	Pretest Overlying Water Renewal Log and Total Porewater Ammonia Data		
	Total/Unionized Overlying Unionized Ammonia Measured During Testing		
SUSPENDED PARTICULATE PHASE TESTS (SPP)			
	SPP Preparation Log (All volumes, Mixing Times, Centrifuge Information etc.)		
BIOACCUMULATION TESTING			
	Daily Flow Calibration or Static Renewal ~~Calibration~~ Log		
	Preparation Logs for All Artificial Saltwater (if applicable)		
	If Control Survival <90%, Provide Detailed Narrative		
	~~Raw~~ Statistical Data Output Information Comparing Test and Reference Tissue Chemistry		
	Time 0 tissue samples collected and archived frozen		
SAMPLING / SAMPLE HANDLING			
	Chain of Custody Forms for All Test, Control, and Reference Samples		
	Field Data Sheets and/or Sampling Logs (Including Photos If Available)		
	Log of Test Sediment Composite Preparation		
	Sieving – Size of Mesh Used for Samples Used in Toxicity Tests/Bioaccumulation specified		
	~~Holding Times for All Samples (Test, Reference, Control, Elutriate, Lab Saltwater) in Summary Chart Format~~		

Project Identification:

Reviewed by:

Review Date:

Laboratory:	**Suspended Particulate Phase Tests**					
	Minnow	**Review Comments**	**Data Acceptable (Y/N)**	**Mysid**	**Review Comments**	**Data Acceptable (Y/N)**
Test Species: Identify each species used for toxicology in the cells to the right	***Menidia beryllina* 9-14 days old**			***Americamysis bahia* 1-5 days old**		
Correct species used as stated in the SAP/QAPP? (Y/N)						
Control Survival Criterion Met (where applicable)? (Y/N)						
Reference Toxicant Response within 2 standard deviations of long term mean (where applicable)? (Y/N)						
Temperature within acceptable limits? (Y/N)						
Dissolved Oxygen within acceptable limits? (Y/N)						
pH within acceptable limits? (Y/N)						
Salinity within acceptable limits? (Y/N)						
Acclimation Procedures followed (where required)? (Y/N)						
Sediment Holding Time <8 wks? (Y/N)						
Statistical Analyses Appropriate? (Y/N)						
Ammonia Management conducted (where required)? (Y/N)						

			Solid Phase Tests					
Zooplankton	Review Comments	Data Acceptable (Y/N)	Amphipod	Review Comments	Data Acceptable (Y/N)	Crustacean	Review Comments	Data Acceptable (Y/N)
Americamysis bahia or Copepod ≤ 1 day old			*Leptocheirus plumulosus 3-5 mm, mixed sexes*			*Americamysis bahia (1 - 5 days old) or Neathes species*		

Bioaccumulation Potential Tests					
Sand Worm	Review Comments	Data Acceptable (Y/N)	Clam	Review Comments	Data Acceptable (Y/N)
Neanthes (Nereis) virens			*Macoma nasuta*		

APPENDIX A

SAP ERRATA 1

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 FORT POINT RD
GALVESTON, TEXAS 77550

Policy Analysis Branch

SUBJECT: Modification of Sampling and Analysis Plans for the Port of Corpus Authorities Department of the Army Permit Applications SWG-2019-00245 and SWG-2019-0067

Ms. Sarah Garza
Port of Corpus Christi Authority
400 Harbor Drive
Corpus Christi, Texas 78403

Dear Ms. Sarah Garza:

This is in reference to Port of Corpus Christi Authority's (PCCA) approved Sampling and Analysis Plans (SAPs) for both the Harbor Island Terminal permit application (SWG-2019-00245 dated August 2021 v.2) and the Channel Deepening Permit application (SWG-2019-00067 dated July 2021 v.2)

The Corps and EPA approved two sampling analysis plans for the PCCA's Harbor Island Terminal permit application and the Channel Deepening Permit application. The purpose of the approved SAP is to conduct dredge material testing pursuant to Section 103 of the Marine Protection, Research, and Sanctuaries Act. Subsequent to these approvals, PCCA contracted with Terracon to conduct both SAPs concurrently. In reviewing the two SAPs, Terracon identified several inconsistencies that complicated their concurrent collection efforts and requested several variances for safety. Terracon, on PCCA's behalf, submitted the attached errata requesting modifications to the SAPs.

The following is the Corps and EPA response to the attached errata and follow-up emails received from Terracon.

<u>General Note/Variance Requests</u>

- For Bullets 1, 2, 3, 4, and 8; the Corps and EPA agree to changes.
- To clarify for Bullet 5, the Corps and EPA confirm that the duplicate analysis is only for sediment and elutriate chemistry and that the duplicate sample is a separate sample taken at the DMMU, not a split from a single sample at a DMMU.

- In response to Bullet 6, the Corps and EPA agree to allow 300 feet in DMMUs CDP-01-05 in the channel offshore, but will not allow more than 100 feet for DMMUs CDP-06-09 inshore near Harbor Island. If greater distances are required, approval must be received prior to moving the location.
- In response to Bullet 7, you do not need to wait on discrete sediment chemistry results before proceeding to compositing and running further analysis.
- The Corps and EPA agree with Bullet 10, but would like to advise you that difficulties in locating *Mercenaria* for use in the analysis has been difficult recently and *Macoma* has been requested. You may use either species, but must notify the Corps and EPA of which one prior to conducting your analysis.

SAP #1 Harbor Island New Dock and Facilities Project

- To clarify for Bullet 1, the Corps and EPA confirm that the duplicate analysis is only for sediment and elutriate chemistry and that the duplicate sample is a separate sample taken at the DMMU, not a split from a single sample at a DMMU.
- For Bullets 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 the Corps and EPA agree.
- For Bullet 11, the EPA and Corps are requiring Organotins. Harbor Island is known to have recently had a facility with historic sandblasting, shipbreaking, maintenance, and repair work.

SAP # 2: PCCA CDP SAP

- To clarify for Bullet 1 the Corps and EPA confirm that the duplicate analysis is only for sediment and elutriate chemistry and that the duplicate sample is a separate sample taken at the DMMU, not a split from a single sample at a DMMU.
- Bullet 2 is correct and the Corps and EPA agree to the change.
- To clarify Bullets 3 & 4, the Corps and EPA agree that you are correct that elutriate is not required for reference or ODMDS. Bioassays are not required for ODMDS, but are required for reference. Similar to the Table 1 of the CDP SAP and Section 2.3.2 of the Harbor Island SAP, you should collect 1 composite sediment sample collected from 3 Corpus Christi New Work ODMDS substations for chemical and physical analysis, and collect 1 water sample from substation B.
- EPA and USACE require that samples are sent off within that 3-4 day window, all samples do not need to be together to send off vessel

- To clarify for Bullet 6, the Corps and EPA confirm that the duplicate analysis is only for sediment and elutriate chemistry and that the duplicate sample is a separate sample taken at the DMMU, not a split from a single sample at a DMMU. Table 3 of the PCCA CDP states the same holding times recommended in the Appendix B of the RIA. The Corps and EPA require the holding times recommended in the RIA.
- The Corps and EPA agree to the request in Bullet 7 that the SAP be modified to state that Hexavalent Chromium (Cr6+) will not be filtered or preserved at the lab, but rather in the field to extend the holding time from 24 hours to 28 days. All other constituents needing filtration will be filtered at the lab and where necessary, chemically preserved.
- The Corps and EPA agree with Bullet 8, but would like to advise you that difficulties in locating *Mercenaria* for use in the analysis has been difficult recently and *Macoma* has been requested. You may use either species, but must notify the Corps and EPA of which one prior to conducting your analysis.
- For Bullet 9, the EPA and Corps are requiring Organotins. Harbor Island is known to have recently had a facility with historic sandblasting, shipbreaking, maintenance, and repair work.

<u>Additional Question from 14 January 2022 Email</u>

- The Corps and EPA do not agree to this modification; sediment samples must be collected at three different subsample locations. Sediment subsamples will be collected at the coordinates identified in the SAP. The GIS files are not included in the approved SAP and should not be relied on to assure compliance with the SAP.

<u>Additional Question from 25 January 2022 Email</u>

- The Corps and EPA agree to align language to what is stated in Harbor Island SAP.

The Corps and EPA conclude that the changes agreed to in the discussion may be implemented for the upcoming sampling effort. Terracon is scheduled to mobilize their sampling effort January 31, 2022 which does not provide sufficient time to edit and re-approve the SAPs. Therefore, this letter and it's enclosures document the agreed-upon modifications to the SAPs.

Sincerely,

Robert W. Heinly

Robert W. Heinly
Chief, Policy Analysis Branch

Encl.

PCCA CDP and Harbor Island New Dock/Facilities
MPRSA Section 103 Projects
SAP Errata Sheet

Introduction

This document has been prepared to identify errors and inconsistencies within the two project-specific sampling and analysis plans (SAPs) and make suggestions for corrections prior to finalizing the SAPs and proceeding with the field sampling operations. This document will be reviewed by USACE and EPA, and they will provide feedback on the suggested edits and corrections.

General Notes/Variance Requests

1. Based the potential for extended stoppages on vessel traffic within the Corpus Christi Ship Channel (CCSC - greater than 6 hours), safety concerns expressed and shared by the Harbor Pilots and Terracon, and safety concerns that will arise due to strong tidal flow within the CCSC which could significantly hinder completion of centerline "B" stations from DMMUs CDP-07 through -09, we are requesting a variance to eliminate the centerline "B" stations from the proposed scope of work. We propose to collect additional sample volume at stations "A" and "C" to achieve adequate volume from these DMMUs.

2. Water elevation: The field team proposes to use real-time water level data from the NOAA tide station in Port Aransas (#8775237) for both projects.

3. Sample storage and preservation requirements: Samples will be stored at temperatures between 0 and 6°C, never frozen.

4. Given that sediment elevations at CDP-05 (estimated at -80 feet MLLW) are already at or near the project depth (less than 3 feet), we request approval to collect grab samples at the three stations rather than cores. The number of cores required to achieve adequate volume (upwards of 30 cores/station) is prohibitive from a sampling operations and logistics standpoint.

5. Duplicate sample analysis – typically it includes only sediment and elutriate chemistry, not toxicology. Confirm that this is what is required for both projects.

6. What are acceptable distances from proposed station locations? PCCA CDP SAP states 100 feet. It also states if a sample cannot be acquired at a designated location, the location will be moved the least distance possible within the DMMU, while remaining within the dredging prism, it must be coordinated with the EPA beforehand. We propose that the acceptable distances from the proposed station locations be extended to 300 feet., ensuring that the borings remain within the dredging prism, to allow for boring placement due to vessel traffic restrictions and/or underwater obstructions. If greater distances are required all modifications will be coordinated with the EPA beforehand.

    - Given that the field team may be sampling at hours outside of the normal business hours, can the field team use professional judgement to relocate a sampling station if an issue is encountered during hours where key agency contacts may not be

available? Reasons for relocation and new station selection will be fully documented.

7. Neither SAP indicates that we will wait on discrete sediment chemistry results before proceeding with compositing and running elutriate and toxicological analyses. Please confirm that we can direct the laboratory to move forward with compositing these samples and initiating elutriate and toxicological analyses upon sample receipt. The major concern is that if we have to wait for sediment chemistry results, which could take up to 3 weeks, we will not meet holding times for elutriate preparation because the site water holding times are 2 weeks. Also, we greatly reduce the time allowed for the toxicological testing to be completed within holding times. This could result in a deviation from the SAP(s) and standard holding time criteria, thus allowing parties to potentially challenge the validity of the data.

8. Request decontamination procedures are included in both SAPs as follows:

    - Flush with ambient water to remove all remnant sample material
    - Wash with Liquinox
    - Rinse with deionized water

9. Coordinate with GLO to see if there is a geophysical hazard survey for the offshore channel extension area.

10. For the bioaccumulation, the bent-nose clams (*Macoma nasuta*) are tide dependent; therefore, we would include an alternate, *Mercenaria.* This alternate is also a recommended species and can be found on page 30 of the RIA.

SAP #1: Harbor Island New Dock and Facilities Project

1. Page 14, Section 2.1, 1st sentence states "Sediment, water, and elutriate samples, plus one duplicate of each will be collected…."

    - Please confirm how we are collecting the duplicate sample? Is it a true duplicate or a split?

    - Confirm what the duplicate sample is being tested for? It is not clear or indicated in the SAP. Typically, a duplicate sample is analyzed for sediment and elutriate chemistry, not bioassay/bioaccumulation/tissue chemistry.

    - Are we collecting a duplicate water sample as well?

2. Page 16, Section 2.4, 3rd sentence states "All samples must be collected within a 3 to 4 day window to meet analytical holding times."

    - This language is a little unclear. Suggest editing this sentence to state *"As samples are collected, they will be transported to the laboratory every 3 to 4 days to meet analytical holding times for preparation and analysis."*

    - A table for analytical holding times was not included with this SAP. This should be added and match the table within the PCCA CDP SAP.

3. Page 16, Section 2.4, Bullet (3) states “Samples will be iced immediately after collection and be stored at temperatures between 0 and 6°C, never frozen, with 24 hours after collection”.

   The temperature range varies between the two SAPs. We suggest that the temperature criteria above be used for both projects. Another temperature reference on page 28.

4. Page 18, Section 2.5, 1st paragraph, 2nd sentence states “Before and after each use, all parts will be thoroughly cleaned by flushing with ambient water to remove all remnant sample material, washing with Liquinox, **rinsing with isopropyl alcohol**, and then rinsing with deionized water. Similar decontamination procedures are also mentioned on Page 19, 2nd paragraph, 3rd sentence.

   There are some inconsistencies with the decontamination procedures between the two SAPs. We suggest eliminating rinsing with isopropyl alcohol. The recommended decontamination procedures for both projects is listed below:

   1. Flush with ambient water to remove all remnant sample material
   2. Wash with Liquinox
   3. Rinse with deionized water

5. Table 1 (page 21), update to allow for appropriate time for duration of bio tests; 10 days, 28 days, etc.

6. Table 3 (page 26), error/inconsistency. Site water for DMMU 8 should be collected at 5B, not 5C per instructions in Table 2.

   Correct this error in Table 3.

7. Table 3 (page 26), error/inconsistency. Per Table 2, water is being collected at REF-B. Table 3 indicates that no water is being collected at the reference.

   Correct this error in Table 3.

8. Table 3 (page 26) – column for sediment chemistry should state “Discrete” instead of “Composite”.

   Correct in Table 3.

9. Page 27, 1st sentence of paragraph should state “In order to complete all required analytical and toxicology testing,”

10. Page 29, update to state, “Sediment sample data will be reported as dry weight and tissue sample data will be reported as dry weight and wet weight.”

11. Page 31, please confirm that Organotins are needed for this project. Sites with historic sandblasting, shipbreaking, maintenance, and repair would warrant this analysis.

12. Page 33, bulleted list – indicates sediment chemistry will be analyzed on composite samples.

    Correct this bullet to indicate that sediment chemistry/physicals will be analyzed on discrete samples, not composites.

13. Page 41, include option of Mercenaria mercenaria as referenced above.

14. In Section 3.3, Table 4, indicates a volume of site water of 10 gallons for each site water per sample.

    NWDLS requires about 40-45 gallons of water per site for toxicology. Update Table 4 to reflect volume requirements for NWDLS. Also update the sediment to be 35-40 gallons per sample.

SAP #2: PCCA CDP SAP

1. Page 2-1, Section 2.1, first sentence states "Sediment, water, and elutriate samples, plus one duplicate of each will be collected…."

   - Please confirm how we are collecting the duplicate sample? Is it a true duplicate or a split?
   - Confirm what the duplicate sample is being tested for? It is not clear or indicated in the SAP. Typically, a duplicate sample is analyzed for sediment and elutriate chemistry, not bioassay/bioaccumulation/tissue chemistry.
   - Are we collecting a duplicate water sample as well?

2. Table 1 indicates that sediment samples and elutriate samples will be comprised of a composite of three (3 subsamples.

   This table should be edited to show that DMMU CDP-06 through -09 require discrete sediment chemistry/physical on the subsamples.

3. Page 2-4, 1st paragraph, 2nd sentence – "Only three water samples will be collected from the New Work ODMDS. One water sample will be collected from the central location at each station from approximately mid-column depth."

   Confirm that 3 water samples from the ODMDS is required. This does not match the requirements of the other SAP and does not match the bullet on page 2-5.

4. Page 2-5, Table 2. Indicates elutriate analysis is required for the reference, and elutriate and bioassays are required for the ODMDS.

   This does not match what is in Table 1. Typically elutriate is not required for the reference or ODMDS. Bioassays are not required for the ODMDS.

5. Page 2-6, Section 2.4, 3rd sentence states "All samples must be collected within a 3 to 4 day window to meet analytical holding times." .

   This language is a little unclear. Suggest editing this sentence to state *"As samples are collected, they will be transported to the laboratory every 3 to 4 days to meet analytical holding times for preparation and analysis."*

6. Table 3 includes holding times for sediment and site water.

   - Under the sediment holding time requirements, it allows up to 8 weeks for the elutriate prep for the sediment. However, under the site water section, it only allows 2 weeks for the elutriate preparation.

   - The table also indicates that 35 gallons of sediment will be collected for the duplicate. This implies that the duplicate will be analyzed for full Tier III, including bioassays. Confirm what is required for the duplicate sample analysis. Usually it is just physicals and sediment and elutriate chemistry.

   - For sediment, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days. TOC and Ammonia both have holding times of 28 days.

   - For water, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days and Pesticides is 7 days. Mercury and Ammonia both have holding times of 28 days.

7. Section 2.6, page 2-13, 5th paragraph. States "All water samples that will be submitted for any type of chemical analyses will be field filtered….."

   We suggest filtering samples at the lab due to time/equipment needed to filter in the field. The one exception is Cr6+ for waters which has to be field filtered and preserved to extend the holding time from 24 hours to 28 days.

8. Page 2-14, include option of Mercenaria mercenaria as referenced above.

9. Page 4-3, please confirm that Organotins are needed for this project. Sites with historic sandblasting, shipbreaking, maintenance, and repair would warrant this analysis

Hudson, Jayson M CIV USARMY CESWG (USA)

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, January 25, 2022 2:09 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA); Garza, Sarah; Schulz, Robert; McNeil, Harrison
Cc: Rajulu, Prasad; Barker, Tom; Michelle Rau; Michael Madonna; Paul Berman
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata

Importance: High

Jayson,

Our environmental laboratory just caught one additional discrepancy within the SAPS. In the PCCA CSP SAP, page 2-13 says that all water samples for any type of chemical analyses will be filtered, with the exception of VOC, Hg, and Se. Typically, only Metals, excluding Hg and Se, are filtered. This appears to be an error as the it differs from the Harbor Island SAP and the typical sampling protocol required by the USACE.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, January 25, 2022 7:22 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Gregg,

The Corps and EPA have reviewed the request and are currently working to document the administrative record for both permit applications to finalize our response. We should be able to provide our formal response in a few days.

Thanks,

Jayson M Hudson

Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Monday, January 24, 2022 3:43 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson,

I was just checking as to when we might receive responses to the Errata and the various questions below as we need to begin finalizing everything on our end to be ready to commence by the 31st. Thanks and I look forward to your response.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Pawlak, Gregg A.
Sent: Friday, January 21, 2022 3:25 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson,

The response in red below will hopefully provide the clarification to your questions. Let me know if you need any additional information.

6. Table 3 includes holding times for sediment and site water.

- Under the sediment holding time requirements, it allows up to 8 weeks for the elutriate prep for the sediment. However, under the site water section, it only allows 2 weeks for the elutriate preparation.

  As two weeks is the correct hold time for site water elutriate preparation, please modify Table 3 to reflect the same hold time for the sediment elutriate preparation, from 8 weeks down to 2 weeks.

- The table also indicates that 35 gallons of sediment will be collected for the duplicate. This implies that the duplicate will be analyzed for full Tier III, including bioassays.

  We need the USACE/EPA to confirm what is required for the duplicate sample analysis. Usually it is just physicals and sediment and elutriate chemistry.

- For sediment, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days. TOC and Ammonia both have holding times of 28 days.

  Please update Table 3 in the SAP to reflect this

- For water, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days and Pesticides is 7 days. Mercury and Ammonia both have holding times of 28 days.

- *Please update Table 3 in the SAP to reflect this*

7. Section 2.6, page 2-13, 5th paragraph. States "All water samples that will be submitted for any type of chemical analyses will be field filtered….."

Cr6+ is defined as Hexavalent Chromium and the reference method specifically requires field filtration and preservation; therefore, we request that the SAP be modified to state that Hexavalent Chromium (Cr6+) will not be filtered or preserved at the lab, but rather in the field to extend the holding time from 24 hours to 28 days. All other constituents needing filtration will be filtered at the lab and where necessary, chemically preserved.

Gregg

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Friday, January 21, 2022 10:28 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert

<rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

After discussion with EPA, we need some clarification on two of the statements, both on Page 5 under SAP#2. We are unclear what you are asking for under bullet 6 and we would like for you to define Cr6+ under bullet 7.

Thanks,

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Friday, January 14, 2022 10:29 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Sarah and Jason,

We have one additional question that we would like to ask related to the sampling protocol outlined in the SAPs that was not covered in the Errata. Would it be acceptable to collect all of the volume for the reference sample and the ODMDS sample at a single location (e.g. REF-B, ODMDS-B) rather than at three (3) subsample locations? The reason for this request is that we are collecting these grabs samples from the lift boat, and that will require spudding down to secure the vessel in place before initiating sampling operations. Given the strong tidal currents, potential for rough sea conditions, and the challenges of meeting holding times, we are looking for ways to improve safety and increase efficiency in the field. By only having to secure the lift boat at one location for the reference and ODMDS sample collection, that will allow us to collect all of the required volume of sediment and water in the most efficient manner. The field team will be using a crane on the lift boat to deploy the double van veen sampler. The operator can rotate the crane boom in a semi-radius pattern off the bow to deploy the device at various points for representative sample collection.

Also, attached is a map depicting the proposed reference and ODMDS sample locations. There is some discrepancy in sample locations based on the coordinates provided in the SAPs (CDP and Harbor Island) and the GIS files that were provided by PCCA. Please confirm which set of coordinates we should be using.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Pawlak, Gregg A.
Sent: Monday, January 10, 2022 4:48 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: Harbor Island SAP and PCCA CDP SAP Errata - Filed - 1/11/2022 9:44:07 AM
Importance: High

Sarah and Jason,

Attached is the Errata Sheet which has been prepared to identify errors/inconsistencies within the two project-specific sampling and analysis plans (SAPs) and to make suggestions for corrections prior to finalizing the SAPs and proceeding with the field sampling operations. Please provide any feedback on the suggested edits and corrections. Also, I am pretty sure I did not include all team members on this email, so feel free to forward along to anyone I accidentally omitted.

Click on the link below to download the two SAPS which contain highlights/comments themselves to help show where errors/inconsistencies to be clarified/revised.

https://terracon.sharefile.com/d-se5c64abbc3dd42d987cb2c286e1b28f2

Gregg

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APPENDIX A

SAP EMAIL CORRESPONDENCE

Pawlak, Gregg A.

From:	Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent:	Thursday, February 3, 2022 7:21 AM
To:	Pawlak, Gregg A.; Garza, Sarah; Schulz, Robert; McNeil, Harrison
Cc:	Barker, Tom; Michelle Rau; Michael Madonna; Paul Berman; Jaime Vasquez; Rajulu, Prasad
Subject:	RE: Modification to Sampling Protocols - Harbor Island Land-Based Borings - Filed - 2/3/2022 7:42:53 PM

Greg,

The Corps and EPA agree to the use of the hollow auger to address the sand flows in the DMMU listed below.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Wednesday, February 2, 2022 12:16 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] Modification to Sampling Protocols - Harbor Island Land-Based Borings

Jayson,

As discussed on the call this morning, during drilling activities at land-based borings 2A and 2B on Harbor Island yesterday, saturated flowing sands were encountered within both borings at depths commencing between 25 to 30 feet below ground surface (bgs / sample depths of 15 and 20 feet, respectively once top 10 feet of discarded sediment was taken into account per the SAP). Once encountered, these flowing sands extended throughout the depth of the borings (35 and 40 feet from the ground surface) and created substantial problems during drilling activities including significantly reduced sample recovery and sample barrels becoming trapped within the augers due to the upwelling of flowing sands. This upwelling is likely influenced and bolstered by the strong tidal movements within the adjacent channel. Upon removal of the sample barrels, which took up to 20 minutes at greater sample depths, between 5 to 8 feet of flowing sand upwelled into the augers as well. This upwelling of flowing sands will make it virtually impossible to drill beyond a depth of 35 to 40 feet below the ground surface unless a change to the drilling and sampling approach is conducted. Due to the unconsolidated nature of the sand within the proposed dredging footprint, it is Terracon's opinion that these conditions will be encountered throughout the entire site.

Therefore, to address the issue of flowing sands, Terracon proposes to collect sediment samples at all land-based boring locations/DMMUs (1A through 3C) utilizing the following approach:

1) Screen off the top 10 feet of sediment which is under the jurisdiction of the Railroad Commission with of Texas (RRC) with 6 5/8-inch diameter decontaminated hollow-stem augers (HSA).
2) Drill within the 6 5/8-inch HSA with 6-inch solid flight augers collecting sediment in the form of cuttings from the 0 to 30 feet sampling interval. The sediment will come up inside the HSAs thus preventing contact with the 0 to 10 feet sediment interval.
3) Upon completion of sampling, the 6 5/8-inch HSAs will be decontaminated. Following decontamination, drill to a depth of 40 feet bgs (start of the 30 to 60 feet sampling interval). This will screen of the sediment that is under the jurisdiction of the RRC as well as the 0 to 30 feet sample interval (DMMU). To prevent soil from entering the 6 5/8-inch HSAs during drilling, a lead drill plug will be placed within the augers that can be removed upon reaching the target depth.
4) Once set at a depth of 40 feet bgs, drill within the 6 5/8-inch HSA with decontaminated 6-inch solid flight augers collecting sediment in the form of cuttings from the 30 to 60 feet sampling interval (DMMU).
5) This step will be repeated at each boring location (1A through 3C and associated DMMUs). Note that sampling equipment will be decontaminated prior to commencement of the project and following the installation of each soil boring.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Monday, February 14, 2022 8:42 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: RE: Harbor Island SAP and PCCA CDP Update - Filed - 2/15/2022 10:13:09 AM

The Corps and EPA agree you may use the ponar. We have also noted the location variances

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Friday, February 11, 2022 10:24 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] Harbor Island SAP and PCCA CDP Update

Jayson,

Below is a brief bulleted summary regarding the status of the project.

- Terracon has completed all of the Harbor Island land-based borings and water-based borings with the exception of DMMU 8 – 5C, which had a deck to mudline of 62' from the top of the barge, or 58 feet MLLW. This location matches the depth of DMMU 8 – 5D, which Terracon completed yesterday. The sediment conditions and both 5C and 5D appear to consist of extremely unconsolidated material, and it took an entire day of drilling with numerous borings to recover 2-gallons of unconsolidated sediment from DMMU – 5D. Surface Water samples have also been collected from DMMU – 4A and DMMU – 4B.

  Due to sediment elevations at DMMU 08 – 5C and the lack of sufficient recovery anticipated from the 2-feet of unconsolidated sediment, Terracon requests that we collect samples of the unconsolidated sediment within the dredge prism utilizing a ponar sampler on Monday to compete the last location within DMMU 8. We will be collecting the last set of water samples from DMMU 8 – 5B on Monday utilizing our support boat and can collect the unconsolidated sediment samples from DMMU 8 – 5C at that time.

- As of this morning, February 11th, we have commenced with PCCA CDP borings and are currently advancing boring CDP - 6A.

Location variance for borings DMMU 8 – 5A and DMMU 8 – 5B due to real time encountered conditions

- The gps coordinates for sediment collected from DMMU 8 - 5A on February 9th are 24.84366349, -97.06833808. This location is approximately 35 feet northwest of the 100-foot radius of the target location, but well within the dredging unit. The location of the boring was affected by strong currents encountered by the lift boat while maneuvering into position and prior to finding the bottom while jacking up the barge. The Captain also wanted to ensure that the barge was positioned a safe distance from daily ferry traffic.

- The gps coordinates for sediment collected from DMMU 8 - 5B on February 8th are 27.84405967, -97.06603766. Due to deep water surrounding the 5B target location (depths to mudline greater than 50) and strong currents encountered by the lift boat, the boring was moved approximately 15 feet northeast of the 100-foot radius to encounter the only bathymetry within the vicinity of the target location shallow enough to produce a sufficient core for the required sediment volume.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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gregg.pawlak@terracon.com I terracon.com

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Thursday, February 3, 2022 3:03 PM
To: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

The Corps and EPA agree to the changes in location for the DMMU substations listed below.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Sent: Thursday, February 3, 2022 9:33 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Pawlak, Gregg A.

<Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Good Morning Jayson,

As requested yesterday, following inspection of the various water-based boring locations upon arrival to Harbor Island, Terracon in concurrence with the Captain of the Lift Boat, have determined that several of the locations will need to be relocated in order to safely complete the borings as indicated below:

- *Location 4A (proposed coordinates 27.844296, -97.068625)* - Depth of boring in 4 feet of water and boat drafts in 10 feet of water. Therefore, we request that the boring be moved 230 feet to the southeast.
- *Location 4C (proposed coordinates 27.844409, -97.065228)* – Upon arrival to Station 4C with the lift barge yesterday, shallow water depths and rock/rubble/concrete debris was observed in the location of Station 4C. The lift barge has a draft depth of approximately 10 feet. This is considered a safety hazard for the barge and operations. We request that the boring be moved 400 feet to the west.
- *Location 5D (proposed coordinates 27.844819, -97.061532)* - According to the Captain of the Dularge, they were involved with the original demolition of the structures at Harbor Island. Due to the remnants of the former structures in the vicinity of boring 5D, that boring will need to be relocated a proposed 230 feet to the southeast in order to safely advance the boring.

Please note that the above referenced coordinates are only an estimate and have been provided to the USACE and EPA at their request for approval so that the project can continue to advance in a timely manner with minimal disruptions to the schedule. The ultimate locations of the borings will be based on real time site conditions for tide state, wind direction, weather, midline depth for positioning the lift boat (drafts in 10 feet of water), and ultimate determination by the Captain regarding where he can safely maneuver the Lift Boat in order to advance the borings. Real time boring locations will be provided to the USACE and EPA if we are unable to safely advance the borings within 100 feet of the newly proposed locations.

Prasad Rajulu, P.E.
Senior Associate
Site Investigations Group Mananger I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Wednesday, February 2, 2022 9:53 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Thank you, that confirms my suspicion. It is a little easier to coordinate with EPA if you can provide coordinates of the proposed new locations in addition to distance and cardinal direction from the approved location.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Wednesday, February 2, 2022 9:47 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson,

I have spoken with our crew on the boat as well as the Captain of the Dularge (Lift Boat). According to the Captain, they were involved with the original demolition of the structures at Harbor Island and moving east of boring 4C would present similar if not new problems. Also, due to the remnants of the former structures in the vicinity of boring 5D, that boring will likely need to be relocated to the east in order to safely advance the boring later in the project as well.

Gregg

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Wednesday, February 2, 2022 9:18 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

I have reached out to EPA and will let you know ASAP. Quick question, does the debris continue to the east or does station 4C moving east present the same or new problems?

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Wednesday, February 2, 2022 8:55 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson and Sarah,

Upon arrival to Station 4C with the lift barge this morning, shallow water depths and rock/rubble/concrete debris was observed in the location of Station 4C. The lift barge has a draft depth of approximately 10 feet. This is considered a safety hazard for the barge and operations. Can the distance be expanded greater than 100 feet to be 225 feet west of the current Station 4C to ensure we are out of the rock/rubble/concrete debris?

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Sent: Tuesday, February 1, 2022 2:32 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>; Jaime Vasquez <jaime@envirotech-services.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Good Afternoon All,

We would like to have a call tomorrow morning to discuss the lithology at Harbor Island with flowing sand that is preventing to drilling deeper than 35 to 40 feet. We will need to discuss potential changes to the sampling plan. Photographs and videos will be send shortly that documents the field activities.

Prasad Rajulu, P.E.
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Site Investigations Group Mananger I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Monday, January 31, 2022 11:43 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

You are correct that you do not need to test for organotin in the offshore samples of the PCCA CDP SAP.

The Corps and EPA are requiring a separate sample taken at the DMMU for duplicates.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Friday, January 28, 2022 1:44 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Jayson,

Thank you for providing us with the USACE's and EPS's responses to the Errata. Upon review of the responses we would still request more clarification regarding collection of duplicate sediment samples.

"The Corps and EPA confirm that the duplicate analysis is only for sediment and elutriate chemistry and that the duplicate sample is a separate sample taken at the DMMU, not a split from a single sample at a DMMU."

- Per our understanding the duplicate samples are to be collected from their own individual core samples. Since the nature of duplicate samples is to assess the precision of the laboratory and the analytical methods used, the duplicate sample is typically collected as a subset of a select sample so that the laboratory is analyzing what would be considered a representative/homogeneous sample. If the duplicate is collected from its own individual core rather than as a subset of a submitted sample, due to the heterogeneity of soil/sediment, it may be difficult to truly cross-check the laboratory as the analytical data from two separate boring locations could differ significantly. This could be even more relevant with the water borings as the barge may need to be repositioned several feet in order to advance separate core samples.

We also want to confirm that organotins are not required for the offshore samples as indicated in the PCCA CDP SAP, but rather only for the inshore borings close to Harbor Island (CDP-06 through CDP-09) where organotins could potentially be a chemical of concern.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Friday, January 28, 2022 8:25 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Attached is the Corps and EPA's response to your request to modify the Channel Deepening SAP and the Harbor Island SAP.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, January 25, 2022 2:09 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Jayson,

Our environmental laboratory just caught one additional discrepancy within the SAPS. In the PCCA CSP SAP, page 2-13 says that all water samples for any type of chemical analyses will be filtered, with the exception of VOC, Hg, and Se. Typically, only Metals, excluding Hg and Se, are filtered. This appears to be an error as the it differs from the Harbor Island SAP and the typical sampling protocol required by the USACE.

Gregg

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, January 25, 2022 7:22 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Gregg,

The Corps and EPA have reviewed the request and are currently working to document the administrative record for both permit applications to finalize our response. We should be able to provide our formal response in a few days.

Thanks,

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Monday, January 24, 2022 3:43 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson,

I was just checking as to when we might receive responses to the Errata and the various questions below as we need to begin finalizing everything on our end to be ready to commence by the 31st. Thanks and I look forward to your response.

Gregg

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From: Pawlak, Gregg A.
Sent: Friday, January 21, 2022 3:25 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

Jayson,

The response in red below will hopefully provide the clarification to your questions. Let me know if you need any additional information.

6. Table 3 includes holding times for sediment and site water.

- Under the sediment holding time requirements, it allows up to 8 weeks for the elutriate prep for the sediment. However, under the site water section, it only allows 2 weeks for the elutriate preparation.

  As two weeks is the correct hold time for site water elutriate preparation, please modify Table 3 to reflect the same hold time for the sediment elutriate preparation, from 8 weeks down to 2 weeks.

- The table also indicates that 35 gallons of sediment will be collected for the duplicate. This implies that the duplicate will be analyzed for full Tier III, including bioassays.

  We need the USACE/EPA to confirm what is required for the duplicate sample analysis. Usually it is just physicals and sediment and elutriate chemistry.

- For sediment, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days. TOC and Ammonia both have holding times of 28 days.

  Please update Table 3 in the SAP to reflect this

- For water, PCBs and Pesticides are lumped together but PCBs have an extraction holding time of 365 days and Pesticides is 7 days. Mercury and Ammonia both have holding times of 28 days.

- *Please update Table 3 in the SAP to reflect this*

7. Section 2.6, page 2-13, 5th paragraph. States “All water samples that will be submitted for any type of chemical analyses will be field filtered…..”

Cr6+ is defined as Hexavalent Chromium and the reference method specifically requires field filtration and preservation; therefore, we request that the SAP be modified to state that

Hexavalent Chromium (Cr6+) will not be filtered or preserved at the lab, but rather in the field to extend the holding time from 24 hours to 28 days. All other constituents needing filtration will be filtered at the lab and where necessary, chemically preserved.

Gregg

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Senior Scientist I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Friday, January 21, 2022 10:28 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: RE: Harbor Island SAP and PCCA CDP SAP Errata

After discussion with EPA, we need some clarification on two of the statements, both on Page 5 under SAP#2. We are unclear what you are asking for under bullet 6 and we would like for you to define Cr6+ under bullet 7.

Thanks,

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Friday, January 14, 2022 10:29 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Harbor Island SAP and PCCA CDP SAP Errata
Importance: High

Sarah and Jason,

We have one additional question that we would like to ask related to the sampling protocol outlined in the SAPs that was not covered in the Errata. Would it be acceptable to collect all of the volume for the reference sample and the

ODMDS sample at a single location (e.g. REF-B, ODMDS-B) rather than at three (3) subsample locations? The reason for this request is that we are collecting these grabs samples from the lift boat, and that will require spudding down to secure the vessel in place before initiating sampling operations. Given the strong tidal currents, potential for rough sea conditions, and the challenges of meeting holding times, we are looking for ways to improve safety and increase efficiency in the field. By only having to secure the lift boat at one location for the reference and ODMDS sample collection, that will allow us to collect all of the required volume of sediment and water in the most efficient manner. The field team will be using a crane on the lift boat to deploy the double van veen sampler. The operator can rotate the crane boom in a semi-radius pattern off the bow to deploy the device at various points for representative sample collection.

Also, attached is a map depicting the proposed reference and ODMDS sample locations. There is some discrepancy in sample locations based on the coordinates provided in the SAPs (CDP and Harbor Island) and the GIS files that were provided by PCCA. Please confirm which set of coordinates we should be using.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Pawlak, Gregg A.
Sent: Monday, January 10, 2022 4:48 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Paul Berman <PBerman@anamarinc.com>
Subject: Harbor Island SAP and PCCA CDP SAP Errata - Filed - 1/11/2022 9:44:07 AM
Importance: High

Sarah and Jason,

Attached is the Errata Sheet which has been prepared to identify errors/inconsistencies within the two project-specific sampling and analysis plans (SAPs) and to make suggestions for corrections prior to finalizing the SAPs and proceeding with the field sampling operations. Please provide any feedback on the suggested edits and corrections. Also, I am pretty sure I did not include all team members on this email, so feel free to forward along to anyone I accidentally omitted.

Click on the link below to download the two SAPS which contain highlights/comments themselves to help show where errors/inconsistencies to be clarified/revised.

https://terracon.sharefile.com/d-se5c64abbc3dd42d987cb2c286e1b28f2

Gregg

Gregg Pawlak

Senior Scientist I Environmental Department

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Pawlak, Gregg A.

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, January 17, 2023 2:11 PM
To: Garza, Sarah
Cc: HEINLY, Robert W CIV USARMY CESWG (USA)
Subject: RE: Harbor Island and CDP Resampling Events

Sarah,

I have spoken with the EPA. The reference sites samples were within holding times. However, since the reference site is being re-sampled, the ODMDS would also need to be re-sampled. All results from this re-sampling effort will be considered the data to be used going forward with the exception of the DMMUs on the CDP that were clarified earlier that they did not have to be re-sampled.

In other words, the consultants don't get to pick and choose the reference data results they want to use in their statistical analysis when the report is written.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Garza, Sarah <Sarah@pocca.com>
Sent: Monday, January 16, 2023 9:31 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] Fwd: Harbor Island and CDP Resampling Events

Good morning, Jayson,

Terracon is asking if you will require them to repeat the ODMDS samples or only the reference sample. I suggest that only the reference sample would be needed but want to get your concurrence.

Terracon has mobilized this morning and starting both the terrestrial and marine resampling efforts. Terracon also indicated this morning in our weekly call that they will be copying you on the end of day field summary emails.

Please advise if you will require them to repeat the ODMDS sample.

Thank you.

Sarah L. Garza

Director of Environmental Planning & Compliance
Port of Corpus Christi
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From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Monday, January 9, 2023 2:45 PM
To: Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>
Subject: Harbor Island and CDP Resampling Events

Sarah,

As we discussed this morning, we only have one question that requires clarification from the USACE regarding our resampling event related to all of the Harbor Island borings as well as CDP boring locations CDP-06 (A through C) and CDP-07 (A & C).

1. Do we only need to resample the Reference Area for this round of sampling or do we need to include resampling of the ODMDS as well?

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

Terracon
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Pawlak, Gregg A.

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, January 24, 2023 3:43 PM
To: Pawlak, Gregg A.; sarah@pocca.com; Schulz, Robert; McNeil, Harrison; HEINLY, Robert W CIV USARMY CESWG (USA)
Cc: Rajulu, Prasad; Porter, Sheraden J.; Michael Madonna; Barker, Tom; Michelle Rau
Subject: RE: Update Regarding Station DMMU 8-5D Sampling Efforts

Gregg,

The Corps and EPA have reviewed the information provided and evaluated the requirements of the existing SAP. Based on this analysis we have concluded that that the use of the van veen at DMMU 8-5D will comply with the SAP as long as it is capable of penetrating the sediment surface to the depths outlined in Section 2.6and appropriately weighted to counteract currents during decent. Therefore, the sediment collected will include approximately 2 ft of sediment or approx. -62 MLLW.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, January 24, 2023 9:03 AM
To: sarah@pocca.com; Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Porter, Sheraden J. <Sheraden.Porter@terracon.com>; Michael Madonna <mmadonna@anamarinc.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] Update Regarding Station DMMU 8-5D Sampling Efforts
Importance: High

Jayson,

I just wanted to send a follow-up email regarding Terracon's attempt to sample station DMMU 8-5D last Thursday, January 19th. As stated in the email below, while on station DMMU 8-5D, the marine field team on the DuLarge Lift Boat documented water depths greater than the project depth of -60' MLLW at two separate locations. The first water depth was 60.4' (adjusted for MLLW) at a location approximately 75' to the east of the original station location for 5D as listed in the SAP. The second water depth was 66.8' MLLW at a location approximately 20' to the west of the original 5D station location. High winds (20 knots), incoming tide, and remnants of the former pier/docking structures observed in close proximity of station DMMU 8-5D prevented the DuLarge Lift Boat from attempting to get closer to Harbor Island to document water depths within the dredge unit boundary. Based on the boat navigation depth plotter reviewed, the water depths increased the further south and east in the direction of the navigation channel. Photographs taken from the Lift Boat of the area at 5D are attached.

- It should be noted that during the February 2022 sampling event Terracon was only able to collect 2.0-gallons of sediment at station DMMU 8-5D from four separate cores and a grab sample as the depth to mudline was -58.2'MLLW at the tie of sampling.

Due to the depths to mudline in the vicinity of DMMU 8-5D which are already greater than the project depth of -60' MLLW, Terracon requests authorization to collect a grab sample at station DMMU 8-5D using a double van veen sampler. The field team will collect approximately 5-gallons of sediment from DMMU 8-5D for the discrete chemistry sample analysis and to supplement the composite sample with DMMU-8-5A, 5B, and 5C sediment (all collected to project depth) for appropriate elutriate and toxicology analysis in accordance with the SAP. At present Terracon should complete all Inner Harbor borings by tomorrow and will be releasing the Lift Boat at the end of the day. We plan to collect sediment and/or water from the Reference, ODMDS and Station DMMU 8-5D this coming Friday using a marine vessel supplied by Ryan Marine.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Pawlak, Gregg A.
Sent: Thursday, January 19, 2023 8:42 PM
To: po@accpilots.com; Anthony.M.Garofalo@uscg.mil; Russell@pocca.com; ops@accpilots.com; vp@accpilots.com; kmalone@accpilots.com; sarah@pocca.com; Jayson.M.Hudson@usace.army.mil
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Porter, Sheraden J. <Sheraden.Porter@terracon.com>; Michael Madonna <mmadonna@anamarinc.com>; Barker, Tom <Tom.Barker@terracon.com>; Michelle Rau <MRau@anamarinc.com>
Subject: PCCA End of Day Update - Terracon (01_19_2023)
Importance: High

Everyone,

Terracon completed land-based borings DMMU 5 – 3C (0-30') / DMMU 6 – 3C (30-60') and DMMU 3 – 2A (0-30') / DMMU 4 – 2A (30-60') today. We will commence with the last remaining land-based boring DMMU 3 – 2B (0-30') / DMMU 4 – 2B (30-60') tomorrow morning.

In addition to the land-based borings referenced above, the marine field team completed core sampling at DMMU 8-5B and then moved to station DMMU 8-5D. While on station DMMU 8-5D, the marine field team documented water depths of 60.4' (adjusted for MLLW) at a location ~75' to the east of the original station location for 5D as listed in the SAP, and 66.8' at a location ~20' to the west of the original 5D station location. Wind, incoming tide, and remnants of the former pier/docking structures observed in close proximity of station 5D prevented the Lift Boat from attempting to get closer to Harbor Island to document water depths within the dredge unit boundary. Based on the boat navigation depth plotter reviewed, water depths increase the further south and east in the direction of the navigation channel. The

marine field team also attempted to approach the location of DMMU 8-5C. However, wind and the strong incoming tide prevented Lift Boat maneuverability to setup on this station.

Tomorrow morning the field team will mobilize to DMMU 8-5C to document the water depth and depth to mud line elevation for coring activities. The field team will then move to the Channel Deepening station CDP-07A located on the north side of the shipping channel and then CDP-07C located on the south side of the channel. As requested, they will continue to broadcast their projected moves and location on Channel 12 and 16.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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Michael Madonna

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Friday, February 3, 2023 9:47 AM
To: Monica Martin; Paul Berman; Michael Madonna; Michelle Rau
Cc: Rajulu, Prasad
Subject: FW: Clams Species for 28D Bio

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

The EPA and USACE concur with the referenced clam substitution.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Friday, February 3, 2023 8:35 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>
Subject: RE: Clams Species for 28D Bio

I wanted to verify for you that Corps and EPA concur with the substitution.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

Please tell me how I am doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Thursday, February 2, 2023 11:01 AM
To: Garza, Sarah <Sarah@pocca.com>; Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Schulz, Robert <rschulz@pocca.com>; McNeil, Harrison <hmcneil@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>

Subject: [URL Verdict: Neutral][Non-DoD Source] FW: Clams Species for 28D Bio
Importance: High

Jayson,

Please see the email from NWDLS below regarding the clams that are available for the upcoming bioassay testing due to the very poor weather that has impacted the west coast recently.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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From: Monica Martin <monica@nwdls.com>
Sent: Thursday, February 2, 2023 10:40 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Cc: Paul Berman <PBerman@anamarinc.com>; Michelle Rau <MRau@anamarinc.com>; Michael Madonna <mmadonna@anamarinc.com>; Theran Gay <theran.gay@nwdls.com>
Subject: Clams Species for 28D Bio
Importance: High

Good Morning,

Regarding the status of the bent-nose clams (*Macoma nasuta*), there has been very poor weather on the west coast which has affected the tides. Therefore, our supplier is having a very tough time obtaining them and NWDLS will be utilizing the alternate, *Mercenaria mercenaria*. These are readily available thus will allow us to adhere to the project schedule.

Let me know if you have any questions.

Regards,

NWDLS North Water District Laboratory Services, Inc.

Monica O. Martin
Chief Administrative Officer

130 South Trade Center Parkway • Conroe, TX 77385

936.321.6060, Direct x204
832.482.8975
monica@nwdls.com

www.nwdls.com

Find us on

Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

Pawlak, Gregg A.

From:	Pawlak, Gregg A.
Sent:	Wednesday, April 5, 2023 12:50 PM
To:	Michael Madonna
Cc:	Rajulu, Prasad
Subject:	FW: Sediment Sampling Concurrence - SWG-2019-00067 and SWG-2019-00245

Date of concurrence from EPA and USACE for resampling was December 14th. A quote from the email is provided for reference.

"The EPA and the Corps are requiring all of Tier II and Tier III be conducted on the re-collected samples. To put it simply, this is a complete re-do for DMMUs 6 and 7. DMMUs 8 and 9 were considered compliant and do not need to be re-sampled."

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

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APPENDIX B

FIELD PAPERWORK

ANAMAR Environmental Consulting Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DHMU 1-1A (0 to 30) Sampled By: GP, RL

Sampling Date: 11/16/2023 Client: PCCA

Start Sampling Time: 1330 End Sampling Time: 1420

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gallons

Sediment Container(s):

Type and Number: Teflon® 1 - chem Glass ____ Plastic 2 - 40z Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): - Waypoint ID: ____

- Water Depth (ft): - GPS ID: ____

= Top of Core Elevation (ft): 0' (10' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): 30' (40' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0-5 5-10 (10-15) >15

Sea State (circle one) Calm 1-2 ft 2-3 ft 3-4 ft 4-5 ft >5 ft Other ____

Weather (circle one) (Sunny) P Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N (NE) E SE S SW W NW

Notes: 0 - 10' bgs discarded, Core starts at 10' bgs

1 - 5gal bucket - chemistry

2 - 5gal bucket - toxicology

Decon augers before drilling second interval 30-60' (40-70' bgs)

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** PHMU1-1R (0 to 30)

Sampling Date: 11/6/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 1330 - 1420	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length _____
Bottom of core elevation (ft): -30 (41' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded		
10-41'	Silty Sand grey wet, very soft, lacks distinctly fine grained, shell fragments throughout (0 to -30 interval)		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU2 - 1A (-20 to 60) Sampled By: GP, RW

Sampling Date: 11/6/2023 Client: PCCA

Start Sampling Time: 1600 End Sampling Time: 1720

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gallons

Sediment Container(s):

Type and Number: Teflon® 1 = Chem Glass ____ Plastic 2 = Tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -30 -60 (70' bgs)

Tidal Cycle (circle two) Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots) 0–5 5–10 (10–15) >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one) (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N (NE) E SE S SW W NW

Notes:

1 - 5gal bucket - Chemistry

2 - 5gal buckets - Toxicology

Teflon augers before setting up at next station

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU2-1A (30ft-6ft)

Sampling Date 11/16/2023 **Photograph(s) Taken (circle one):** Yes No

Core diameter (inches): 3

Core 1 **Time** 1600 - 1720	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -60 (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-55	Sand, tan/grey, wet very soft, lacks plasticity fine grained, shell fragments		
55-70	Clayey sand, grey, moist, firm, no-low plasticity, limonite mottling, glauconite, shell fragments		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU1-1B (0 to -30) Sampled By: GP, RL

Sampling Date: 1/17/2023 Client: PCCA

Start Sampling Time: 0910 End Sampling Time: 0940

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon* 1-chem Glass ____ Plastic 2-bkt Ziploc* ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): ____ Waypoint ID: ____

- Water Depth (ft): ____ GPS ID: ____

= Top of Core Elevation (ft): 0 Latitude (Northing): ____

- Project Depth (ft): -60 (70 bgs) Longitude (Easting): ____

= Target Penetration (ft): 30 (40' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny P Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

0 to 10' bgs discarded (10' to 0)

1-5 gal bucket - chemistry

2 5 gal buckets - toxicology

Decon equipment before next interval (-30 to -60)

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU1-1B

Sampling Date: 1/17/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core ~~DMMU1-1B~~ **Time** 0910 - 0940	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): 30 (40' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' to 0)		
10-40	Silty Sand, grey, wet, very soft, lacks plasticity, fine grained, shell fragments throughout (0 to 30)		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU2 - 113 Sampled By: GP, RH

Sampling Date: 11/7/2013 Client: PCCA

Start Sampling Time: 1040 End Sampling Time: 1130

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1 - chem Glass ____ Plastic 2 - tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two) Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots) 0–5 (5–10) 10–15 >15

Sea State (circle one) Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one) Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

1 - 5 gal bucket - chemistry
2 - 5 gal buckets - toxicology

Decon equipment before mobilizing to next station

Core Log (Sheet __ of __)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU2-1B

Sampling Date: 11/7/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 1040-1130	**Core** _____ **Time** _____
Core penetration length: 30'	Core penetration length: _____
Bottom of core elevation (ft): -60' (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30' % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-70	Silty sand, grey, wet, very soft, lacks plasticity, fine grained, shell fragments throughout		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU1-1C (0 to 30) Sampled By: GP, RH

Sampling Date: 11/7/2023 Client: PCCA

Start Sampling Time: 1405 End Sampling Time: 1441

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1 - chem Glass ____ Plastic 2 - tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): - ____ Waypoint ID: ____

- Water Depth (ft): - ____ GPS ID: ____

= Top of Core Elevation (ft): 0 Latitude (Northing): ____

- Project Depth (ft): -60 (70 bgs) Longitude (Easting): ____

= Target Penetration (ft): 30 (40 bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

10' to 1' discarded (2-10' bgs)

1 5 gal bucket - chemistry

2 5 gal buckets - tox

Decon equipment between intervals

Core Log (Sheet __ of __)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU1-1C (0-30)

Sampling Date: 11/7/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 1400-1-MU	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -30 (-40 typ)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' +/-)		
10-40	Silty sand, gray, wet, very soft, lacks plasticity, fine grained		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU 2-1C (30 to 60) Sampled By: GP EH

Sampling Date: 11/7/2013 Client: PCCA

Start Sampling Time: 1545-1630 End Sampling Time: _____

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1 - Clean Glass _____ Plastic 2 - bags Ziploc® _____ Other: _____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: _____ H-Datum (NAD83) NAD27 WGS84 Other: _____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: _____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): - _____ Waypoint ID: _____

- Water Depth (ft): - _____ GPS ID: _____

= Top of Core Elevation (ft): -30 (40 bgs) Latitude (Northing): _____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): _____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other: _____

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

1 - 5 gal bucket - chemistry
2 - 5 gal buckets - toxicology

Core Log (Sheet __ of __)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU2-1C (30 to 60)

Sampling Date: 1/17/23 **Photograph(s) Taken (circle one):** Yes No

Core diameter (inches):

Core 1 **Time** 1545-1630	**Core** **Time**
Core penetration length: 30	Core penetration length:
Bottom of core elevation (ft): -60 (-0 bgs)	Bottom of core elevation (ft):
Recovery Length (ft): 30 % Recovery	Recovery Length (ft): % Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-65	Silty sand, gray, wet, very soft, low plasticity, fine grained, shell fragments (-30 to -55)		
65-70	Sandy clay, gray to tan, moist, firm, low plasticity, fine grained, shell fragments		

Live Organisms? Yes (No) (Describe)	**Live Organisms?** Yes No (Describe)
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU5-3A Sampled By: RU, GB

Sampling Date: 11/18/2023 Client: PCCA

Start Sampling Time: 0850 End Sampling Time: 0940

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1 - chem Glass ____ Plastic 2 - top Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): ~ Waypoint ID: ____

- Water Depth (ft): ~ GPS ID: ____

= Top of Core Elevation (ft): 0 Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): 30 (40' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): (0–5) 5–10 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other: ____

Weather (circle one): Sunny P Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S SW W (NW)

Notes:

10' to 0 discarded (0 to 10' bgs)

1 - 5 gal - chemistry
2 - 5 gal - toxicology

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU5-3A

Sampling Date 11/18/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core ___ Time 0850 - 0940	**Core** ___ Time ___
Core penetration length: 30' (40' bgs)	Core penetration length: ___
Bottom of core elevation (ft): -30 (-40' bgs)	Bottom of core elevation (ft): ___
Recovery Length (ft): 30 % Recovery ___	Recovery Length (ft): ___ % Recovery ___

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' to 0)		
10-40	Silty sand, gray, wet, lacks plasticity, very soft, fine-grained, shell fragments (0 to -30)		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU 6-3A Sampled By: RU, GP

Sampling Date: 1/18/2023 Client: PCCA

Start Sampling Time: 1045 End Sampling Time: 1115

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gallons

Sediment Container(s):

Type and Number: Teflon* 1-chem Glass ____ Plastic 2-tox Ziploc* ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): = ____ Waypoint ID: ____

- Water Depth (ft): ____ GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S SW W (NW)

Notes:

1-5 gal bucket - chemistry
2-5 gal buckets - toxicology

Core Log (Sheet __ of __)

ANAMAR
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Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU6 3A

Sampling Date: 11/8/2013 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 1045-1115	**Core** _____ **Time** _____
Core penetration length: 30'	Core penetration length: _____
Bottom of core elevation (ft): -60 (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-70	Silty ~~clay~~ sand, gray, wet, very soft, low plasticity, fine grained shell fragments (30 to 60)		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU5-3B Sampled By: BH, SC

Sampling Date: 11/3/15 Client: PCCA

Start Sampling Time: 1315 End Sampling Time: 1400

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1-chem Glass ____ Plastic 2-tox Ziploc® 2 Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): 0 (10' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): 30 (40' bgs)

Tidal Cycle (circle two): Low Mid High (and) Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny (P. Cloudy) Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

10' to 0 discarded (0-10' bgs)

1-5 gal bucket - Chemistry
2-5 gal buckets - toxicology

Decon equipment before next interval

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 Sample ID: DMMMS-3B

Sampling Date: 11/8/2023 Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 3

Core 1 Time 1310-1400	Core _____ Time _____
Core penetration length: 30'	Core penetration length: _____
Bottom of core elevation (ft): ~~-30~~ (40' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft) _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' to 0)		
10-40	Silty sand, grey, wet, low plasticity, very soft, odor present, sheen present, fine grained, shell fragments		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? (Yes) No Odor Present? (Yes) No Organic Debris? Yes (No)	Oil Present? Yes No Odor Present? Yes No Organic Debris? Yes No
Notes: Sheen + odor present throughout interval 10-40' bgs (0-30)	Notes:

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU6-3B — Sampled By: RH, GP

Sampling Date: 1/18/2023 — Client: PCCA

Start Sampling Time: ~~1310-1440~~ 1505 — End Sampling Time: 1545

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gal

Sediment Container(s):

Type and Number: Teflon® 1-chem Glass ____ Plastic 2-tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — — Waypoint ID: ____

- Water Depth (ft): — — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) — Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) — Longitude (Easting): ____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny (P. Cloudy) Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes:

1-5gal bucket - chemistry
2-5gal bucket - toxicology

Decon equipment before mobilizing to next station

Core Log (Sheet __ of __)

ANAMAR
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Project Name: PCCA Harbor Island- Section 103 Sample ID: DMMU6-3B

Sampling Date: 11/8/2023 Photograph(s) Taken (circle one): Yes No

Core diameter (inches): 3

Core 1 Time 1505-1545	Core _____ Time _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -60 (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-65	Silty sand, grey, wet, very soft, lacks plasticity, shell fragments, fine grained (-30 to -55)		
65-70	Sandy clay, grey, moist, firm, no-low plasticity, fine grained, shell fragments (-55 to -60)		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes: No oil sheen or odor observed in lower interval -30 to -60 (40-70' bgs)	Notes:

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMUS 3C — Sampled By: RL, GP

Sampling Date: 1/19/2023 — Client: PCCA

Start Sampling Time: 0845 — End Sampling Time: 0920

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 15 gallons

Sediment Container(s):

Type and Number: Teflon® 1-clear Glass ____ Plastic 2-tan Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): —

- Water Depth (ft): —

= Top of Core Elevation (ft): 0 (10' bgs)

- Project Depth (ft): -60 (70' bgs)

= Target Penetration (ft): -30 (40' bgs)

Waypoint ID: ____

GPS ID: ____

Latitude (Northing): ____

Longitude (Easting): ____

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE (S) SW W NW

Notes:

Decon equipment before next interval

1-5 gal bucket - chemistry

2-5 gal buckets - toxicology

10'-0 Discarded (0-10' bgs)

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU5-3C

Sampling Date: 1/19/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 0845 - 0920	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -30 (40' bss)	Bottom of core elevation (ft): _____
Recovery Length (ft) 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10'-0')		
10-40	Silty Sand, grey, wet, very soft, lacks plasticity, fine-grained, shell fragments		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No) **Odor Present?** Yes (No) **Organic Debris?** Yes (No)	**Oil Present?** Yes No **Odor Present?** Yes No **Organic Debris?** Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DNM46-3C Sampled By: GP, RH

Sampling Date: 1/19/2023 Client: PCCA

Start Sampling Time: ~~1000~~ 1015 End Sampling Time: 1110

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 1.5 gallons

Sediment Container(s):

Type and Number: Teflon® 1-chem Glass ____ Plastic 2-tak Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two) Low Mid High (and) Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one) Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE (S) SW W NW

Notes:

1-5 gal bucket - chemistry
2-5 gal buckets - toxicology

Decon equipment before mobilizing to next station

Core Log (Sheet __ of __)

ANAMAR
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Project Name: PCCA Harbor Island- Section 103 Sample ID: DMMU6 3C

Sampling Date: ~~DMMU6 3C~~ 1/19/2023 Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 3

Core 1 Time ~~1015~~ 1110	Core _____ Time _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -60 (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-55	Silty Sand, grey, wet, very soft, lacks plasticity, fine grained, shell fragments (-30 to -45)		
55-70	Sandy Clay, tan/grey, moist, firm, low-med plasticity, shells/ shell fragments (-45 to -60)		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes:	Notes:

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Core Log (Sheet 1 of __) (0-30)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU3-2A (DUP) Sampled By: RH, GP

Sampling Date: 11/19/2023 Client: PCCA

Start Sampling Time: 1330 End Sampling Time: 1400

Collection Method (Circle one):

Vibracore Push Core Auger Split Spoon Total Volume Collected: 1-5gal bucket DUP

Sediment Container(s):

Type and Number: Teflon® 1-chem Glass_____ Plastic_____ Ziploc®_____ Other:_____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ H-Datum: (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other:_____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft):~ Waypoint ID:_____

- Water Depth (ft):~ GPS ID:_____

= Top of Core Elevation (ft): ~0 (-10' bgs) Latitude (Northing):_____

- Project Depth (ft): -60 (-70' bgs) Longitude (Easting):_____

= Target Penetration (ft): -30 (-40' bgs)

Tidal Cycle (circle two) Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other:_____

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S (SW) W NW

Notes:

1-5gal bucket for Duplicate → chemistry

10' to 0 discarded (0-10' bgs)

Equipment decontaminated before moving to next station

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID** DMMU3-2A (0-30) DUP

Sampling Date 1/19/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** 1330 - 1400	**Core** _____ **Time** _____
Core penetration length: ~~90~~ 30	Core penetration length: _____
Bottom of core elevation (ft): -30 (40' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION
0-10	Discarded, (10' to 0)
10-40	Silty Sand, grey, wet, Very Soft, lacks plasticity, fine grained, Shell fragments, strong odor (0 to -30)

Length (ft)	CORE DESCRIPTION

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? (Yes) No	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes: Odor present but lacked oil/tic Sheen	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU3-2A (0-30) Sampled By: RH, GP

Sampling Date: 1/19/23 Client: PCCA

Start Sampling Time: 1446 End Sampling Time: 1520

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 20 gallons

Sediment Container(s):

Type and Number: Teflon* 1-Chem Glass____ Plastic____ Ziploc* 3-tox Other____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:____ H-Datum: (NAD83) NAD27 WGS84 Other:____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other:____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): ____ Waypoint ID: ____

\- Water Depth (ft): ____ GPS ID: ____

= Top of Core Elevation (ft): 0 (10' bgs) Latitude (Northing): ____

\- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -30 (40 bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Sea State (circle one): Calm 1-2 ft 2-3 ft 3-4 ft 4-5 ft >5 ft Other____

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S (SW) W NW

Notes:

10' to 0 discarded (0-10' bgs)

1-5 gal bucket - chemistry
3-5 gal buckets - toxicology

Decon equipment before next interval (-30 to -60)

Moved about 10' from DMP location to drill DMMU3-2A (0-30)

Core Log (Sheet __ of __)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 Sample ID: DMMU3-2A (0-30)

Sampling Date: 11/9/2023 Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 3

Core 1 Time 1445-1520	Core ____ Time ____
Core penetration length: 30	Core penetration length: ____
Bottom of core elevation (ft): -30 (40' bgs)	Bottom of core elevation (ft): ____
Recovery Length (ft): 30 % Recovery ____	Recovery Length (ft): ____ % Recovery ____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	discarded (10' to 0)		
10-40	Silty sand, grey, wet, very soft, lacks plasticity, fine grained, shell fragments		

Live Organisms? Yes No (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes No Odor Present? Yes No Organic Debris? Yes No	Oil Present? Yes No Odor Present? Yes No Organic Debris? Yes No
Notes:	Notes:

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Environmental Consulting Inc.

Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU4 -2A (30-60) Sampled By: EU, GP

Sampling Date: 11/9/2023 Client: PCCA

Start Sampling Time: 1530 1630 End Sampling Time: 1700

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 20 gallons

Sediment Container(s):

Type and Number: Teflon® 1 - chem Glass ____ Plastic 3 - tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

\- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

\- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -60 (70 bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny (Cloudy) Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE (S) SW W NW

Notes:

1-5 gal bucket - chemistry
3-5 gal buckets - toxicology

Decon before moving to next station

Core Log (Sheet __ of __)

ANAMAR
Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU4-2A

Sampling Date: 1/19/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 **Time** ~~1555~~ 1320 - 1700	**Core** _____ **Time** _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft) -60 (70 bgs)	Bottom of core elevation (ft) _____
Recovery Length (ft) 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-55	Silty Sand, grey, wet, very soft, lacks plasticity, fine grained, Shell fragments (-30 to -45)		
55-70	Sandy clay, tan, moist, firm, low-medium plasticity, fine grained, shell fragments/shells		

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __) DUP

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU3-2B (0 to 30) Sampled By: RL, GP

Sampling Date: 1/20/2023 Client: PCCA

Start Sampling Time: 0900 End Sampling Time: 0930

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 5 gallons

Sediment Container(s):

Type and Number: Teflon® 1-Chem Glass_____ Plastic_____ Ziploc®_____ Other:_____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other:_____ H-Datum (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other:_____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft):_____ Waypoint ID:_____

- Water Depth (ft):_____ GPS ID:_____

= Top of Core Elevation (ft): 0 (-10' bgs) Latitude (Northing):_____

- Project Depth (ft): -60 (-70' bgs) Longitude (Easting):_____

= Target Penetration (ft): -30 (40' bgs)

Tidal Cycle (circle two): Low Mid High (and) Slack Incoming Outgoing

Wind Speed (knots): 0–5 5–10 (10–15) >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other_____

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S (SW) W NW

Notes:

1-5gallon bucket for Duplicate
↳ Chemistry

Mobilize drill rig to 2B for
sample after sampling 2B DUP

Core Log (Sheet __ of __)

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Project Name: PCCA Harbor Island- Section 103
Sampling Date: 1/20/2023
Core diameter (inches): 3

Sample ID: DMMU3-2B (0-30) DUP
Photograph(s) Taken (circle one): Yes No

Core 1 Time 0900-0930	Core ____ Time ____
Core penetration length: 30	Core penetration length: ____
Bottom of core elevation (ft): -30 (40' bgs)	Bottom of core elevation (ft): ____
Recovery Length (ft): 30 % Recovery ____	Recovery Length (ft): ____ % Recovery ____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' to 0)		
10-40	Silty Sand, grey, wet, very soft, lacks plasticity, fine grained, shell fragments		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes: DUP	Notes:

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU3-2B (0 to 30) Sampled By: RH, GP

Sampling Date: 1/20/2023 Client: PCCA

Start Sampling Time: 1040 End Sampling Time: 1100

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 20 gallons

Sediment Container(s):

Type and Number: Teflon® 1 chem Glass ____ Plastic 3 + 10x Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum: (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): ____ Waypoint ID: ____

\- Water Depth (ft): ____ GPS ID: ____

= Top of Core Elevation (ft): 0 (10' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -30 (40' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 5–10 (0–15) >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S (SW) W NW

Notes:

1 - 5 gal bucket - chemistry
3 - 5 gal buckets - toxicology

Decon augers before next interval (-30 to -60)

Core Log (Sheet __ of __)

ANAMAR
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Project Name: PCCA Harbor Island- Section 103 **Sample ID** DMMU3-2B (0 to 30)

Sampling Date 1/20/2013 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 3

Core 1 Time 1040 - 1100	Core _____ Time _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -30 (40' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0-10	Discarded (10' to 0)		
10-40	Silty sand, grey, wet very soft, lacks plasticity, fine grained, shell fragments (0 to -30)		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU4-2B (30 to 60) Sampled By: GP, RH

Sampling Date: 1/20/2023 Client: PCCA

Start Sampling Time: 1400 End Sampling Time: 1750

Collection Method (Circle one):

Vibracore Push Core (Auger) Split Spoon Total Volume Collected: 20 gallons

Sediment Container(s):

Type and Number: Teflon® 1-chem Glass ____ Plastic 3-tox Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer Lead Line

Water Surface Elevation (tide ht) (ft): — Waypoint ID: ____

- Water Depth (ft): — GPS ID: ____

= Top of Core Elevation (ft): -30 (40' bgs) Latitude (Northing): ____

- Project Depth (ft): -60 (70' bgs) Longitude (Easting): ____

= Target Penetration (ft): -60 (70' bgs)

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing

Wind Speed (knots): 0–5 5–10 (10–15) >15

Sea State (circle one): Calm 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S (SW) W NW

Notes

1- 5 gal bucket - chem
3- 5 gal buckets - toxicology

Core Log (Sheet __ of __)

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Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU4-2B

Sampling Date: 1/20/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): _____

Core 1 Time 1200 - 1250	Core _____ Time _____
Core penetration length: 30	Core penetration length: _____
Bottom of core elevation (ft): -60 (70' bgs)	Bottom of core elevation (ft): _____
Recovery Length (ft): 30 % Recovery _____	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
40-60	Silty ~~f~~ Sand, grey, wet, very soft, fine grained, Shell fragments (-30 to -50)		
60-70	Sandy clay, tan/grey mott, firm, low-med plasticity, fine grained, Shells		

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of 3)
PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU-7-4A — Sampled By: MAM, STP, Cascade
Sampling Date: 1/17/2023 — Client: PCCA
Start Sampling Time: 1412 — End Sampling Time: 1615

Collection Method (Circle one): (Geoprobe Drill Rig)
Vibracore / Push Core / Auger / Split Spoon — Total Volume Collected: ~29 gal.

Sediment Container(s):
Type and Number: (Teflon® 6a) Glass ____ Plastic ____ Ziploc® ____ Other Buckets 6a
Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum: (NAD83) NAD27 WGS84 Other: ____
Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____
Water Depth Measurement (circle one): Fathometer (Lead Line)
Water Surface Elevation (tide ht) (ft): 1.36 @ 1900 — Waypoint ID: 444 - Garmin
- Water Depth (ft): 13.5 — GPS ID: Montana
= Top of Core Elevation (ft): -12.1 — Latitude (Northing): 27.844232°
- Project Depth (ft): -60 — Longitude (Easting): -97.068493°
= Target Penetration (ft): 47.9

Tidal Cycle (circle two): Low (Mid) High [and] Slack (Incoming) Outgoing
Wind Speed (knots): 0–5 (5–10) 10–15 >15
Sea State (circle one): (Calm) 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other 1' Vessel Wake/Waves
Weather (circle one): Sunny (P. Cloudy) Cloudy Rain? (drizzle, moderate, heavy)
Wind Direction: N NE E (SE) S SW W NW

Notes: 1320 - Arrived on Station - Jacked up Left Boat Preload -
- Very Shallow -
1400 Access to Deck, 1412 - Measurements - Attached Weighting Bar
1418 - Started Coring -
Very Soft Sediment to ~19' from top of Core Elev.
1615 - Samples in Ref. Trailer.

Core Log (Sheet 2 of 3)

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Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU-7-4A

Sampling Date 11/17/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 4"

Continued 20' to 40'

Core 1 Time 1412-Start-	Core 1 Time ——— See Pg 3
Core penetration length: 20	Core penetration length 20
Bottom of core elevation (ft): -32.1	Bottom of core elevation (ft) -52.1
Recovery Length (ft) 17.5' % Recovery 88.	Recovery Length (ft): 19 % Recovery 95

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
01	Very Wet Unconsolidated Silty Olive Gray 2.5 Recovery	21	Olive gray Silt Clay - 21-23
			Sand Loose - Olive Gray 23-25
5		25	
6	Olive Gray Silty Sand Silty Clay -	26	Olive Gray Silty Clay 25 to 29'
10		30	Olive Gray Silty Wet - 29-30'
11		31	Olive Gray Silty Clay - 31-32'
			Gray Green Sandy Clay - 33-35
15		35	Gray Green Tan 35 to 38
16	Olive Gray Silty Clay -	36	Silty Clay -
			Orange Brown Silty Sand 38 to 40' w/ Shell Hash
20		40	

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes (No) (Describe)
Oil Present? Yes (No)	Oil Present? Yes (No)
Odor Present? (Yes) No Slight H2S 10'	Odor Present? Yes (No)
Organic Debris? Yes (No)	Organic Debris? Yes (No)
Notes: 1st penetration 0 to 20'	Notes: 2nd penetration - 20' to 40

DMMU-7-4A

Core Log (Sheet 3 of 3)

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Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU-7-4B

Sampling Date 1/17/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 4" Start Time 1412

Core 1 **Time** 1615 End.	**Core** _____ **Time** _____
Core penetration length 8'	Core penetration length: _____
Bottom of core elevation (ft) -60.1	Bottom of core elevation (ft): _____
Recovery Length (ft): 8' % Recovery 100%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0 41	Light Tan/White Silty Sand w/Clay		
45		25	
46			
	Project Depth -60		
50		30	
15		35	
20		40	
Live Organisms? Yes (No) (Describe)		**Live Organisms?** Yes No (Describe)	
Oil Present? Yes (No)		**Oil Present?** Yes No	
Odor Present? Yes (No)		**Odor Present?** Yes No	
Organic Debris? Yes (No)		**Organic Debris?** Yes No	
Notes: -40 to 48' to Project Depth 3 penetrations		**Notes:**	

Overall Recovery %
46'/48' 93%

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Core Log (Sheet 1 of 3)

PROJECT: PCCA Harbor Island New Dock Section 103 4B

Sample ID: DMMU-7-4B — Sampled By: MAH, STP, Cascadia

Sampling Date: 1/18/2023 — Client: PCCA

Start Sampling Time: 0925 — End Sampling Time: 1145

Collection Method (Circle one): (Sonic Drill Rig) Vibracore Push Core Auger Split Spoon — Total Volume Collected: 25-30 gal

Sediment Container(s):

Type and Number: Teflon® 6 Glass ____ Plastic ____ Ziploc® ____ Other Buckets (6)

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer (Lead Line)

Water Surface Elevation (tide ht) (ft): 0.92 @ 09:18 — Waypoint ID: 445 - Garmin 1

- Water Depth (ft): 14.0 — GPS ID: Montauk

= Top of Core Elevation (ft): -13.1 — Latitude (Northing): 27.844524

- Project Depth (ft): -60 — Longitude (Easting): -97.065906104

= Target Penetration (ft): 46.9

Tidal Cycle (circle two): (Low to Mid) High [and] Slack (Incoming) Outgoing

Wind Speed (knots): 0–5 5–10 (10–15) >15

Sea State (circle one): (Calm) 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other Water/Temp

Weather (circle one): Sunny (P. Cloudy) Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E SE S SW W (NW)

Notes: 0915 - Access to dock

0925 - Measurements - Set Casing -

0935 - Started Coring

1145 - Sampling Completed - Samples on Ref. Trailer - Decon - Cleaned Dock -

Core Log (Sheet 2 of 3)

ANAMAR Environmental Consulting, Inc

Project Name: PCCA Harbor Island- Section 103

Sample ID: DMMU-7-4B

Sampling Date: 1/18/2023

Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 4"

Core 1 Time 0925 - Start.	Core 1 Time Same page 3 of 3
Core penetration length: 35	Core penetration length:
Bottom of core elevation (ft): -48.1	Bottom of core elevation (ft):
Recovery Length (ft) 27 % Recovery 77%	Recovery Length (ft) % Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
1	Very wet Soft Unconsolidated Gray Silty fine Sand some Shell 0 to 15	21	Gray Silty Clay to Soft Clay 21' to 35'
5		25	
10		30	
15	Gray fine Sand/Clayey Sand wet	35	Tan Brown w/ Shells at Bottom 1st Push Tan Brown Silty Sand w/ Shells
20		40	Tan Brown Medium to fine Sand w/ Large Shells - Clam 2nd Push

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes (No) (Describe)
Oil Present? Yes (No)	Oil Present? Yes (No)
Odor Present? Yes (No)	Odor Present? Yes (No)
Organic Debris? Yes (No) 1st penetration	Organic Debris? Yes (No)
Notes: Overpenetrated to 35' due to Wet, Soft Unconsolidated Sediment and presence Washout. Last 6' - fluidized entering Core Barrel - Volume collected ~27' of 35' Recovery 1st Penetration.	Notes: 2nd penetration 35' to 47' to Project Depth

Core Log (Sheet 3 of 3)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DnMw-7-4B

Sampling Date: 1/18/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 4" Continued

Core 1 **Time** 1145 End	**Core** _____ **Time** _____
Core penetration length: 12 + 35 = 47' Total	Core penetration length: _____
Bottom of core elevation (ft): -60.1	Bottom of core elevation (ft): _____
* Recovery Length (ft): 12+27=39' % Recovery 83%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
41	Gray Green Tan Fine Sand		
45	Gray brown Silty Clay Stiff - Project Depth		
50			

Live Organisms? Yes No **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes: 2nd Penetrator - 35 to -47 to Proj Depth Penetrated 12'	**Notes:**

* Total Penetration: 47' (35+12)
Total Recovery 39' (12+27')
Total Recovery % = 83%

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Core Log (Sheet 1 of 2)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMA 7-4C — Sampled By: MMM, SJP, Cascade

Sampling Date: 1/16/2023 — Client: PCCA

Start Sampling Time: 1637 — End Sampling Time: 1800

Collection Method (Circle one): (Sonic Drill Rig) Vibracore Push Core Auger Split Spoon — Total Volume Collected: ~13gal.

Sediment Container(s):

Type and Number: Teflon® X 3 Glass ____ Plastic ____ Ziploc® ____ Other Buckets 3

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer (Lead Line) — Garmin 1 = 442

Water Surface Elevation (tide ht) (ft): 1.5 — Waypoint ID: Garmin 2 = 048/049

- Water Depth (ft): 45.5 — GPS ID: Montana

= Top of Core Elevation (ft): -44.0 — Latitude (Northing): 27.84430096

- Project Depth (ft): -60 — Longitude (Easting): -97.06507199

= Target Penetration (ft): 16.0

Tidal Cycle (circle two): Low Mid (High) [and] (Slack) Incoming Outgoing

Wind Speed (knots): (0-5) 5-10 10-15 >15

Sea State (circle one): (Calm) 1-2 ft 2-3 ft 3-4 ft 4-5 ft >5 ft Other 1' Wave/Wake

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N NE E (SE) (S) SW W NW

Notes: 1450 Arrive Dat Station - 1530 Access to Dock - Set up - Drill Crew/ Sampling Crew - 1637 - Measurements - Contacted MER - Discussed Core length - 1655 - Started Drilling - Core to project depth. 1800 Samples in Rig Trailer

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID** DNMU-7-4C

Sampling Date: 1/16/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 4"

Core 1 Time 1637 to 1800	**Core** _____ Time _____
Core penetration length: 16	Core penetration length: _____
Bottom of core elevation (ft): -60	Bottom of core elevation (ft): _____
Recovery Length (ft): 13.8 % Recovery 86%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	Silty Clay - (0-5')		
	Olive Gray & Shell Hash		
5		25	
	Sand - Shell hash (5-6.5')		
	Olive Gray —		
	6.5-16' Sandy Clay		
	Olive Gray		
10		30	
15		35	
16'	Project Depth -60		
20		40	

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

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Core Log (Sheet 1 of __)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU-7-4D — Sampled By: MPM, STP, Cascade Crew

Sampling Date: 1/17/2023 — Client: PCCA

Start Sampling Time: 0920 — End Sampling Time: 11:15

Collection Method (Circle one): (Sonic Drill Rig)

Vibracore Push Core Auger Split Spoon — Total Volume Collected: ~24 gal.

Sediment Container(s):

Type and Number: Teflon® 5 Glass ____ Plastic ____ Ziploc® ____ Other: Buckets-5

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer (Lead Line)

Water Surface Elevation (tide ht) (ft): .84 @ 0918 — Waypoint ID: 443 - Garmin 1

- Water Depth (ft): 16.4 — GPS ID: Montana

= Top of Core Elevation (ft): -15.5 — Latitude (Northing): 27.844516°N

- Project Depth (ft): -60 — Longitude (Easting): -97.067696°W

= Target Penetration (ft): 44.5

Tidal Cycle (circle two): Low (Mid) High [and] Slack (Incoming) Outgoing

Wind Speed (knots): 0–5 (5–10) 10–15 >15

Sea State (circle one): (Calm) 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other: 1' Waves/Wake

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy) Fog-Light

Wind Direction: N NE (E) SE S SW W NW

Notes: 0830 - Stinson Station 4D - Preloading, 0905 - Access to Deck

0920 - Measurements -

0925 - Started to Core -

1115 - Samples in Refrigerator Trailer -

Core Log (Sheet 2 of 3)

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Project Name: PCCA Harbor Island- Section 103
Sample ID: AMMW-7-41
Sampling Date: 01/17/2023
Photograph(s) Taken (circle one): (Yes) No
Core diameter (inches): 4"

Core 1	Time 0920 - Start
Core penetration length: 45'	
Bottom of core elevation (ft): See pg 3 of 3 (-60.5)	
Recovery Length (ft): 37	% Recovery: 82

Length (ft)	CORE DESCRIPTION
1	Wet Unconsolidated Silty Olive gray
5	Wet Soft Silty Sand Olive Gray Silty Clay
10	
15	
20	

Live Organisms? Yes (No) (Describe)
Oil Present? Yes (No)
Odor Present? (Yes) No H2S (0-15')
Organic Debris? Yes (No)

Notes: 1st penetration down to 30' due to very Soft Wet Unconsolidated Sediment at Surface to ~25' Needed to overpenetrate to retain.

Core 1	Time Continued - pg 3 of 3
Core penetration length	
Bottom of core elevation (ft)	
Recovery Length (ft):	% Recovery:

Length (ft)	CORE DESCRIPTION
21	Silty Clay w/ Some Shells - Olive gray -
25	oyster shell
	Gray, Tan, Light Green Clay
30	
	Wet, Tan Silty Sand 30 - 32.5'
	Gray Silty Clay 32.5 to 40'
35	
40	

Live Organisms? Yes (No) (Describe)
Oil Present? Yes (No)
Odor Present? Yes (No)
Organic Debris? Yes (No)

Notes: 2nd penetration 15' (-45.5 to -60.5) See pg 3 of 3

1st penetration -45.5
2nd penetration to Project Depth

Core Log (Sheet 3 of 3)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 Sample ID DMMU-7-4D

Sampling Date 01/17/2023 Photograph(s) Taken (circle one): Yes (No)

Core diameter (inches): 4" Continued from pg 2 of 3 (Penetration 30 to 45')

Core 1 Time 11:15 End	Core ____ Time ____
Core penetration length: 45	Core penetration length: ____
Bottom of core elevation (ft): -60.5	Bottom of core elevation (ft): ____
Recovery Length (ft): 37 % Recovery 82	Recovery Length (ft): ____ % Recovery ____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
41	Tan - Sandy Clay		
P.D. 45			
46 — Discarded .5' from bottom of Core Below Project Depth			

Live Organisms? Yes (No) (Describe)	Live Organisms? Yes No (Describe)
Oil Present? Yes (No)	Oil Present? Yes No
Odor Present? Yes (No)	Odor Present? Yes No
Organic Debris? Yes (No)	Organic Debris? Yes No
Notes: .5' Discarded Below Project Depth	Notes:

P.D. = Project Depth -60

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Core Log (Sheet 1 of 2)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: Dmnl-B-5A — Sampled By: ALAM, STP, Cascade

Sampling Date: 1/18/2023 — Client: PCCA

Start Sampling Time: 1410 — End Sampling Time: 1620

Collection Method (Circle one): Sonic Drill Rig

Vibracore / Push Core / Auger / Split Spoon — Total Volume Collected: ~2 to 2.5 gal.

Sediment Container(s):

Type and Number: Teflon® 5 Glass ____ Plastic ____ Ziploc® ____ Other Buckets 5

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____

Water Depth Measurement (circle one): Fathometer (Lead Line)

Water Surface Elevation (tide ht) (ft): 1.6 @1400 — Waypoint ID: 446 — Garmin1

- Water Depth (ft): 42.9 — GPS ID: Montana

= Top of Core Elevation (ft): -41.3 — Latitude (Northing): 27.843357099

- Project Depth (ft): -60 — Longitude (Easting): -97.06827303

= Target Penetration (ft): 18.7

Tidal Cycle (circle two): Low (Mid) (High) [and] Slack (Incoming) Outgoing — Mid to High

Wind Speed (knots): (0–5) (5–10) 10–15 >15

Sea State (circle one): (Calm) 1–2 ft 2–3 ft 3–4 ft 4–5 ft >5 ft Other Work-Vessels

Weather (circle one): Sunny (P. Cloudy) Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: (N) NE E SE S SW W NW

Notes: 1315 Arrived on Station ~60' from original location -
1345 - Access to deck -
1410 - Measurements -
1415 - Starting to Core -
1530 - Very Strong Current - Moving casing - 1st Core Extruded
Drill Crew - Removed Core Sample Barrels -
Mitigated the issue w/ Moving casing
then Extruded Samples for Processing
1620 - Sampling Complete.

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU-8-5A

Sampling Date: 1/18/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 6" End 1620

Core 1 Time 1400 - Start	**Core** _____ Time _____
Core penetration length: 19	Core penetration length: _____
Bottom of core elevation (ft): -60.3	Bottom of core elevation (ft): _____
Recovery Length (ft): 19 % Recovery 100%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	Gray Green Sandy Clay,		
	Tan Gray Sandy		
	2'-7', Clay -		
5		25	
6			
	Tan Sand w/ Shell Hash		
10		30	
11			
	Tan Brown Silty Sand		
15	Light Gray Silty Sand	35	
16			
19.5			
20	Discarded 3 Gates Project Date 1/18	40	

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes:	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)
PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU-8-5B — Sampled By: MAM, STP, Cascade
Sampling Date: 1/19/2023 — Client: PCCA
Start Sampling Time: 0815 — End Sampling Time: 1000

Collection Method (Circle one): (Sonic Drill Rig) Vibracore Push Core Auger Split Spoon — Total Volume Collected: ~25 gal
Sediment Container(s):
Type and Number: Teflon® 6 Glass ____ Plastic ____ Ziploc® ____ Other: Buckets 6
Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____
Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other: ____
Water Depth Measurement (circle one): Fathometer (Lead Line)
Water Surface Elevation (tide ht) (ft): 6.21 — Waypoint ID: 447 - Garmin (
- Water Depth (ft): 51.6 — GPS ID: Montana
= Top of Core Elevation (ft): -51.4 — Latitude (Northing): 27.84384004
- Project Depth (ft): -60 — Longitude (Easting): -97.06617303
= Target Penetration (ft): 8.6

Tidal Cycle (circle two): Low (Mid) High [and] Slack (Incoming) Outgoing
Wind Speed (knots): 0-5 (5-10) 10-15 >15 5 to 15
Sea State (circle one): (Calm) 1-2 ft 2-3 ft 3-4 ft 4-5 ft >5 ft Other: Vessel Wake
Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)
Wind Direction: N (NE) E SE S SW W NW

Notes: 0800 Access to Dock
0815 - Measurements - Setting up to Core
May Require 2 Cores for Volume Needed.
1000 - Completed Both Cores -
Cleaning Deck - to Move to next Station

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMA-8-5B

Sampling Date: 1/19/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 6"

Core 1 Time 0815 to 0916	Core 2 Time 0915 to 1000
Core penetration length: 10'	Core penetration length: 10
Bottom of core elevation (ft): 61.4	Bottom of core elevation (ft): 61.4
Recovery Length (ft): 10 % Recovery 100%	Recovery Length (ft): 10 % Recovery 100%

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
1	0-1 Wet Silty Sand w/Shell		0-2' Wet Silty Sand w/Shells
	2-4' Tan Gray Silty Sand w/Shell		2-5 Tan Gray Sandy Clay w/Shell
5	5 to 10'	5	4-6
6	Gray Silty Clay to fine Silty Sand	6	Gray Sandy Clay 6-10'
7			
8	Coal pocket Debris		Gray fine Sand/Clay Debris/Coal pocket
9	Project Depth		
10	Discarded 1.4' below Project Depth	10	Discard 1.4' Below Project Depth
15		15	
20		20	

Live Organisms? Yes (No) (Describe)	**Live Organisms?** Yes No (Describe)
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes: Discarded 1.4' Tan Brown Below Project Depth	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU-8-5C — Sampled By: MAM, STP, Cascade

Sampling Date: 1/20/2023 — Client: PCCA

Start Sampling Time: 0915 — End Sampling Time: 1020

Collection Method (Circle one):

Vibracore / Push Core / Auger / Split Spoon — Total Volume Collected: 20-23 gals

Sediment Container(s):

Type and Number: Teflon® 5 — Glass ____ — Plastic ____ — Ziploc® ____ — Other Buckets (5)

Sediment Preservation Method (circle one): "Wet" Ice — (Refrigerated Truck/Trailer) — Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK — (Real Time WLR) — Tide Tables — Other: ____

Water Depth Measurement (circle one): Fathometer — (Lead Line)

Water Surface Elevation (tide ht) (ft): 0.23 @ 0926 — Waypoint ID: 451 - Garmin1

- Water Depth (ft): 44.6 — GPS ID: Montana

= Top of Core Elevation (ft): -44.37 (-44.4) — Latitude (Northing): 27.84431999

- Project Depth (ft): -60 — Longitude (Easting): -97.06453303

= Target Penetration (ft): 15.6

Tidal Cycle (circle two): (Low) Mid High [and] Slack (Incoming) Outgoing

Wind Speed (knots): 0–5 5–10 10–15 (>15) 20-25 Knots Gusts 30-35

Sea State (circle one): Calm (1-2 ft) 2-3 ft 3-4 ft 4-5 ft >5 ft Other white caps

Weather (circle one): Sunny P. Cloudy (Cloudy) Rain? (drizzle, moderate, heavy) Partly Cloudy at End

Wind Direction: N (NE) E SE S SW W NW

Notes: 0830 - Arrived on Station ~85' NW @ Original Station within the dredge unit boundary -
0900 - Access to deck - Set up - Count set -
0915 - Measurements - 0920 - Started Coring -
10:20 - Sampling completed - Cleared Deck -

* Winds 30-35 NE - Prevent from moving off Station -

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: PCCA Harbor Island- Section 103 **Sample ID:** DMMU-8-5C

Sampling Date: 1/20/2023 **Photograph(s) Taken (circle one):** (Yes) No

Core diameter (inches): 6"

Core 1 **Time** 0915 to 10:20	**Core** _____ **Time** _____
Core penetration length 16	Core penetration length: _____
Bottom of core elevation (ft): -60.4	Bottom of core elevation (ft): _____
Recovery Length (ft): 16 % Recovery 100%	Recovery Length (ft) _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	Gray Green Silty Sand Wet 0-2' w/shell		
	Tan/Brown Silty Sand 3'-7'		
5		25	
6			
	Gray to Dark Gray Sand w/Shell 8-9		
10	Tan/Lt. Gray Lime Silty Sand Compact 9-13'	30	
11			
	Gray/Lt. Gray Lime Sand 13-16'		
15		35	
16	~~Project Depth~~ Discarded 4" from Bottom		
20		40	

Live Organisms? Yes (No) **(Describe)**	**Live Organisms?** Yes No **(Describe)**
Oil Present? Yes (No)	**Oil Present?** Yes No
Odor Present? Yes (No)	**Odor Present?** Yes No
Organic Debris? Yes (No)	**Organic Debris?** Yes No
Notes: Discarded 4" from Bottom of Core	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 1)

PROJECT: PCCA Harbor Island New Dock Section 103

Sample ID: DMMU-8-5D — Sampled By: MAM, SJP, Cascade

Sampling Date: 1/19/2023 — Client: PCCA

Start Sampling Time: / — End Sampling Time: / — No Samples Collected

Collection Method (Circle one): Sonic Drill Rig

Vibracore / Push Core / Auger / Split Spoon — Total Volume Collected: ____

Sediment Container(s):

Type and Number: Teflon® ____ Glass ____ Plastic ____ Ziploc® ____ Other ____

Sediment Preservation Method (circle one): "Wet" Ice / Refrigerated Truck/Trailer / Other

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other: ____ — H-Datum (NAD83) NAD27 WGS84 Other: ____

Water Surface Elevation (circle method of measurement): RTK / (Real Time WLR) / Tide Tables / Other: ____

Water Depth Measurement (circle one): Fathometer / (Lead Line)

	1st Attempt	2nd Attempt
Water Surface Elevation (tide ht) (ft):	1.34 @ 12:20	
Waypoint ID:	448 Gasconum 1	449+450 Gasconum 1
- Water Depth (ft):	61.5	
GPS ID:	Montana	
= Top of Core Elevation (ft):	-60.4	
Latitude (Northing):	27.84475802	27.844898
- Project Depth (ft):	-60	
Longitude (Easting):	-97.06197001	-97.0623504
+ Target Penetration (ft):	0	

Tidal Cycle (circle two): Low (Mid) to (High) [and] Slack (Incoming) Outgoing — Very Strong Currents

Wind Speed (knots): 0–5 5–10 (10–15) >15 — Gusts >15

Sea State (circle one): Calm (1–2 ft) 2–3 ft 3–4 ft 4–5 ft >5 ft Other ____

Weather (circle one): (Sunny) P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)

Wind Direction: N (NE) E SE S SW W NW

Notes:

11:15 - Arrived on Station - 1145 Access to deck

12:10 - Took Measurements - 1st Attempt - Top of Core at the Project Depth -60.4 - Need to try to get Closer to Harbor Island. (27.84475802 / -97.06197001

1250 - Jacking down to reposition - Set up ~10' from

1340 - Station Coordinates in SAP -

1450 - Took Measurements - Water Depth - 61.3

Way Pt 449+450 → MLLW @ 13:54 = 1.49 @ (13:54) Time

Top of Core Elev. = -60.8 below P.D. -60

1415 - Moving off Station - No Sample Collected - Water depth is at Project Depth or Lower (Deepened)

1430 - Video of Current in Area of 5D + 5C

- Capt. had to stop Maneuvering Current too strong to Maneuver into position at 5C

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Harbor Island New Dock Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: DMMU-8-SD
Sampled By: MAM, CA, TB, NJ, Ryan Malone
Sample Date: 01/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1405 **End Sampling Time:** 1433

Collection Method:
(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____

Sediment Preservation Method (circle one): Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers:
Type and Number: Teflon X Glass ____ Plastic ____ Ziploc ____ Other Bucket - ~3gal.

Sediment Description: Can circle more than one texture, if applicable

Texture: (Clay) (Silt) Fine Sand Medium Sand Coarse Sand (Shell Hash) Shells/Rock present

Color: Lt. Brown (Yellowish Orange) Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe. (Y) N **Notes:** 1st Attempt-No Sample 2nd Attempt-No Sample

Organic Debris? Describe. Y (N) Small Sand Crabs

Odor Present? Describe. Y (N)

Picture of Sample? (Y) N Grab 3rd ~1.5Gal - Shell/Rocks/Clay/Sand

Volume Collected: ~3gal Grab 4th ~1.5gal - Clay/Sand/Shell/Rocks

Grabs Collected: 4Total - 2NoSample / 2W/Sediments

Penetration Depth (cm): ~2

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time) VLR Tide Tables Other:_____

Water Depth Measurement (circle one): (Fathometer) Lead Line

Water Surface Elevation (tide ht) (ft): 0.1 @ 1400

- Water Depth (ft): 61

= Sediment Elevation (ft): -60.3 MLLW

Project Depth = -60

Waypoint ID: 483/484/485/482

GPS ID: Montana Carrington

Latitude (Northing): 27.84474 / 27.84484

Longitude (Easting): -97.062274 / -97.062276

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Wind Direction: N (NE) E SE S SW W NW

Sea State: Calm (1-2 ft) 2-3 ft 3-4 ft 4-5 ft >5 ft

Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Tidal Cycle: (Low) Mid High Slack (Incoming) Outgoing

Air Temp (°F): 62

Additional Observations, Notes: Near former Dock - Obstructions ~30' from Original Station Location -

Sheet 1 of 1

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA CDP Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: REF-A (Re-Sample)
Sampled By: ANAMAR / Terracon / Ryan Mascal
Sample Date: 01 | 27 | 2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 0920 **End Sampling Time:** 1000

Collection Method:
(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____

Sediment Preservation Method (circle one): Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers: (1) Ls At Manatee Energy
Type and Number: Teflon X Glass ____ Plastic ____ Ziploc ____ Other Buckets (3)

Sediment Description: Can circle more than one texture, if applicable
2 - No Teflon Bag
1 - W/ Teflon Bag

Texture: (Clay) (Silt) (Fine Sand) Medium Sand Coarse Sand (Shell Hash)

Color: (Lt. Brown) Yellowish Orange Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe. (Y) N **Notes:** Sand Crabs, Worms/Worm Castings
Organic Debris? Describe. Y (N) Shells
Odor Present? Describe. Y (N)
Picture of Sample? (Y) N
Volume Collected: ~15 gal
Grabs Collected: 5
Penetration Depth (cm): 1.5'

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum (MLLW) MLW NAVD 88 NGVD 29 Other:____ **H-Datum** (NAD83) NAD27 WGS84 Other:____

Water Surface Elevation (circle method of measurement): RTK (Real Time WLR) Tide Tables Other:____

Water Depth Measurement (circle one): (Fathometer) Lead Line Boat chart

Water Surface Elevation (tide ht) (ft) 0.8 @ 930

Waypoint ID: Montana → 462, 463, 464, 465, 466

- Water Depth (ft): 45

GPS ID: ____

= Sediment Elevation (ft): 44.2

Latitude (Northing): 27.84187599

Project Depth = N/A

Longitude (Easting): -96.99379102

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Wind Direction: N (NE) E SE S SW W NW

Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft

Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Tidal Cycle: Low Mid (High) Slack Incoming (Outgoing)

Air Temp (°F): 57°

Additional Observations, Notes:

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA CDP Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: REF-B (Re-Sample)
Sampled By: ANAMAR / Terrason / Ryan Moore
Sample Date: 01/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1053 **End Sampling Time:** 1125

Collection Method:
(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____

Sediment Preservation Method (circle one): Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers:
Type and Number: Teflon (1) Glass ____ Plastic ____ Ziploc ____ Other Buckets-3

by AA Materials

2-No Teflon Bag
1-w/Teflon Bag

Sediment Description: Can circle more than one texture, if applicable

Texture: (Clay) (Silt) (Fine Sand) Medium Sand Coarse Sand Shell Hash
Color: (Lt. Brown) Yellowish Orange Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe Y (N)
Organic Debris? Describe. Y (N)
Odor Present? Describe. Y (N)
Picture of Sample? (Y) N
Volume Collected: ~15 gal
Grabs Collected: 5
Penetration Depth (cm): 1.5'

Notes: Some Shells

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time VAR) Tide Tables Other:_____

Water Depth Measurement (circle one) (Fathometer) Lead Line Boat Chart

Water Surface Elevation (tide ht) (ft): 1.2 E 1048 **Waypoint ID:** 474/475/476

- Water Depth (ft): 45 **GPS ID:** Montana

= Sediment Elevation (ft): -44.2 **Latitude (Northing):** 27.841170902

Project Depth = N/A **Longitude (Easting):** -96.993601O1

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Wind Direction: N (NE) E SE S SW W NW

Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft

Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Tidal Cycle: Low (Mid) High Slack Incoming (Outgoing)

Air Temp (°F): 100°

Additional Observations, Notes

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA CDP Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: REF-C (Re Sample)
Sampled By: ANAMAR Terrocor, Ryan Mecaw
Sample Date: 01 | 27 | 2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1003 **End Sampling Time:** 1050

Collection Method:
(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____
Sediment Preservation Method (circle one) Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers:
Type and Number: Teflon 1 Glass ____ Plastic ____ Ziploc ____ Other Buckets 3
2 - No Teflon
1 - W/ Teflon Bag

Sediment Description: Can circle more than one texture, if applicable
Texture: (Clay) (Silt) (Fine Sand) Medium Sand Coarse Sand Shell Hash
Color: Lt. Brown Yellowish Orange Greenish Gray Olive Gray Lt. Gray Dk. Gray

Live Organisms? Describe. (Y) N **Notes:** Small Conch, Sand Crab
Organic Debris? Describe. Y (N) Shells - 1
Odor Present? Describe. Y (N)
Picture of Sample? (Y) N
Volume Collected: ~15 gal
Grabs Collected: 7 - Sample Washing out from Bottom - Shells
Penetration Depth (cm): 1.5' Multiple Drops to Collect
Desribe any Leakage, Winnowing, or Overfill here: Volume Required.

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____
Water Surface Elevation (circle method of measurement): RTK (Real Time WAR) Tide Tables Other:_____
Water Depth Measurement (circle one): (Fathometer) Lead Line Boat Chart
Water Surface Elevation (tide ht) (ft): +.74 e954 **Waypoint ID:** 467, 468, 469, 470, 471, 472, 473
- Water Depth (ft): 45 **GPS ID:** Montana
= Sediment Elevation (ft): -44.3 **Latitude (Northing):** 27.841 48397
Project Depth = N/A **Longitude (Easting):** -96.99394701

Wind Speed (knots): 0-5 (5-10) 10-15 >15
Wind Direction: N (NE) E SE S SW W NW
Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft
Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)
Tidal Cycle: Low (Mid) High Slack Incoming (Outgoing)
Air Temp (°F): 52

Additional Observations, Notes:

SEDIMENT SAMPLING FIELD SHEET

Re-Sample. Harbor Island New Dock and

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Harbor Island New Dock
Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: ODMDS - A
Sampled By: ANAMAR / Terracon
Sample Date: 1/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1230 **End Sampling Time:** 1235

Collection Method:
(Double van Veen) Van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____
Sediment Preservation Method (circle one): Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers:
Type and Number: Teflon X Glass ____ Plastic ____ Ziploc ____ Other Container w/ Stations ODMDS - B + C

Sediment Description: Can circle more than one texture, if applicable
Texture: Clay (Silt) (Fine Sand) Medium Sand Coarse Sand (Shell Hash)
Color: (Lt. Brown) (Yellowish Orange) Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe. (Y) N **Notes:** Oyster Shells / Sand Crab -
Organic Debris? Describe. Y (N)
Odor Present? Describe. Y (N)
Picture of Sample? (Y) N
Volume Collected: 1 grab
Grabs Collected: 1
Penetration Depth (cm): 1.5'
Desribe any Leakage, Winnowing, or Overfill here: Slight boat Rock - Shells

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____
Water Surface Elevation (circle method of measurement): RTK (Real Time) WLR Tide Tables Other:_____
Water Depth Measurement (circle one): (Fathometer) Lead Line
Water Surface Elevation (tide ht) (ft): ~6 @ 12Ft
- Water Depth (ft): 45
= Sediment Elevation (ft): -44.3
Project Depth = N/A

Waypoint ID: 478
GPS ID: Montana / Eastman 1
Latitude (Northing): 27.7905439 6
Longitude (Easting): -96.9991670 1

Wind Speed (knots): 0-5 (5-10) 10-15 >15
Wind Direction: N (NE) E SE S SW W NW
Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft
Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)
Tidal Cycle: (Low) Mid High (Slack) Incoming Outgoing
Air Temp (°F): ~60

Additional Observations, Notes:

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

Re Sample Channel Deepening Project

PROJECT: PCCA Harbor Island New Dock

Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: ODMDS-B
Sampled By: ANAMAR / Terracon
Sample Date: 1/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1305 **End Sampling Time:** 1310

Collection Method:

(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____

Sediment Preservation Method (circle one): "Wet" Ice (Refrigerated Truck/Trailer) Other

Sample Containers:

Type and Number: Teflon X Glass ____ Plastic ____ Ziploc ____ Other Bucket - 1 Contained @ Station ODMDS A+C

Sediment Description: Can circle more than one texture, if applicable

Texture: Clay Silt (Fine Sand) Medium Sand (Coarse Sand) Shell Hash

Color: (Lt. Brown) Yellowish Orange Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe.	Y	N	**Notes:** Shells -
Organic Debris? Describe.	Y	(N)	
Odor Present? Describe.	Y	(N)	
Picture of Sample?	(Y)	N	
Volume Collected:	~1 gal.		
# Grabs Collected:	1		
Penetration Depth (cm):	1.5'		

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time) VLR Tide Tables Other:_____

Water Depth Measurement (circle one): (Fathometer) Lead Line

Water Surface Elevation (tide ht) (ft): -44.6 @ 1305 **Waypoint ID:** 481

- Water Depth (ft): 45 **GPS ID:** Montana / Garmin

= Sediment Elevation (ft): -44.6 **Latitude (Northing):** 27.785529

Project Depth = N/A **Longitude (Easting):** -96.997268

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Wind Direction: N (NE) E SE S SW W NW

Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft

Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Tidal Cycle: (Low) Mid High Slack (Incoming) Outgoing

Air Temp (°F): 60°

Additional Observations, Notes:

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR Environmental Consulting, Inc.

Resample Channel Deepening Project

PROJECT: PCCA Harbor Island New Dock

Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: ODMDS-C
Sampled By: ANAMAR/Terracon
Sample Date: 1/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1240 **End Sampling Time:** 1255

Collection Method:

(Double van Veen) van Veen Mod. Petersen Large Ponar Petite Ponar Vibracore Box Core Other _____

Sediment Preservation Method (circle one): Wet Ice (Refrigerated Truck/Trailer) Other

Sample Containers:

Type and Number: Teflon X Glass ____ Plastic ____ Ziploc ____ Other Bucket-1 Composited @ Stations ODMDS A+B

Sediment Description: Can circle more than one texture, if applicable

Texture: Clay Silt (Fine Sand) Medium Sand Coarse Sand (Shell Hash)

Color: (Lt. Brown) Yellowish Orange Greenish Gray (Olive Gray) Lt. Gray Dk. Gray

Live Organisms? Describe.	Y	N	**Notes:**
Organic Debris? Describe.	Y	(N)	Shells
Odor Present? Describe.	Y	(N)	
Picture of Sample?	(Y)	N	
Volume Collected:	1 gal.		
# Grabs Collected:	1		
Penetration Depth (cm):	1.5'		

Desribe any Leakage, Winnowing, or Overfill here:

STATION INFORMATION

V-Datum: (MLLW) MLW NAVD 88 NGVD 29 Other:_____ **H-Datum:** (NAD83) NAD27 WGS84 Other:_____

Water Surface Elevation (circle method of measurement): RTK (Real Time) VLR Tide Tables Other:_____

Water Depth Measurement (circle one): (Fathometer) Lead Line

Water Surface Elevation (tide ht) (ft): .64 @ 1236

- Water Depth (ft): 45

= Sediment Elevation (ft): -44.4

Project Depth = N/A

Waypoint ID: 479

GPS ID: Montana-Garmin1

Latitude (Northing): 27.7877996

Longitude (Easting): -97.0003460

Wind Speed (knots): 0-5 (5-10) 10-15 >15

Wind Direction: N (NE) E SE S SW W NW

Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft

Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Tidal Cycle: (Low) Mid High (Slack) Incoming Outgoing

Air Temp (°F): 60°

Additional Observations, Notes:

Sheet ____ of ____

WATER CHEMISTRY FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA CDP Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID: REF-SW (ReSample)
Sampled By: ANAMAR/Terracon
Sample Date: 01/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1125 **End Sampling Time:** 1200

Collection Method:
(Submersible Pump) Direct Grab Van Dorn Peristaltic Pump Pneumatic Pump Other _____

Sample Containers:
Type and Number: Teflon X Glass X Plastic X Vials X Other Buckets-

Sample Description:
Suspended Material? Describe. Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: 40 gal. + plus SW Kit

Notes: (8) Sgal Buckets plus SW Kit Provided by Lab - See COC for List of Containers and Preservative, Volume-

STATION INFORMATION

Water Depth (ft): 45

Tidal Cycle: (Low) (Mid) High Slack Incoming (Outgoing)

Air Temp (°F): : 60°

Wind Speed (knots): 0-5 (5-10) 10-15 >15
Wind Direction: N (NE) E SE S SW W NW
Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft
Weather: Sunny P. Cloudy (Cloudy) Rain (drizzle, mod, heavy)

In Situ Readings:	Near-Surface	Mid-Depth (Start)	Near-Bottom (End - Mid Depth)
Time:		1128	1200/Mean
Depth (ft):		23'	23
Temp (°C):		15.7°C	15.9°C
pH (units):		8.11	8.15
Salinity (ppt):		/	/
Sp. Cond (mS/cm) OR (µS/cm):		47.4	47.5
DO (mg/L):		8.32	8.45
DO (% sat.):			
Turbidity (NTU):		5.2	6.4

Station Coordinates:
Latitude (Northing): 27.841575
Longitude (Easting): -96.993548
Waypoint #: 477
Addt'l Waypoint #: /

General Conditions, Observations, Notes:
Salinity Not w/ Meter Used

WATER CHEMISTRY FIELD SHEET

ANAMAR Environmental Consulting, Inc.

Re Sample Horton Island New Dock and

PROJECT: PCCA CDP Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID: ODMDS - SW
Sampled By: ANAMAR / Terracon
Sample Date: 1/27/2023

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1310 **End Sampling Time:** 1326

Collection Method:
(Submersible Pump) Direct Grab Van Dorn Peristaltic Pump Pneumatic Pump Other _____

Sample Containers:
Type and Number: Teflon X Glass X Plastic X Vials X Other _____

Sample Description:
Suspended Material? Describe Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: _____

Notes: Sub Water Pot Only - See COC w/ Sample Containers Preservative + Volume: -

STATION INFORMATION

Water Depth (ft): 45

Tidal Cycle: (Low) Slack Mid (Incoming) High Outgoing

Wind Speed (knots): 0-5 (5-10) 10-15 >15
Wind Direction: N (NE) E SE S SW W NW
Sea State: Calm 1-2 ft (2-3 ft) 3-4 ft 4-5 ft >5 ft
Weather: Sunny P Cloudy (Cloudy) Rain (drizzle, mod, heavy)

Air Temp (°F): 60

In Situ Readings:	Near-Surface	Mid-Depth (Start)	Near-Bottom (End Mid-Depth)
Time:		1315	1326
Depth (ft):		23	23
Temp (°C):		16°C	16.02°C
pH (units):		8.14	8.17
Salinity (ppt):		/	/
Sp. Cond (mS/cm) OR (µS/cm):		49.0	49.3
DO (mg/L):		6.73	5.33
DO (% sat.):			
Turbidity (NTU):		3.8	5.9

Station Coordinates:
Latitude (Northing): 27.782773
Longitude (Easting): -96.996975
Waypoint #: 482
Addt'l Waypoint #: /

General Conditions, Observations, Notes:
Salinity Not w/ Meter Used.

Daily Quality Control Report

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Harbor Island New Dock Section 103

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Pawlak
Date: 1/16/23

Samples Collected: DMMU 1-1A (0-30')
DMMU 2-1A (30-60')

Notes,Comments: 1130 - Arrive on-site w/ EnviroTech Drilling - David & Joe
* Conduct TGSM w/ Team

1330
GAP ~~1335~~ - Begin drilling DMMU 1-1A (0-30') after clearing hole to 5' bgs w/ Posthole digger and handpuhe

1358 - Begin drilling DMMU 1-1A (0-30') w/ solid flight augers after casing off top 10' w/ 6¼" ID HSAs

1420 - ~~Sampled~~ DMMU1-1A (0-30') collected 15 gallons (2 Tox & 1 Chem)

1510 - Begin drilling DMMU 2-1A (30-60') to case off top 40' w/ 6¼" ID Augers

1600 - Begin drilling DMMU2-1A (30-60') w/ solid flight augers

1720 - Sample DMMU 2-1A (30-60') collected 15 gallons (2 Tox & 1 Chem)

1830 - off-site after removing augers and plugging bore w/ cuttings and bentonite chips

ANAMAR
Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Harbor Island New Dock Section 103

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Gregg Pawlak
Date: 11/7/03

Samples Collected: DMMU 1-1B (0-30'), DMMU 2-1B (30-60'), DMMU 1-1C (0-30'), DMMU 2-1C (30-60')

Notes,Comments: 0730 - Arrive on-site & conduct TBSM w/ Drillers
0850 - Set up on DMMU 1-1B after decon of Augers
0905 - Begin drilling DMMU 1-1B to screw off top 10' w/ 6¼" ID Augers after clearing hole to 5' bgs w/ post hole digger and hand probe
0910 - Begin drilling DMMU 1-1B w/ SFA from 0-30' bgs intervals starts at -10' bgs which is under RRL jurisdiction

0940 - Sample DMMU 1-1B (0-30')
* collected 15 gallons (2 tox and 1 chem)

1010 - Begin drilling DMMU 2-1B (30-60') to case off top 40' w/ 6¼" ID augers

1010 - Begin drilling DMMU 2-1B (30-60') w/ solid flight augers

1130 - Sample DMMU 2-1B (30-60')
collected 15 gallons (2 tox & 1 chem)

1135 - Begin removing augers & decontamination

1340 - Complete decon of Augers

ANAMAR
Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Pawlak
Date: 1/17/23

Samples Collected: See Page #1

Notes,Comments:

1355 - Set up on DMMU 1 - 1C (0-30') and clear hole to 5' bgs w/ Post hole digger and hand probe

1400 - Begin drilling DMMU 1 - 1C (0-30') to case off top 10' w/ 6¼" ID Augers

1423 - Begin drilling DMMU 1 - 1C (0-30') w/ solid flight Augers

1440 - Sampled DMMU 1 - 1C (0-30') collected 15 gallons (1 chem & 2 tox)

1500 - Begin drilling DMMU 2 - 1C (30-60') to case off top 40' w/ 6¼" ID Augers

1545 - Begin drilling DMMU 2 - 1C (30-60') w/ solid flight augers

1630 - Sampled DMMU 2 - 1C (30-60') collected 15 gallons (1 chem & 2 tox)

1750 - Complete pulling augers

1830 - Depart site

Daily Quality Control Report

ANAMAR Environmental Consulting, Inc.

Page 1

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Lawlor
Date: 1/18/23

Samples Collected: DMMU5-3A (0-30'), DMMU 6-3A (30-60')
DMMU 5-3B (0-30'), DMMU 6-3B (30-60')

Notes,Comments: 0730- Arrive on site w/ drillers. Conduct TGSM
0800- Drillers decon augers, equipment
0820- Set up on DMMU5-3A
0830- Begin ~~hand augering~~ first 5' for utility check, probe 5' to clear boring
↳ correction: "Post hole digging"
0850- Begin drilling to 10' bgs with HSA to case off top 10' for RRC.
0920- Begin drilling DMMU5-3A to -30 (40' bgs) for sample DMMU5-3A (0-30'), after setting down plastic liner
0940- Sample DMMU5-3A (0-30')
Collect 15 gallons (2 Tox & 1 Chem.)
1010- Begin drilling DMMU 6-3A (30-60') to case off top 40' w/ 6¼" ID augers
1045- Begin drilling DMMU 6-3A (30-60') w/ solid flight augers
1115- Sample DMMU 6-3A (30-60')
Collect 15 gallons (2 Tox & 1 Chem)
* Begin pulling augers
1240- Complete decon of augers and setting up on DMMU 5-3B (0-30')

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Pawlak
Date: 1/18/23

Page 2

Samples Collected: See Page 1

Notes,Comments:

1250 - Begin drilling DMMU 5-3B (0-30') w/ 6¼" ID HSA to case off top 10'

1310 - Begin drilling DMMU 5-3B (0-30') w/ Solid Flight Augers

1400 - Sample DMMU 5-3B (0-30')
Collect 15 gallons (2 Tox & 1 Chem)

1410 - Begin drilling DMMU 6-3B (30-60') to case off top 40' w/ 6¼" ID HSA

1505 - Begin drilling DMMU 6-3B (30-60') w/ solid flight augers

1545 - Sample DMMU 6-3B (30-60')
* Collect 15 gallons (2 Tox & 1 Chem)
& Begin Pulling Auger

1700 - Off-site

Daily Quality Control Report

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Harbor Island New Dock Section 103

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Page 1

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Pawlak
Date: 1/29/13

Samples Collected: DMMU 5-3C (0-30') DMMU 6-3C (30-60')
DMMU 3-2A (0-30') DUP, DMMU 3-2A (0-30')

Notes,Comments: 0730- Arrive on-site (765m)
0830- Complete decanning augers
0845- Begin drilling DMMU 5-3C (0-30') w/ 6 1/4" ID HSAs to case off top 10'

0900- Begin drilling DMMU5-3C (0-30') w/ solid flight Augers
0920- Sample DMMU5-3C (0-30')
Collect 15 gallons (2 Tox & 1 Chem)
0940
~~1015~~ - Begin drilling DMMU 6-3C (30-60') to case off top 40' w/ 6 1/4" ID HSAs

1015 - Begin drilling DMMU6-3C (30-60') w/ Solid flight Augers

~~1110~~
~~1110~~ - Sample DMMU 6-3C (30-60')
Collect 15 gallons (2 Tox & 1 Chem)

1245- Complete decanning augers

1330 - Begin drilling DMMU 3-2A (0-30') DUP after clearing hole to 5' bgs w/ Post hole digger and hand probe → Cased off top 10' w/ 6 1/4" ID HSAs

Daily Quality Control Report

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Harbor Island New Dock Section 103

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Page 2

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Gregg Pawluk
Date: ~~1/19/03~~

Samples Collected: See Page 1

Notes,Comments: 1343 - Begin drilling DMMU 3-2A (0-30') DUP w/ Solid Flight Augers
1400 - Sample DMMU 3-2A (0-30') DUP → Collected 5 gallons
1445 - Begin drilling DMMU 3-2A (0-30') to case off top 10' w/ 6¼" ID ~~HSA~~, after clearing hole to 5' bgs w/ Post hole digger and hand probe
1500 - Begin drilling DMMU 3-2A (0-30') w/ Solid Flight augers
1520 - Sample DMMU 3-2A (0-30')
Collect 20 gallons (3 tox & 1 Chem)
1520 - 1610 - pulled augers and recovered 10' HSA that had slid down hole
1610 - Begin drilling DMMU 4-2A (30-60') w/ HSA casing off top 40'
~~1640~~ 1630 GMP - Begin drilling DMMU 4-2A (30-60') w/ solid Flight augers
1700 - Sample DMMU 4-2A (30-60')
(collect 20 gallons - 3 Tox & 1 Chem)
1815 - Offsite after pulling augers & playing island with Bentonite chips

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

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Page 1

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Parlato
Date: 1/20/23

Samples Collected: DMMU 3-2B (0-30) Dup // DMMU 3-2D (0-30')
DMMU 4-2B (30-60')

Notes,Comments: 0730. On-site & conduct TGSM
0745. Begin Decgassing Augers
0845. Complete Decgassing Augers

0900. Begin drilling DMMU 3-2B (0-30') DUP after casing ~~freeing~~ off top 10' w/ 6¼" ID HSAs (0-11' w/ SPA)

0930. Sample DMMU 3-2B (0-30') DUP
Collected 5 gallons

0950. Collect Equipment Blank off SFA
& Move to DMMU 3-2D location

1010. Begin drilling DMMU 3-2D (0-30') to case off top 10' w/ HSAs
1040. Begin drilling DMMU 3-2D (0-30') w/ SFAs

1100. Sample DMMU 3-2B (0-30')
collect 20 gallons (3 tot; 1 Chem)
1115. Begin drilling DMMU 4-2B (30-60') to case off top 40' w/ 6¼" ID HSAs

1200. Begin drilling DMMU 4-2B (30-06')
w/ SFAs

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

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Page 2

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Greg Lovelace
Date: 1/20/23

Samples Collected: See Page 1

Notes,Comments:

1250 - Sample DMMU 4-2B (30-60') Collect 20 gallons (3 tox & 1 chem)

1400 - Complete pulling Augers

1445 - Drillers off-site / Jobsite secure & clean
*All gates Locked!!

1530 - Depart Martin Energy / Concrete - Full & Secure

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 1/16/2023

Samples Collected: DMMU-7-4C

Notes,Comments: 0630 - Meeting w/ Terracon Staff @ hotel
0700 - Mobilized to Martin Energy - Cascade Crew onsite -
0720 - Signed in on the Light boat - Dulange -
0800 - On Boarding Meeting w/ Crew
- Loading activities - Wired Generators - Started By Truckee
Drill Crew Set up the Sonic Drill Rig over moon pool
1230 - Lunch Break -
1300 Discussed Plan w/ Captain Chet -
1330 Risk Assessment Form Completed - All Crew Signed
1400 Mobilizing from Martin Energy for DMMU 7-4C
1450 - Arrived on Station - Took Field Check - GPS Location -
1510 - Preloading to 1530 - Access to Dock
Drill Crew Set Up - Set Casing
1637 - Measurements - Started Coring
1800 - DMMU 7-4C Collected 3 - Buckets in teflon bags ~13gal.
Cleaned Deck -
1815 - End of Day -
- MM returned to Hotel -

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 1/17/2023

Samples Collected: DMMU-7-4D
DMMU-7-4A

Notes,Comments: 0600 - Morning Meeting -
Per Capt. Location with dog boat to Move to Station 4D
0630 - Decon Core Barrels + Equipment -
0730 - Moving off Station 4C - Mobilize to 4D
0830 - Set up on Station ~95' from Station -
0905 - Access to deck
0918 - Measurements, 0920 Started Coring -
1115 - Sampling DMMU-7-4D Completed Sent Sediment Ref. Trailer
1140 - Lunch Break -
1210 - Capt. Started Lowering down - Stuck in Mud -
Vessel Traffic in Shipping Channel
1300 - Moving to DMMU-7-4A - Very Shallow Location
~95' from 4A Revised Location per Boat -
1400 - Access to deck - Set up -
1412 - Measurements, 1418 - Started Coring
1615 - DMMU-7-4A Sample Collected - in Ref. Trailer
- Cleaned Deck - Clean deck -
1700 Mobilized to Martin Energy - Crew Change in Morning -
Completed COCs -
Drafted Dredge Memo for discussion w/ PCCA -

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 1/18/2023

Samples Collected: DMMU-7-4B
DMMU-8-5A

Notes,Comments: 0600 - Waiting for Shift Change - Vessel Crew.
0720 - Meeting w/ Vessel Crew & Cascade Field Team - Risk Assessment Completed and Signed -
0800 - Mobilized Down - 0817 - Leaving Morton Energy
0840 - Arrived on Station DMMU-7-4B - Preload Period -
0915 - Access to Deck - Completed Sampling - 1145 Samples in Rf Trailer
1215 - Mobilizing to DMMU-8-5A, 1315 - Arrived on Station ~60' from Original Location -
1345 - Access to deck - Strong Current - Incoming -
1410 - Started Coring - White Pompano Core Barrels at 1530
1530 Casing was moving in Moonpool - Shifted out of Place
1555 Crane Mobilized + Connected + Removed Casing -
1600 - Extruded Samples + Processed Samples
1620 - DMMU-8-5A Completed Samples in Rf Trailer -
1700 - Mobilizing from Station - Return to Morton Energy
1730 - Preload - Completed COC's for Samples Collected
1830 - Offloaded Samples from Lyktaat into the refrigerator trailer at Morton Energy -
1900 - COC w/ Samples - Secure in Rf Trailer - Photos -

Daily Quality Control Report

ANAMAR

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 1/19/2023

Samples Collected: DMMU-8-5B

Notes,Comments: 0600 Marine Weather -
- Drill Crew will use an additional Chain to Hold Casing as Needed
0620 Lowering down - 0635 - Leaving Martin Energy -
0725 Arrived at ~~Martin Energy~~ DMMU-8-5B
0800 - Access to dock - Collected 2 Cores - 1000 Completed
1020 - Moving to Station DMMU-8-5D - 1115 Arrived on Station
1145 - Access to Dock - Checked water depth to Mud Line -
* 1210 Water Depth is 60.4' MLLW - At the Project Depth -
Crew will attempt to get Closer to Harbor Island -
1315 - Set up at the 5D Station location in the SAP ~10' West
No way to get Closer to Harbor Island due to Wind + Current.
1340 - Access to dock - Set Casing Checked
* Depth of Water to Mud Line - 60.8' MLLW - Below P.D.
1430 - Attempting to set up at DMMU-8-5C
1500 NE winds + Strong Current - Not able to get close to 5C
Captain had to set leg to hold left beam in place
until Current and tide changed ~~1615~~ (1615)
1600 Waiting on Standby until we can safely back to
Martin Energy -
1930 - Still on Standby - Current too strong to Move -
1830 - Moved Closer to Mooring looking - ~300' from DMMU-8-5C
Will set up on Station in the Morning

* See Core Log for Measurements + Calculations to Water Depth

Daily Quality Control Report

ANAMAR Environmental Consulting Inc.

PROJECT: PCCA Harbor Island New Dock Section 103

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 11/20/2023

Samples Collected: DMMU-8-SC

Notes,Comments: 0600 Morning Meeting - 0650 - Mooring to Master Energy Convey pickup at dock -
0740 - Jacking down - 0755 Mobilizing to DMMU-8-SC
0825 - Set up on Station - 85' NW of Original location - Adjacent to the dredge unit boundary -
0900 - Access to dock - Setup -
0915 - Measurements - Started Core -
1020 - Sampling Completed - Samples on RV. Trailer -
1045 - Wind NE 30-35 Knots - Not able to Jackdown - on Standby / Unable to decrease -
1200 - 25-30 Knots winds - Continue - Standby -
1500 - Continue to Standby - Wind + Increasing Tide
1800 - On-Standby - Stayed on location for the night

Daily Quality Control Report

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PROJECT: PCCA CDP Section 103

This report will contain a description of the work performed, samples collected, general conditions, corrective action taken, departures from the sampling plans and any other notes or comments needed that will document the day's activities.

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Name: Michael MacKenzie
Date: 1/27/2023

Samples Collected: Reference Sediment + SW ODMDS - Sed. + SW.
DMMU-8-SD - Sediment (Grab), CDP-07C Site Water
CDP-06B - Site Water.

Notes, Comments: 0630 - Lv + Hotel 0645 - Arrived at Martin Energy -
0700 - Setup DW Equipment - Replacement Generator
delivered to Martin Energy -
730 Crew Setting up - Location Blue Beta
0800 - Health + Safety Meeting - Risk Assessment Form Completed
0838 - Leaving Martin Energy dock for Reference Station
0920 to 1200 - Collected Reference Sediment + Site Water
1236 to 1326 - Collected ODMDS Sediment + Site Water -
1330 Mobilized onshore to Collect DMMU-8-SD Grab
Samples - Sediment only - 1405 to 1433 - Completed
1446 to 1526 - Collected Site Water from CDP-07C
Mobilized to CDP-06B - 1530 - Arrived -
1537 to 1607 Collected Site Water from CDP-06B
1610 - Mobilizing to Martin Energy -
1620 - Offloaded Samples/Sampled water Ref. Location - Remaining
at 4°C - Completed COC for All Samples -
Offloaded Equipment -
Site Water Samples will be delivered to MADS 1/28/23
Bulk Sediment will be received by MADS Courier 1/30/23
1710 - Leaving Martin Energy - Photographed Samples on Ice

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Re-Sample — — — Harbor Island Channel Deepening Project

PROJECT: PCCA ~~Harbor Island New Dock~~ Section 103

Temperature Log **Vehicle:** Lift Boat Dularge

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
Michael Madonna	1/15/2023	1000	Dularge	Started	—	Started Generator -
" "	1/16/2023	1317	"	3.3°C	Y	- Generator 1/2 full -
" "	" " "	1700	"	3.3°C	Y	
" "	" " "	1810	"	—	—	Fuel in Generator —
Michael Madonna	1/17/2023	0645	"	3.3°C	Y	
" "	↓	1353	"	3.3°C	Y	
" "	↓	1930	"	3.3°C	Y	Fuel in Generator — 65%
Michael Madonna	1/18/2023	0545	"	3.3°C	Y	
" "	↓	1440	"	3.3°C	Y	Photo of Temp on Screen -
" "	↓	1830	"	3.3°C	Y	Before Collecting Samples -
Michael Madonna	1/19/2023	0810	"	—	—	Re-started Ref. Trailer + Generator
" "	↓	0930	"	3.3°C	Y	
" "	↓	1415	"	3.3°C	Y	
" "	↓	2000	"	3.3°C	Y	50% fuel Level -
Michael Madonna	1/20/2023	0627	"	3.3°C	Y	40% fuel level -
" "	↓	1400	"	3.3°C	Y	Fuel in Generator —
" "	↓	1900	"	3.3°C	Y	- Photo of Display Screen
Michael Madonna	1/21/2023	0530	"	3.3°C	Y	47% fuel
" "	↓	1510	"	3.3°C	Y	Photo of Screen
" "	↓	1830	"	3.3°C	Y	Collected samples & loaded
1930 Shut unit down to Conserve fuel - No Samples in Ref. Trailer						

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Refrigerator Trailer on Lift Boat

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PROJECT: Corpus Christi Channel Deepening
Temperature Log — Dulange Left Boat, Land Martin Energy –

Taken By	Date	Time	Box ID	Temperature	Acceptable Y/N	Comments
Michael Madonna	1/22/23	0630	Dulange	—		Started Generator - New Alternator
" "	" " "	0645	"	3.3°c	Y	Rig at Temp - then Set Done
" "	" " "	1150	"	3.3°c	Y	CDP-03-3A Sample in Rig Trailer
" "	" " "	1500	"	3.4°c	Y	Photo - CDP-03-3C Sample in Rig Trailer
Michael Madonna	1/23/2023	1245	Dulange	—	—	Started Generator -
" "	" " "	1300	"	3.0°c	yes	- Photo -
		1800	"	3.3°c	Y	
Michael Madonna	1/24/2023	0630	Dulange	3.3°c	yes	- fueling Generator -
		1800	"	3.4°c	Y	051% fuel -
Michael Madonna	1/25/2023	0550	"	3.3°c	Y	
" "	" " "	1315	"	3.3°c	Y	
		1445		3.3		- Transfered Samples to Land Based Trailer
Michael Madonna	1/25/2023	1530	Martin Energy	3.2°c	Y	Samples in Land based Rig Trailer
" "		1730		3.3°c	Y	- Prior to leaving Martin Energy
" "	1/26/2023	0800	Martin Energy	3.2°c	Y	Generator 48% fuel -
" "	" " "	1240	" "	3.0	Y	Prior to Connor Receiving Samples
Michael Madonna	" " "	1748	—	—	→	Shut Down Rig, Unit + Generator 40% fuel
Michael Madonna	1/27/2023					

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* Samples transfered to Land Based Trailer 1/22/23 - 1800 hrs - Generator Shut Down on the Left Boat

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PROJECT: PCCA Harbor Island New Dock Section 103 | COP

Temperature Log **Vehicle:** L/B Dulange

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
Michael Madonna	2/1/2022	0630	Dulange	3.6°C	Y	photo -
" "	2/2/2022	0500	" "	3.3°C	Y	photo -
" "	2/2/2022	1700	" "	3.2°C	Y	
" "	2/2/2022	1745	" "	—	—	Refueled Generator -
" "	" " "	1835	" "	2.4°C	yes	photo -
" "	2/3/2022	0535	" "	3.5°C	Y	photo
" "	" " "	1730	" "	3.5°C	Y	
" "	2/4/2022	0610	" "	3.5°C	Y	
" "	" " "	1400	" "	—	—	Refueled Generator -
" "	" " "	1800	" "	3.6°C	Y	photo -
" "	2/5/2022	0600	" "	3.6°C	Y	
" "	" " "	1900	" "	3.1°C	Y	
" "	2/6/2022	0610	" "	3.8°C	Y	
" "	" " "	1445	" "	—	—	Refueled Generator
" "	" " "	1800	" "	3.4°C	Y	
" "	2/7/2022	0645	" "	3.3°C	Y	
" "	" " "	1135	" "	3.6°C	Y	
M Ross	2/8/22	0630	"	3.6°C	Y	
	"	1700	"	3.0°C	Y	
	2/9/22	0630	"	3.4°C	Y	
	"	1630	"	3.4°C	Y	Technician to check generator, change oil
	2/10/22	0700		3.4	N	Refuel generator

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Notes: Warm ECU Alarm on Generator
2/3/2022 0900 and 2100 hours - Called Technician
2/4/2022 0830 - Called Technician - Called Mechanic
09:15 Call Back from Technician - Check - Fuel Pressure Sensor -
2/5/2022 1000 - ECU - Fuel Pressure - Stopped + Started Unit
2/7/2022 - Contacted Technician Regarding Alarm -

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PROJECT: PCCA Harbor Island New Dock Section 103 ICOP

Temperature Log **Vehicle:** L/B Dulange

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
M Rau	2/10/22	1800	Dulange	3.4°	Y	
	2/11/22	0700	Dulange	3.4	Y	
		1800		3.4		
	2/12/22	0800		3.4	Y	Refueled generator --
TCS	12 Feb 2022	1755	L/B Dulange	3.4 °C	Yes	Fuel is 3/4 full
JCS	13 Feb 2022	0613	" "	3.3°C	Yes	cant read fuel gauge but should have enough
JCS	13 Feb 2022	1503	" "	3.3°C	Yes	Fuel gauge 1/2 full. Will fill soon
JCS	14 Feb 2022	0529	" "	3.4°C	Yes	
JCS	14 Feb 2022	0705	" "	2.3°C	Yes	Refueled generator. Now full.
JCS	14 Feb 2022	1427	" "	3.2°C	Yes	
JCS	14 Feb 2022	2003	" "	3.0°C	Yes	
JCS	15 Feb 2022	0538	" "	3.2°C	Yes	Generator 3/4 full 1/2 full
JCS	15 Feb 2022	1949	" "	3.3°C	Yes	Turned off Generator until we add samples to cold box
JCS	15 Feb 2022	1620	" "	3.2°C	Yes	Turned on Generator + added samples, Temp. dipped to 3.2°C within 10 minutes
JCS	16 Feb 2022	0637	" "	3.1°C	Yes	Generator > 1/4 full, will refill if this AM
JCS	16 Feb 2022	1005		3.3°C	Yes	Refilled Generator + checked oil (Full)
TCS	16 Feb 2022	1416		3.4°C	Yes	
JCS	16 Feb 2022	1801		3.1°C	Yes	
TCS	17 Feb 2022	0505		3.1°C	Yes	Generator ~ 1/2 full
JCS	17 Feb 2022	1654		2.2°C	Yes	
JCS	17 Feb 2022	1826		3.1°C	Yes	Transferred samples to land-based fridge Trailer and Turned off generator for night

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Reminder
Refuel Reefer every other day

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PCCA CDP Section 103 (W)

PROJECT: PCCA Harbor Island New Dock Section 103

Temperature Log **Vehicle:** Cold box on L/B Dulcarge

Taken By	Date	Time	Location	Temperature (°C)	Acceptable Y/N	Comments
JCS	18 Feb 2022	1312hr	L/B Dulcarge	Left unwilling to load sand		Filled generator
JCS	19 Feb 2022	1448	" "	3.4 °C	Yes	Activated generator & took samples
MAM	2/19/22	0536	" "	3.1°C	Y	73% fuel level.
MAM	" " "	1738	" "	3.0°C	Y	55% fuel level
MAM	2/20/2022	0548	" "	3.6 °C	Y	40% fuel level
MAM	" " "	0735	" "			Refuel Generator 85%
MAM	" " "	1935	" "	3.0	Y	
MAM	2/21/2022	0610	" "			Generator Shut Down Not Working Contacted Technician.
MAM	2/21/2022	1040	Samples were transferred to land base refrigerator CDP-09A CDP-09B and CDP09 SW			
MAM	2/21/2022	11:50	Martin Fence	39°C/4°C	Y	
"	" "	1250	"	38°C	Y	Photo —
MAM	2/21/2022	1500	"	37.6°C	Y	Samples were received & Cooler placed in Refrigerated trailer, transported directly to the lab
						End of Page 3 See Page 4

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MAM = Michael Madonna

Includes CDP project sampling (N)

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PROJECT: PCCA Deepening Section 103

Temperature Log **Vehicle:** L/B Dulange

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
(MAM)	2/22/2022	1045	L/B Dulange	2.9°C	Y	Started 1020, Running
MAM	" " "	1400	"	3.1°C	Y	
MAM	" " "	1900	"	3.0°C	Y	
MAM	2/23/2022	0015	"	3.2	Y	
MAM	" " "	1730	"	3.0°C	Y	
MAM	2/23/2022	1800	Martin Energy	3.4°C	Y	Samples transferred,
MAM	2/23/2022	1900	Martin Energy	3.4°C	Y	photo -
MAM	2/24/2022	0545	Martin Energy	3.5°C	Y	photo -
MAM	2/24/2022	0730	Dulange	———	———	Started Generator + Refrigerator
MAM	2/24/2022	0900	"	3.4	Yes	
MAM	" " "	1110	"	2.9	Y	
MAM	" " "	2045	"	3.5	Y	
MAM	2/25/2022	0535	"	3.1	Y	
MAM	2/25/2022	1750	"	3.3	Y	~1/2 Tank
MAM	2/25/2022	1935	"	3.1	Y	
MAM	2/26/2022	0545	"	3.0	Y	
MAM	2/26/2022	1155	"	3.3	Y	
MAM	2/26/2022	1530	"	3.1	Y	
MAM	2/26/2022	1910	"	3.0	Y	
MAM	2/27/2022	0530	"	3.6	Y	
MAM	2/27/2022	1343	"	3.5	Y	

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(MAM) = Michael Madonna

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PROJECT: PCCA Deepening Section 103

Temperature Log **Vehicle:** Dubarge Left Port

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
Michael Madsen	2/27/22	2000	Dubarge	2.9 °C	Yes	
Michael Madsen	2/28/22	0600	"	2.4°C	Y	1/2 Tank fuel.
MM	2/28/22	1130	"	3.1°C	Y	
MM	2/28/22	1500	Dubarge	3.4°C	Y	-Before Offloading Samples
MM	2/28/22	1530	Martin Energy	—	—	Started Refrigerator @ Martin Energy
MM	2/28/22	1540	Martin Energy	3.4°C	Y	38.1°F - Before loading Samples
MM	2/28/22	1610	Martin Energy	3.7	Y	38.6°F Samples in Refrigerator
	3/1/2022					
MM	3/1/2022	0810	Martin Energy	3.2°C	Y	37.9°F 56% fuel level.
MM	3/1/2022	0900	Martin Energy	3.2°C	Y	37.9°F
MM	3/1/2022	1130	Martin Energy	3.4°C	Y	38.1°F 52% fuel Range
Michael Madsen	3/3/2022	1330	Martin Energy	3.4°C	Y	38.1°F
MM	3/3/2022	1500	Martin Energy	3.4°C	Y	Refuel in Generator
MM	3/4/2022	0708	Martin Energy	3.2°C	Y	39.9°F 56% fuel Range

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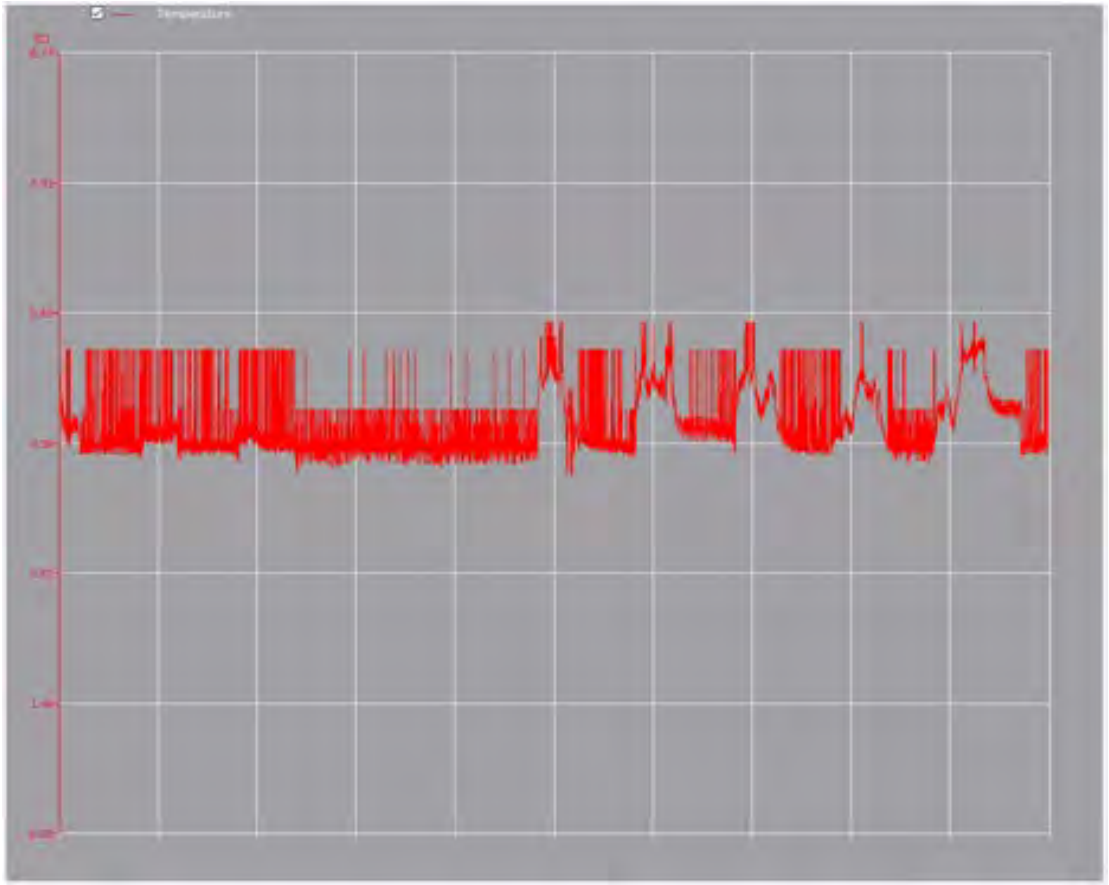
MM = Michael Madsen



Senonics Minnow1-T Logger
Time Zone UTC + -5 hours

Configuration :

DeviceID	SenonicsLoggerCB1
LoggingStart	On Disconnection
LoggingStartTime	02.23 0:00:00
LoggingInterval	1 min
TemperatureAlarmThresholdHigh	NA
TemperatureAlarmThresholdLow	NA
Celcius/Fahrenheit	Celcius

# Sample Info :			#Plot	
Data No	Date	Time	Date/Time	Temperature
1	2/23/2022	0:00:00	2/23/2022 0:00	6.4459
2	2/23/2022	0:01:00	2/23/2022 0:01	6.7556
3	2/23/2022	0:02:00	2/23/2022 0:02	7.3111
4	2/23/2022	0:03:00	2/23/2022 0:03	7.0974
5	2/23/2022	0:04:00	2/23/2022 0:04	6.8411
6	2/23/2022	0:05:00	2/23/2022 0:05	6.6168
7	2/23/2022	0:06:00	2/23/2022 0:06	6.4085
8	2/23/2022	0:07:00	2/23/2022 0:07	6.2055
9	2/23/2022	0:08:00	2/23/2022 0:08	6.07
10	2/23/2022	0:09:00	2/23/2022 0:09	5.847
11	2/23/2022	0:10:00	2/23/2022 0:10	5.6555
12	2/23/2022	0:11:00	2/23/2022 0:11	5.5006
13	2/23/2022	0:12:00	2/23/2022 0:12	5.4151
14	2/23/2022	0:13:00	2/23/2022 0:13	5.2869
15	2/23/2022	0:14:00	2/23/2022 0:14	5.2015
16	2/23/2022	0:15:00	2/23/2022 0:15	5.1748
17	2/23/2022	0:16:00	2/23/2022 0:16	5.116
18	2/23/2022	0:17:00	2/23/2022 0:17	5.0893
19	2/23/2022	0:18:00	2/23/2022 0:18	5.0733
20	2/23/2022	0:19:00	2/23/2022 0:19	5.0199
21	2/23/2022	0:20:00	2/23/2022 0:20	5.0359
22	2/23/2022	0:21:00	2/23/2022 0:21	5.0466
23	2/23/2022	0:22:00	2/23/2022 0:22	5.0359
24	2/23/2022	0:23:00	2/23/2022 0:23	5.0039
25	2/23/2022	0:24:00	2/23/2022 0:24	5.0199
26	2/23/2022	0:25:00	2/23/2022 0:25	5.0359
27	2/23/2022	0:26:00	2/23/2022 0:26	5.0039
28	2/23/2022	0:27:00	2/23/2022 0:27	5.0199
29	2/23/2022	0:28:00	2/23/2022 0:28	5.0359
30	2/23/2022	0:29:00	2/23/2022 0:29	5.0039
31	2/23/2022	0:30:00	2/23/2022 0:30	4.9932

32	2/23/2022	0:31:00	2/23/2022 0:31	4.9612
33	2/23/2022	0:32:00	2/23/2022 0:32	4.8917
34	2/23/2022	0:33:00	2/23/2022 0:33	4.865
35	2/23/2022	0:34:00	2/23/2022 0:34	4.853
36	2/23/2022	0:35:00	2/23/2022 0:35	4.7529
37	2/23/2022	0:36:00	2/23/2022 0:36	4.7529
38	2/23/2022	0:37:00	2/23/2022 0:37	4.7102
39	2/23/2022	0:38:00	2/23/2022 0:38	4.7102
40	2/23/2022	0:39:00	2/23/2022 0:39	4.6941
41	2/23/2022	0:40:00	2/23/2022 0:40	4.7102
42	2/23/2022	0:41:00	2/23/2022 0:41	4.7262
43	2/23/2022	0:42:00	2/23/2022 0:42	4.7529
44	2/23/2022	0:43:00	2/23/2022 0:43	4.7636
45	2/23/2022	0:44:00	2/23/2022 0:44	4.7796
46	2/23/2022	0:45:00	2/23/2022 0:45	4.7796
47	2/23/2022	0:46:00	2/23/2022 0:46	4.7956
48	2/23/2022	0:47:00	2/23/2022 0:47	4.7956
49	2/23/2022	0:48:00	2/23/2022 0:48	4.853
50	2/23/2022	0:49:00	2/23/2022 0:49	4.7796
51	2/23/2022	0:50:00	2/23/2022 0:50	4.8063
52	2/23/2022	0:51:00	2/23/2022 0:51	4.7636
53	2/23/2022	0:52:00	2/23/2022 0:52	4.7369
54	2/23/2022	0:53:00	2/23/2022 0:53	4.7102
55	2/23/2022	0:54:00	2/23/2022 0:54	4.6674
56	2/23/2022	0:55:00	2/23/2022 0:55	4.677
57	2/23/2022	0:56:00	2/23/2022 0:56	4.566
58	2/23/2022	0:57:00	2/23/2022 0:57	4.5499
59	2/23/2022	0:58:00	2/23/2022 0:58	4.5393
60	2/23/2022	0:59:00	2/23/2022 0:59	4.582
61	2/23/2022	1:00:00	2/23/2022 1:00	4.582
62	2/23/2022	1:01:00	2/23/2022 1:01	4.582
63	2/23/2022	1:02:00	2/23/2022 1:02	4.6087
64	2/23/2022	1:03:00	2/23/2022 1:03	4.677
65	2/23/2022	1:04:00	2/23/2022 1:04	4.6781

66	2/23/2022	1:05:00	2/23/2022	1:05	4.6514
67	2/23/2022	1:06:00	2/23/2022	1:06	4.6941
68	2/23/2022	1:07:00	2/23/2022	1:07	4.6941
69	2/23/2022	1:08:00	2/23/2022	1:08	4.7262
70	2/23/2022	1:09:00	2/23/2022	1:09	4.7369
71	2/23/2022	1:10:00	2/23/2022	1:10	4.7796
72	2/23/2022	1:11:00	2/23/2022	1:11	4.7529
73	2/23/2022	1:12:00	2/23/2022	1:12	4.7369
74	2/23/2022	1:13:00	2/23/2022	1:13	4.6941
75	2/23/2022	1:14:00	2/23/2022	1:14	4.6781
76	2/23/2022	1:15:00	2/23/2022	1:15	4.6674
77	2/23/2022	1:16:00	2/23/2022	1:16	4.677
78	2/23/2022	1:17:00	2/23/2022	1:17	4.5927
79	2/23/2022	1:18:00	2/23/2022	1:18	4.5499
80	2/23/2022	1:19:00	2/23/2022	1:19	4.5393
81	2/23/2022	1:20:00	2/23/2022	1:20	4.5499
82	2/23/2022	1:21:00	2/23/2022	1:21	4.566
83	2/23/2022	1:22:00	2/23/2022	1:22	4.566
84	2/23/2022	1:23:00	2/23/2022	1:23	4.566
85	2/23/2022	1:24:00	2/23/2022	1:24	4.582
86	2/23/2022	1:25:00	2/23/2022	1:25	4.6087
87	2/23/2022	1:26:00	2/23/2022	1:26	4.6087
88	2/23/2022	1:27:00	2/23/2022	1:27	4.6354
89	2/23/2022	1:28:00	2/23/2022	1:28	4.6514
90	2/23/2022	1:29:00	2/23/2022	1:29	4.6514
91	2/23/2022	1:30:00	2/23/2022	1:30	4.6674
92	2/23/2022	1:31:00	2/23/2022	1:31	4.6514
93	2/23/2022	1:32:00	2/23/2022	1:32	4.6674
94	2/23/2022	1:33:00	2/23/2022	1:33	4.6514
95	2/23/2022	1:34:00	2/23/2022	1:34	4.6087
96	2/23/2022	1:35:00	2/23/2022	1:35	4.566
97	2/23/2022	1:36:00	2/23/2022	1:36	4.562
98	2/23/2022	1:37:00	2/23/2022	1:37	4.5126
99	2/23/2022	1:38:00	2/23/2022	1:38	4.4805

APPENDIX C

PHYSICAL LAB REPORT

March 6, 2023

Ms. Monica Martin

Re: North Water District Laboratory Services, Inc. (NWDLS)
NWDLS Geosciences Lab Testing – Task Order #13
Project #23A1459

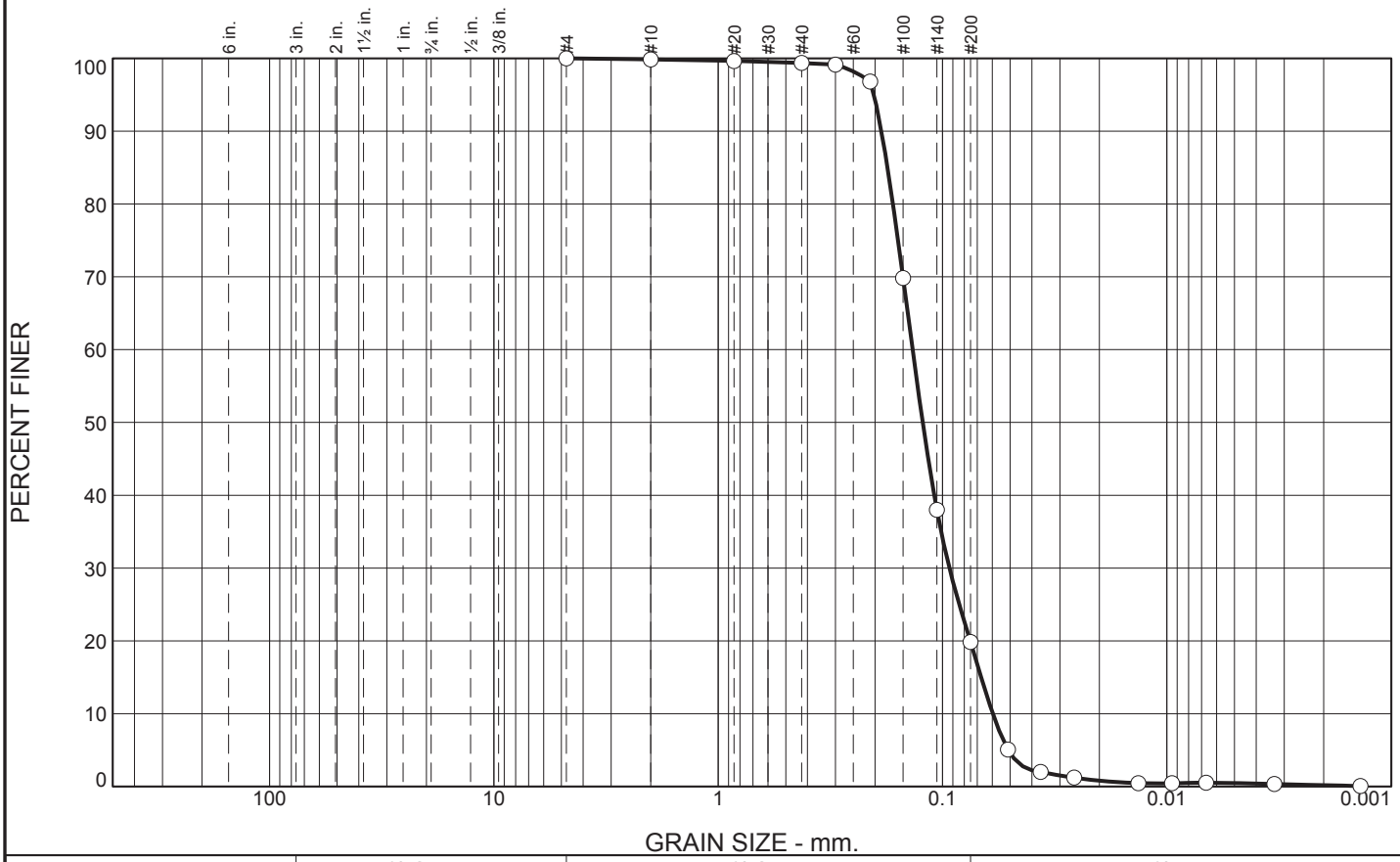
The Taylor Engineering Coastal & Marine Geosciences Laboratory is pleased to submit the following sediment data for NWDLS project #23A1459. Taylor Engineering received 33 samples for analysis in Jacksonville, Florida on February 1st, 2023. Laboratory testing for project #23A1459 included sieve and hydrometer analysis according to ASTM D-422. Attached to this letter are the individual test results for each sample.

If any additional information is needed or if you have any questions, please contact me at (904) 731-7040 or nlamb@taylorengineering.com.

Sincerely,

Natalie Lamb, G.I.T.
Staff Geologist
Coastal & Marine Geosciences Lab Assistant Manager

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.5	79.6	19.4	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.6		
#40	99.4		
#50	99.1		
#70	96.8		
#100	69.8		
#140	38.0		
#200	19.8		
0.0511 mm.	5.1		
0.0365 mm.	2.0		
0.0259 mm.	1.2		
0.0134 mm.	0.4		
0.0095 mm.	0.4		
0.0067 mm.	0.5		
0.0033 mm.	0.3		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1872 D_{85}= 0.1759 D_{60}= 0.1360
D_{50}= 0.1225 D_{30}= 0.0932 D_{15}= 0.0673
D_{10}= 0.0597 C_u= 2.28 C_c= 1.07

Classification

USCS= SM AASHTO=

Remarks

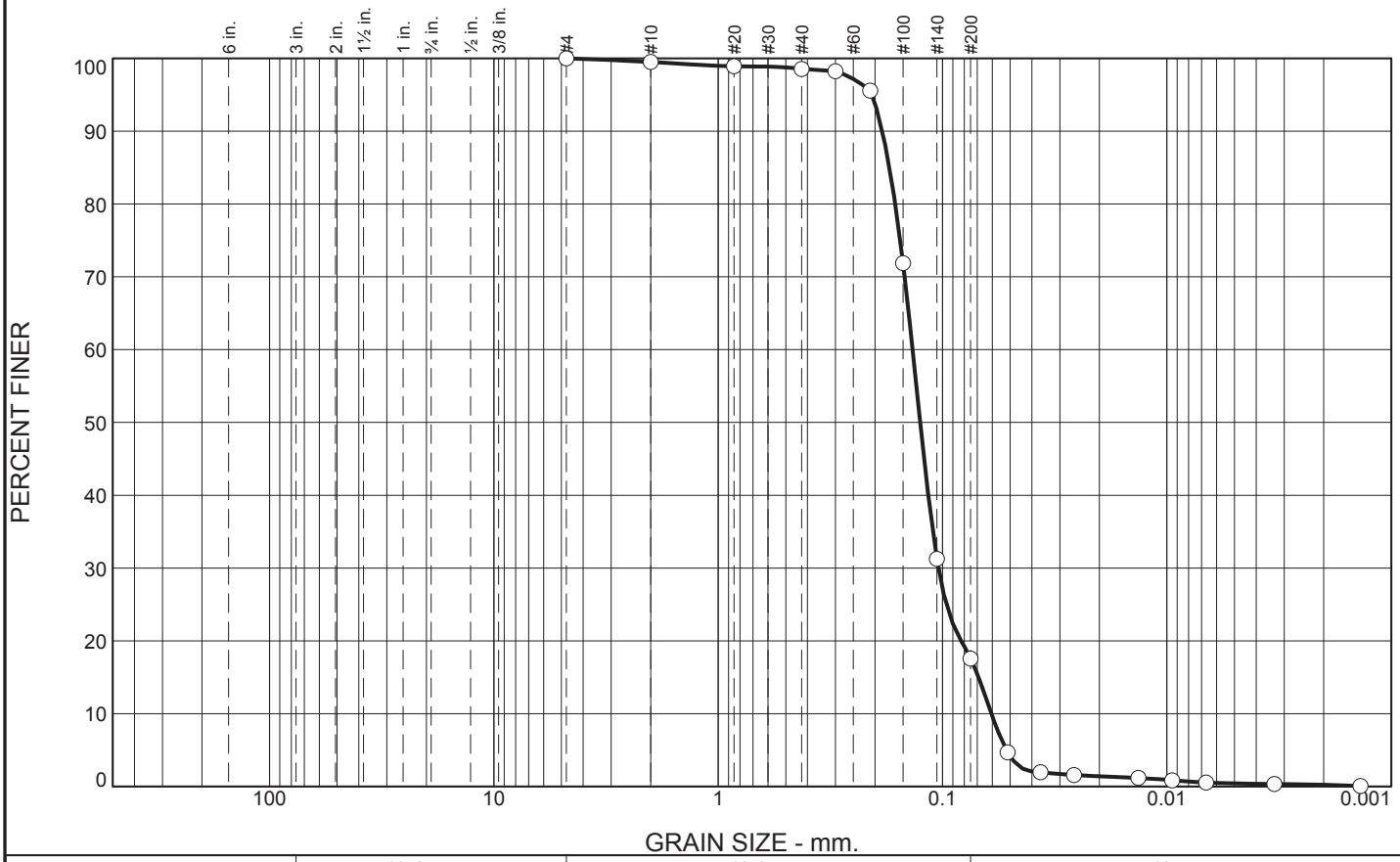
Source of Sample: 23A1459 DMMU-1-1A **Date:** 3/6/2023
Sample Number: 16

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	0.9	81.0	17.2	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#20	98.9		
#40	98.6		
#50	98.2		
#70	95.6		
#100	71.9		
#140	31.3		
#200	17.6		
0.0513 mm.	4.7		
0.0366 mm.	2.0		
0.0259 mm.	1.6		
0.0134 mm.	1.2		
0.0095 mm.	0.8		
0.0067 mm.	0.5		
0.0033 mm.	0.3		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1856 D_{85}= 0.1725 D_{60}= 0.1360
D_{50}= 0.1258 D_{30}= 0.1043 D_{15}= 0.0692
D_{10}= 0.0606 C_u= 2.25 C_c= 1.32

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 17 DMMU-1-1B

Date: 3/6/2023

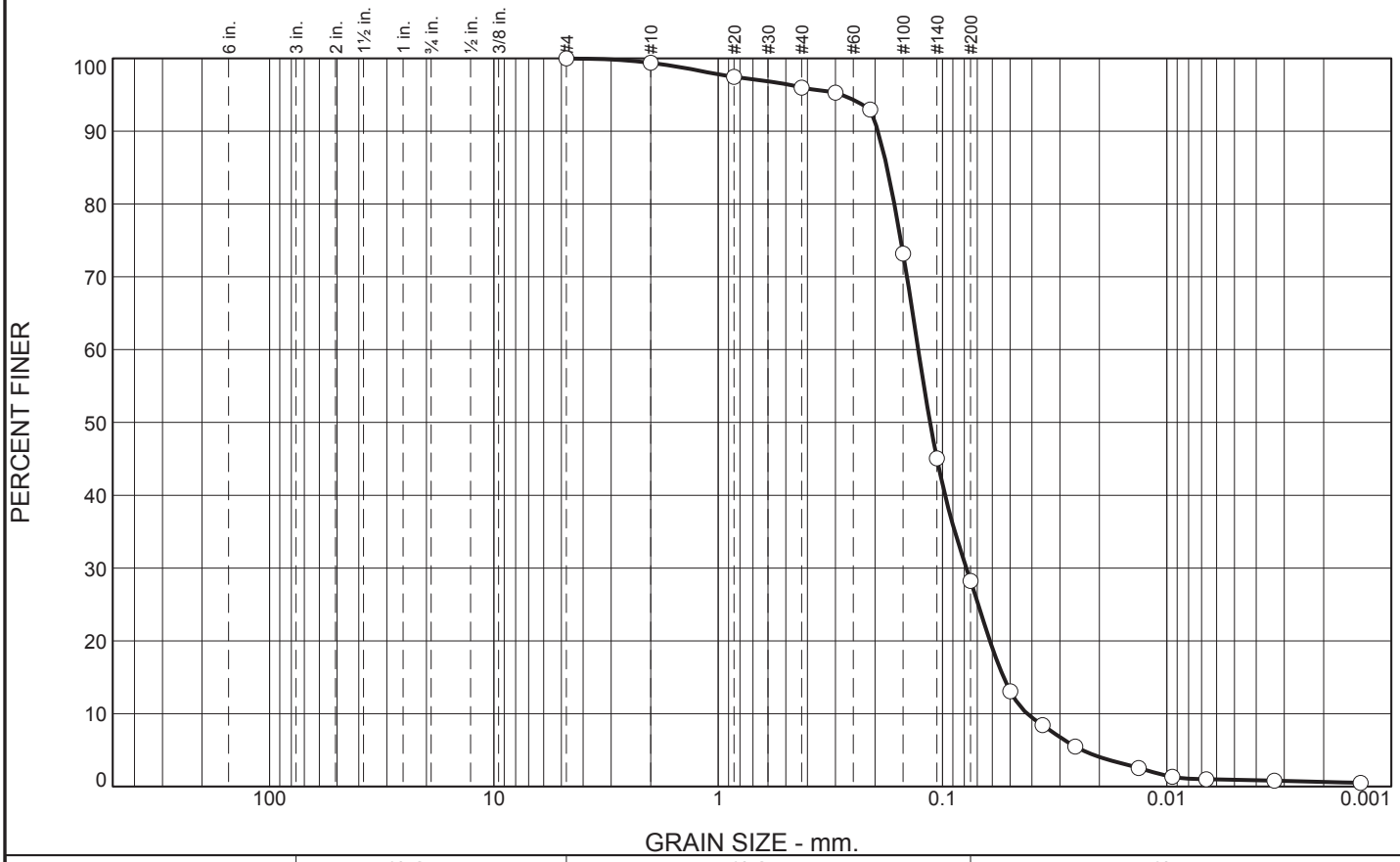
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	3.4	67.8	27.3	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	97.5		
#40	96.0		
#50	95.3		
#70	93.0		
#100	73.2		
#140	45.1		
#200	28.2		
0.0499 mm.	13.1		
0.0359 mm.	8.4		
0.0256 mm.	5.5		
0.0134 mm.	2.5		
0.0095 mm.	1.3		
0.0067 mm.	1.0		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1941 D_{85}= 0.1768 D_{60}= 0.1283
D_{50}= 0.1135 D_{30}= 0.0783 D_{15}= 0.0535
D_{10}= 0.0420 C_u= 3.05 C_c= 1.14

Classification

USCS= SM AASHTO=

Remarks

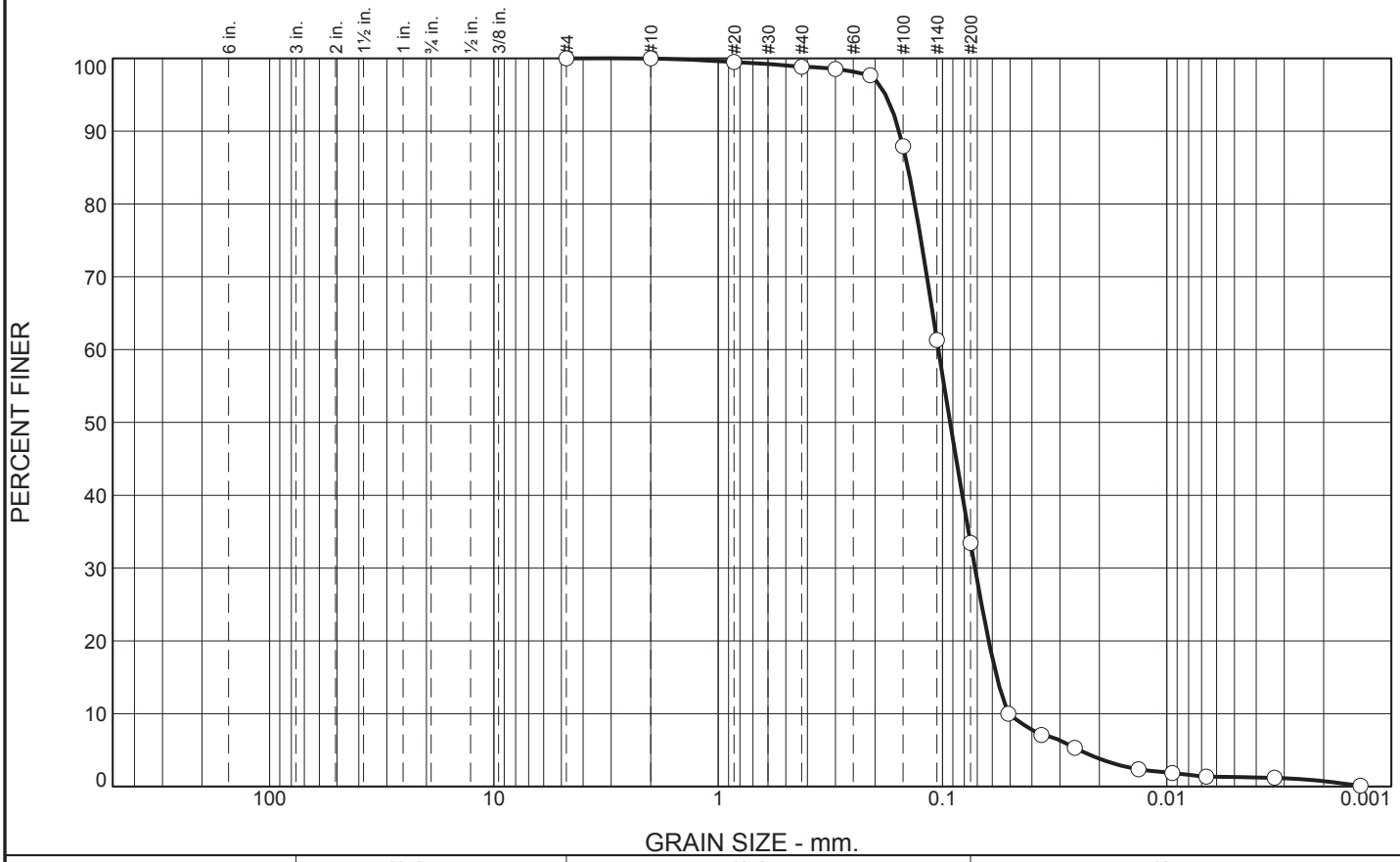
Source of Sample: 23A1459 **Sample Number:** 18 DMMU-1-1C **Date:** 3/6/2023

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	65.3	32.2	1.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.5		
#40	98.8		
#50	98.5		
#70	97.7		
#100	88.0		
#140	61.3		
#200	33.5		
0.0509 mm.	10.0		
0.0363 mm.	7.1		
0.0258 mm.	5.3		
0.0134 mm.	2.4		
0.0095 mm.	1.9		
0.0067 mm.	1.3		
0.0033 mm.	1.2		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1561 D_{85}= 0.1428 D_{60}= 0.1043
D_{50}= 0.0925 D_{30}= 0.0717 D_{15}= 0.0572
D_{10}= 0.0509 C_u= 2.05 C_c= 0.97

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 20 DMMU-2-1A

Date: 3/6/2023

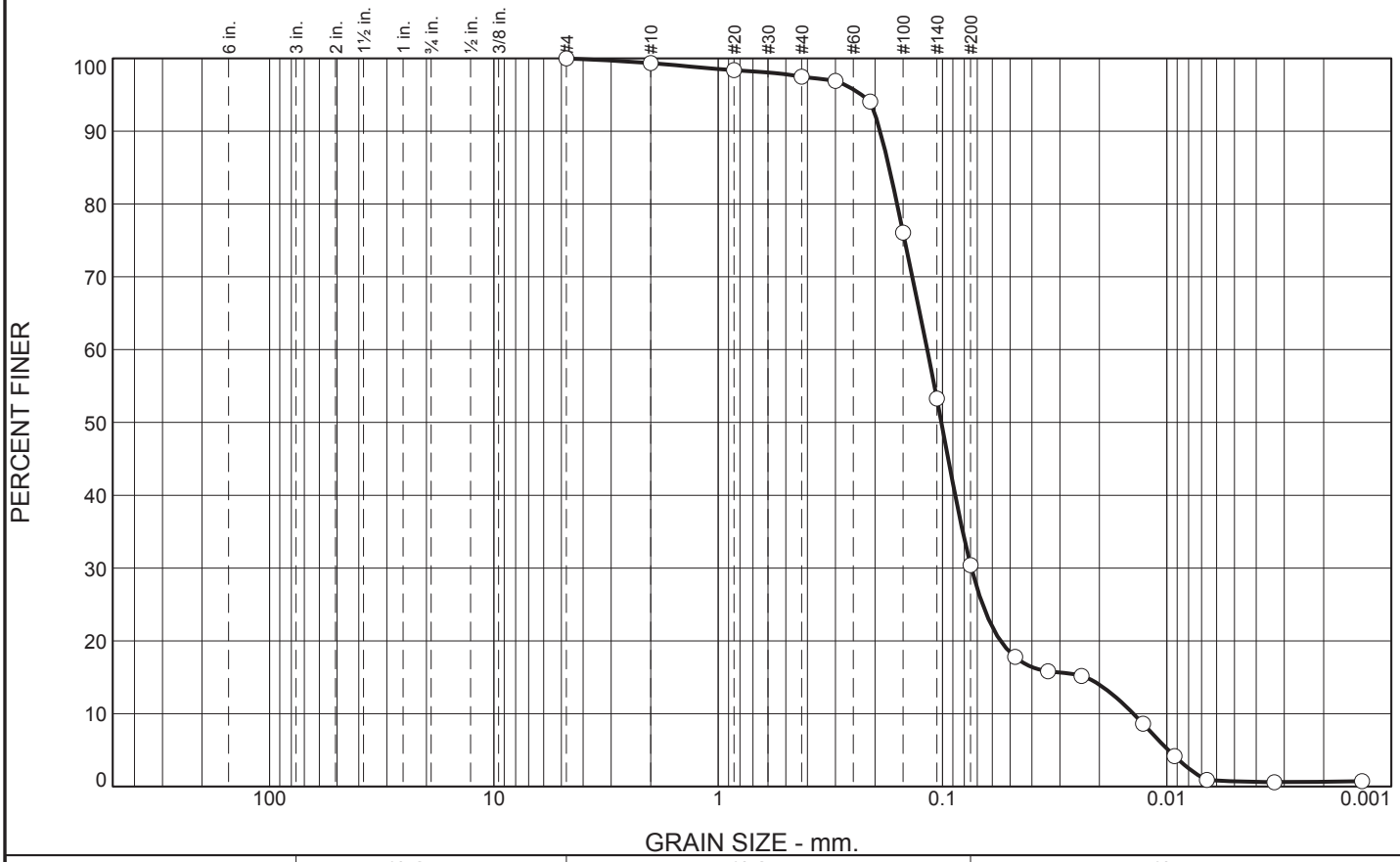
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	1.9	67.1	29.7	0.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	98.4		
#40	97.5		
#50	96.9		
#70	94.1		
#100	76.1		
#140	53.3		
#200	30.4		
0.0475 mm.	17.8		
0.0339 mm.	15.8		
0.0240 mm.	15.2		
0.0128 mm.	8.6		
0.0093 mm.	4.2		
0.0066 mm.	0.9		
0.0033 mm.	0.6		
0.0014 mm.	0.7		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1897 D_{85}= 0.1730 D_{60}= 0.1170
D_{50}= 0.1012 D_{30}= 0.0744 D_{15}= 0.0232
D_{10}= 0.0141 C_u= 8.28 C_c= 3.35

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 **Sample Number:** 21 DMMU-2-1B

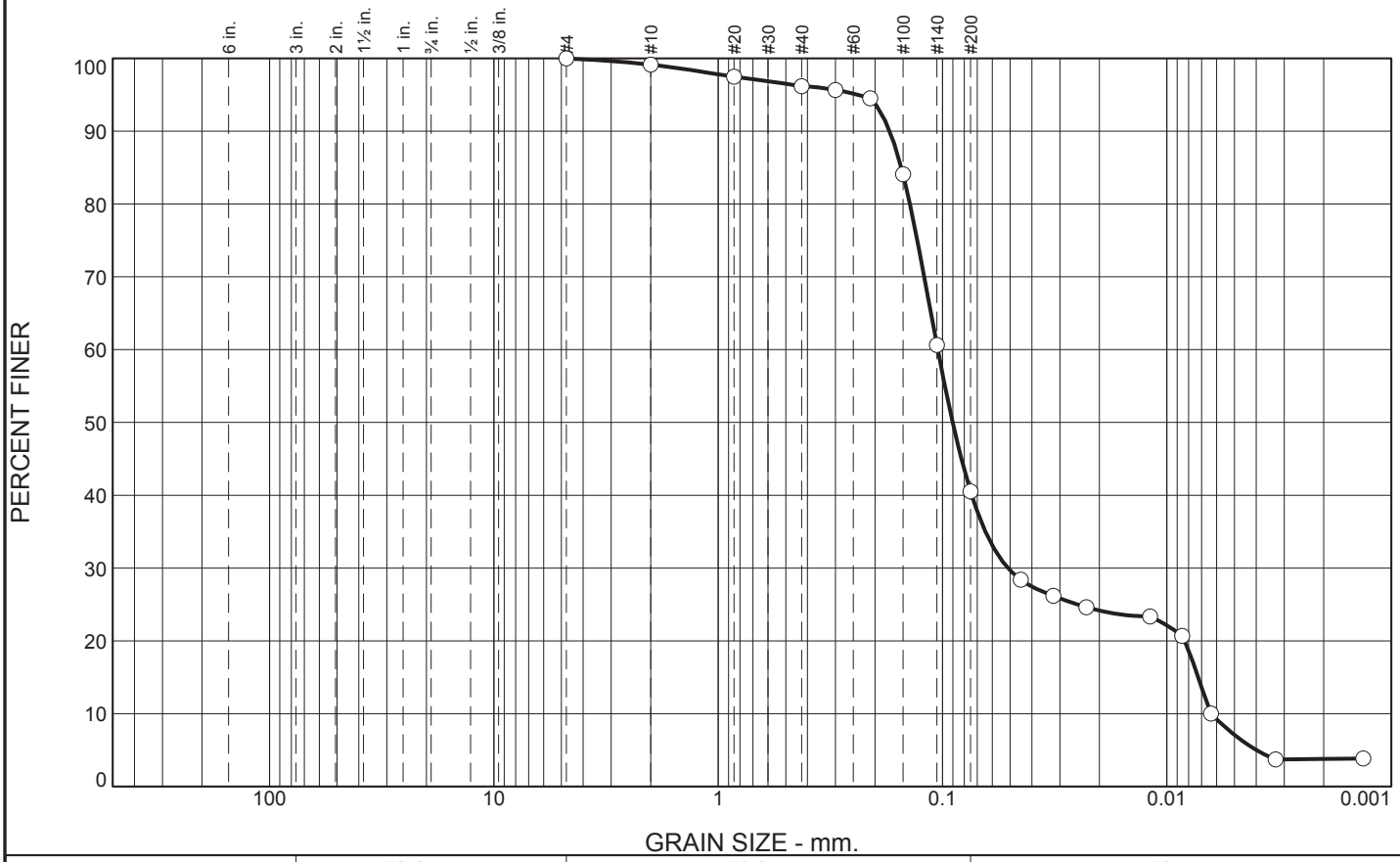
Date: 3/6/2023

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.8	3.0	55.7	33.4	7.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.2		
#20	97.5		
#40	96.2		
#50	95.7		
#70	94.5		
#100	84.1		
#140	60.6		
#200	40.5		
0.0448 mm.	28.4		
0.0321 mm.	26.2		
0.0229 mm.	24.6		
0.0119 mm.	23.3		
0.0085 mm.	20.7		
0.0064 mm.	10.0		
0.0033 mm.	3.7		
0.0013 mm.	3.8		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1720 D_{85}= 0.1527 D_{60}= 0.1050
D_{50}= 0.0900 D_{30}= 0.0511 D_{15}= 0.0073
D_{10}= 0.0064 C_u= 16.51 C_c= 3.91

Classification

USCS= SM AASHTO=

Remarks

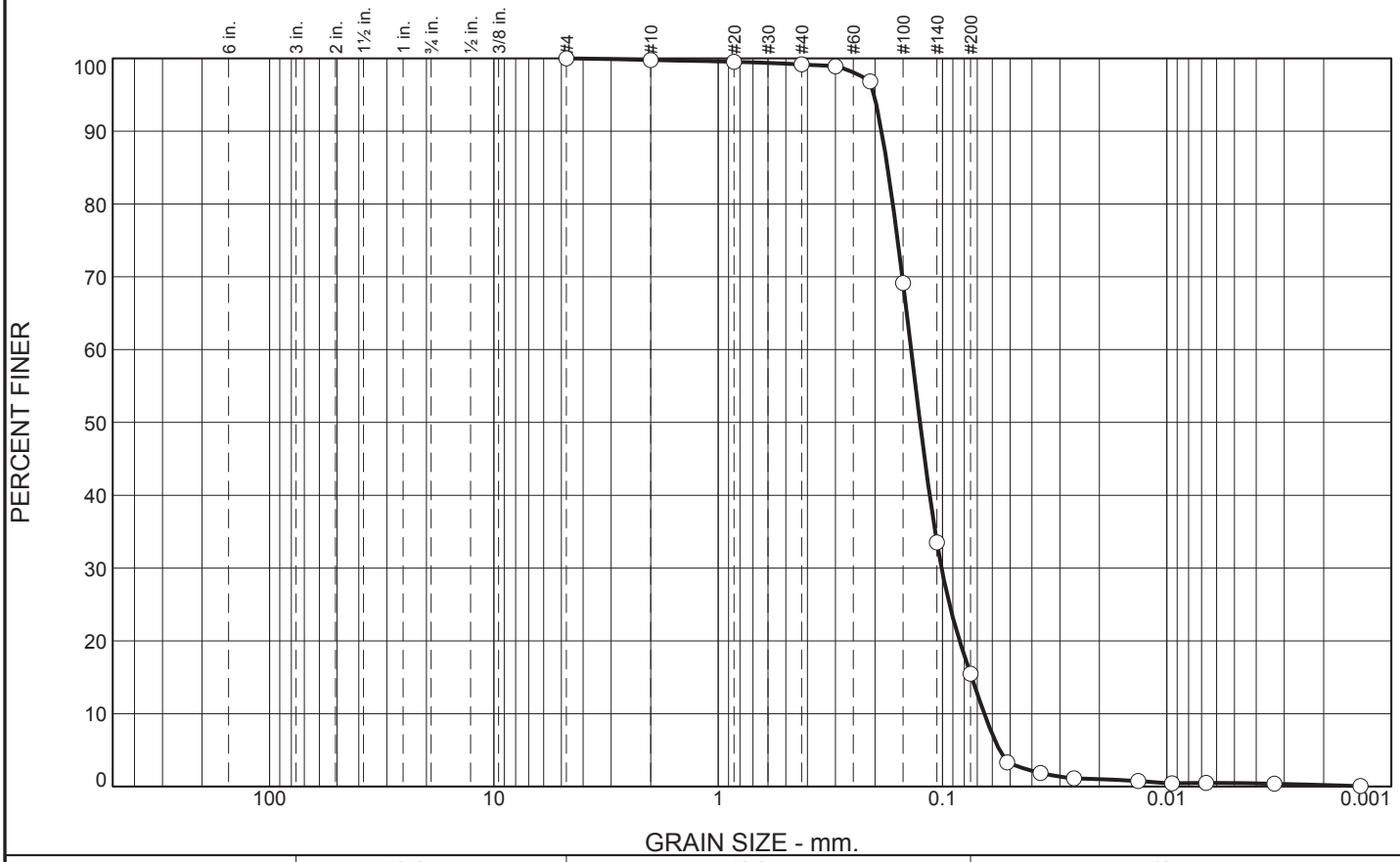
Source of Sample: 23A1459 **Sample Number:** 22 DMMU-2-1C **Date:** 3/6/2023

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	0.6	83.7	15.0	0.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	99.5		
#40	99.2		
#50	98.9		
#70	96.8		
#100	69.1		
#140	33.5		
#200	15.5		
0.0515 mm.	3.3		
0.0366 mm.	1.8		
0.0260 mm.	1.1		
0.0134 mm.	0.7		
0.0095 mm.	0.4		
0.0067 mm.	0.5		
0.0033 mm.	0.4		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1869 D_{85}= 0.1758 D_{60}= 0.1381
D_{50}= 0.1260 D_{30}= 0.1011 D_{15}= 0.0741
D_{10}= 0.0651 C_u= 2.12 C_c= 1.14

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-3-2A
Sample Number: 24

Date: 3/6/2023

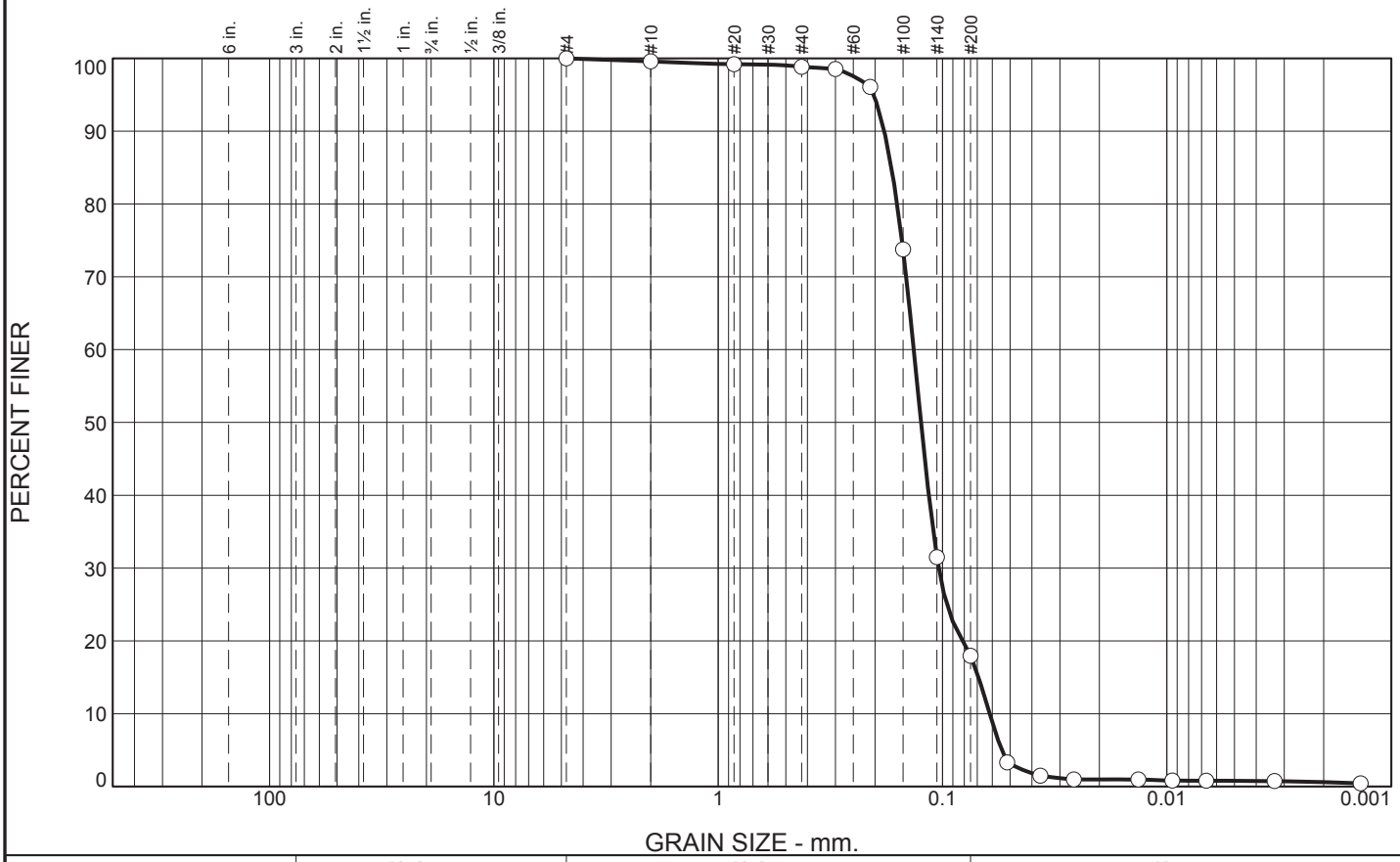
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	0.8	80.9	17.1	0.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#20	99.2		
#40	98.8		
#50	98.6		
#70	96.1		
#100	73.8		
#140	31.5		
#200	17.9		
0.0515 mm.	3.3		
0.0367 mm.	1.5		
0.0260 mm.	1.0		
0.0134 mm.	1.0		
0.0095 mm.	0.8		
0.0067 mm.	0.8		
0.0033 mm.	0.7		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1819 D_{85}= 0.1689 D_{60}= 0.1344
D_{50}= 0.1247 D_{30}= 0.1040 D_{15}= 0.0691
D_{10}= 0.0616 C_u= 2.18 C_c= 1.31

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-3-2B
Sample Number: 25

Date: 3/6/2023

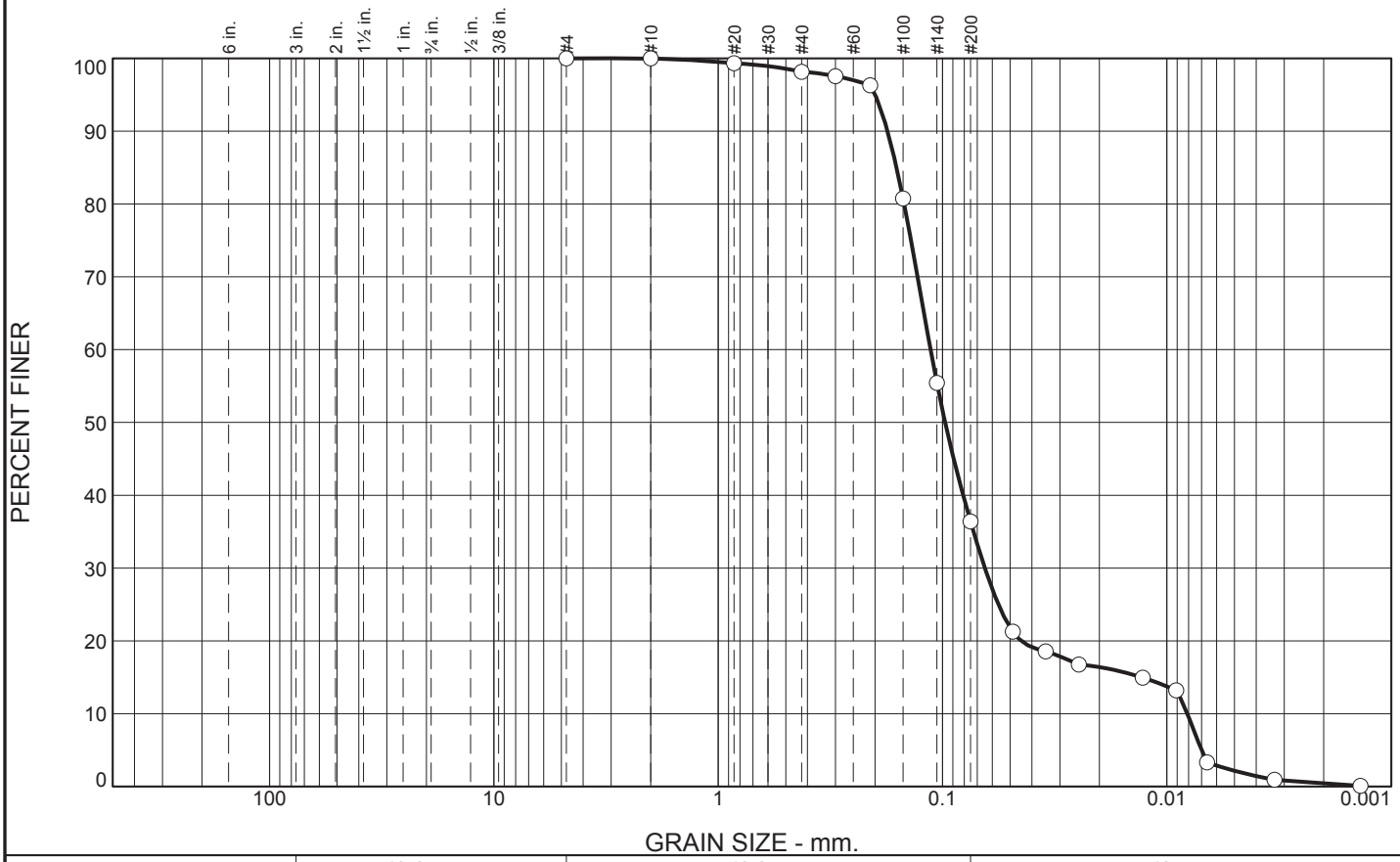
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.8	61.8	34.2	2.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.4		
#40	98.2		
#50	97.6		
#70	96.3		
#100	80.8		
#140	55.4		
#200	36.4		
0.0486 mm.	21.3		
0.0347 mm.	18.6		
0.0247 mm.	16.7		
0.0128 mm.	14.9		
0.0091 mm.	13.2		
0.0066 mm.	3.3		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1759 D_{85}= 0.1604 D_{60}= 0.1131
D_{50}= 0.0974 D_{30}= 0.0647 D_{15}= 0.0130
D_{10}= 0.0081 C_u= 13.94 C_c= 4.57

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-4-2A
Sample Number: 27

Date: 3/6/2023

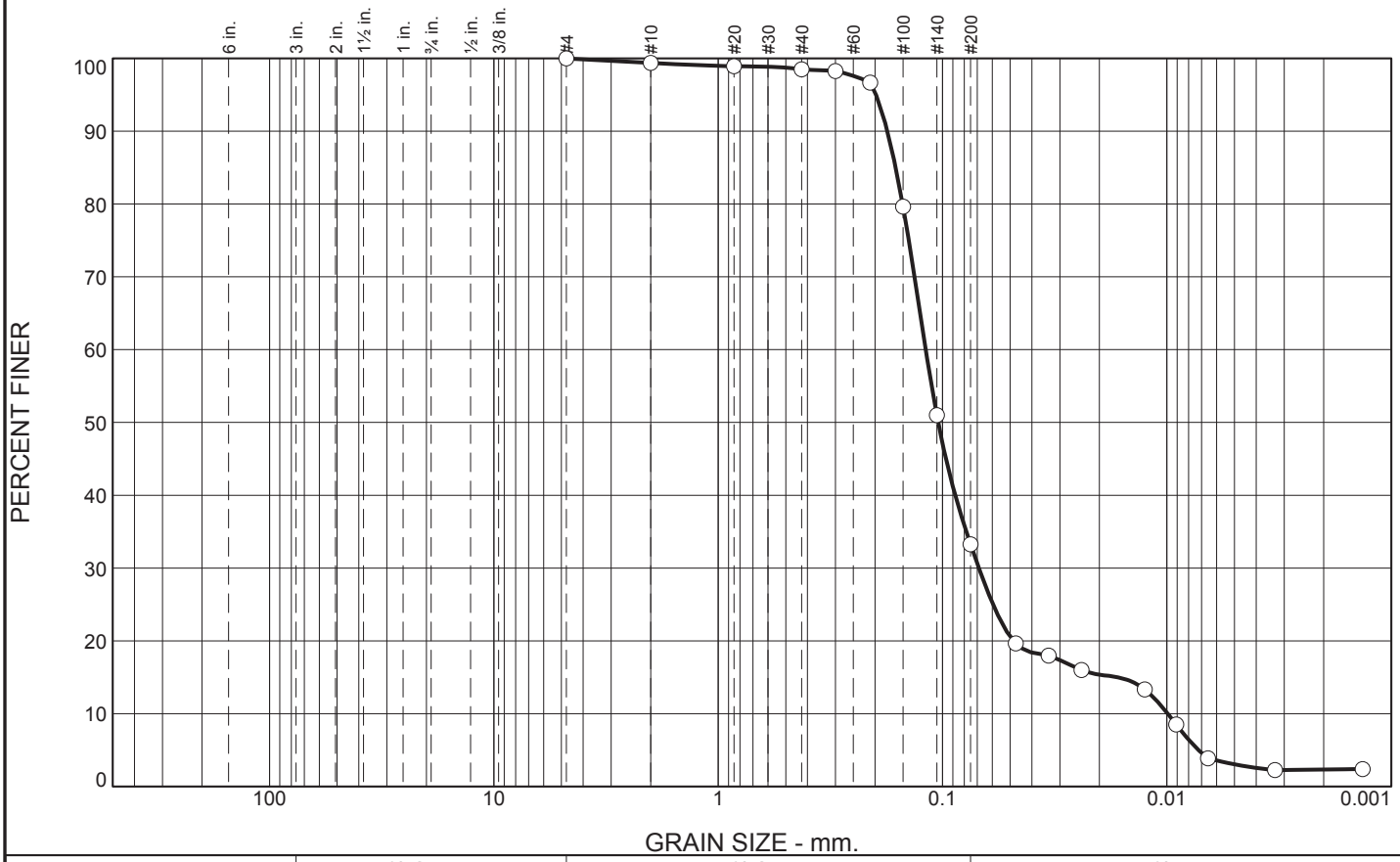
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	0.9	65.2	30.3	3.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	98.9		
#40	98.5		
#50	98.3		
#70	96.7		
#100	79.7		
#140	51.0		
#200	33.3		
0.0472 mm.	19.6		
0.0336 mm.	18.0		
0.0240 mm.	16.0		
0.0125 mm.	13.3		
0.0091 mm.	8.5		
0.0066 mm.	3.9		
0.0033 mm.	2.2		
0.0013 mm.	2.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1762 D_{85}= 0.1618 D_{60}= 0.1188
D_{50}= 0.1045 D_{30}= 0.0689 D_{15}= 0.0167
D_{10}= 0.0099 C_u= 11.96 C_c= 4.02

Classification

USCS= SM AASHTO=

Remarks

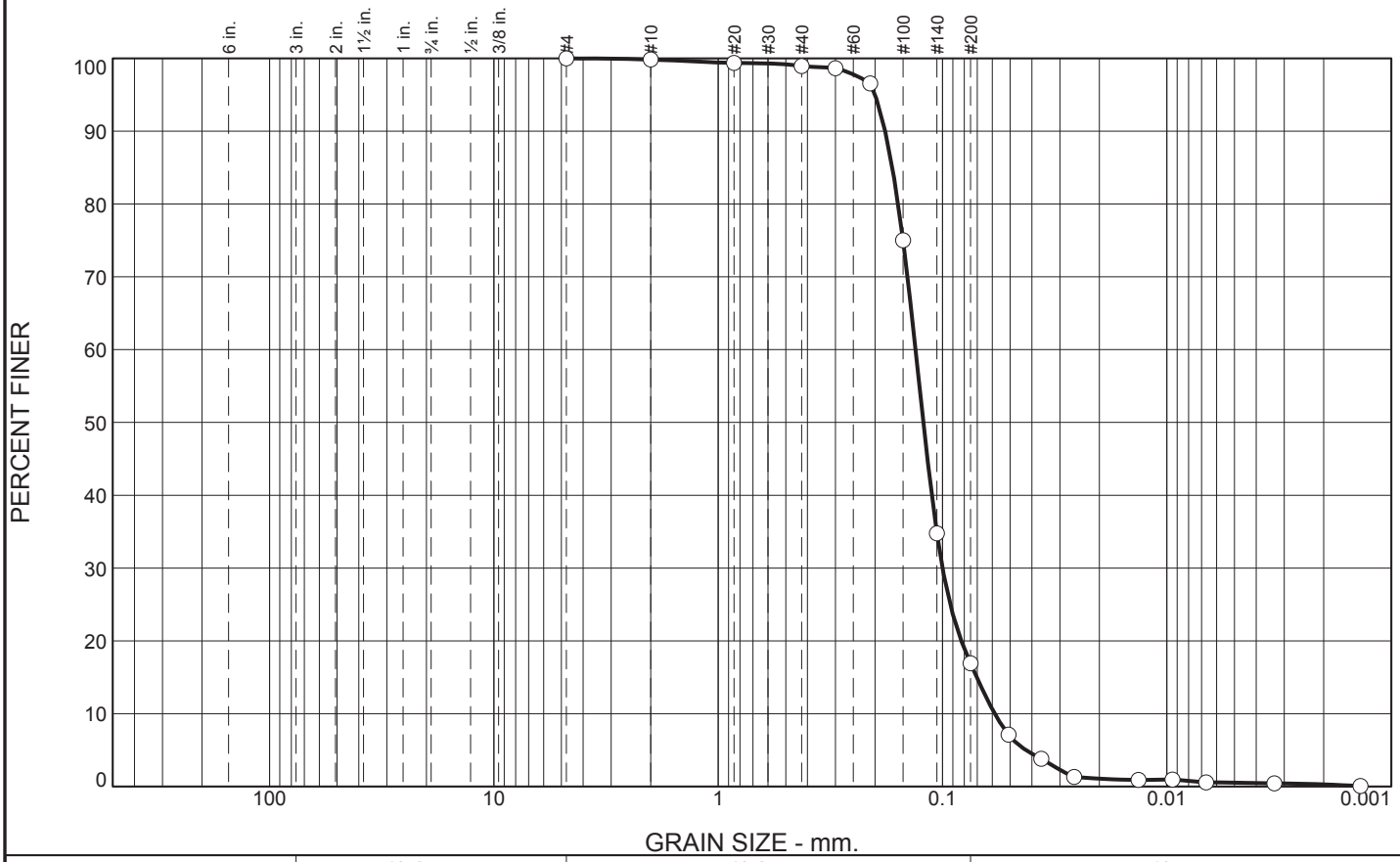
Source of Sample: 23A1459 DMMU-4-2B **Date:** 3/6/2023
Sample Number: 28

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.9	82.1	16.4	0.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.4		
#40	99.0		
#50	98.7		
#70	96.6		
#100	75.0		
#140	34.8		
#200	16.9		
0.0508 mm.	7.1		
0.0363 mm.	3.8		
0.0259 mm.	1.3		
0.0134 mm.	0.9		
0.0094 mm.	0.9		
0.0067 mm.	0.6		
0.0033 mm.	0.4		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1802 D_{85}= 0.1675 D_{60}= 0.1319
D_{50}= 0.1218 D_{30}= 0.1000 D_{15}= 0.0704
D_{10}= 0.0586 C_u= 2.25 C_c= 1.29

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-5-3A
Sample Number: 30

Date: 3/6/2023

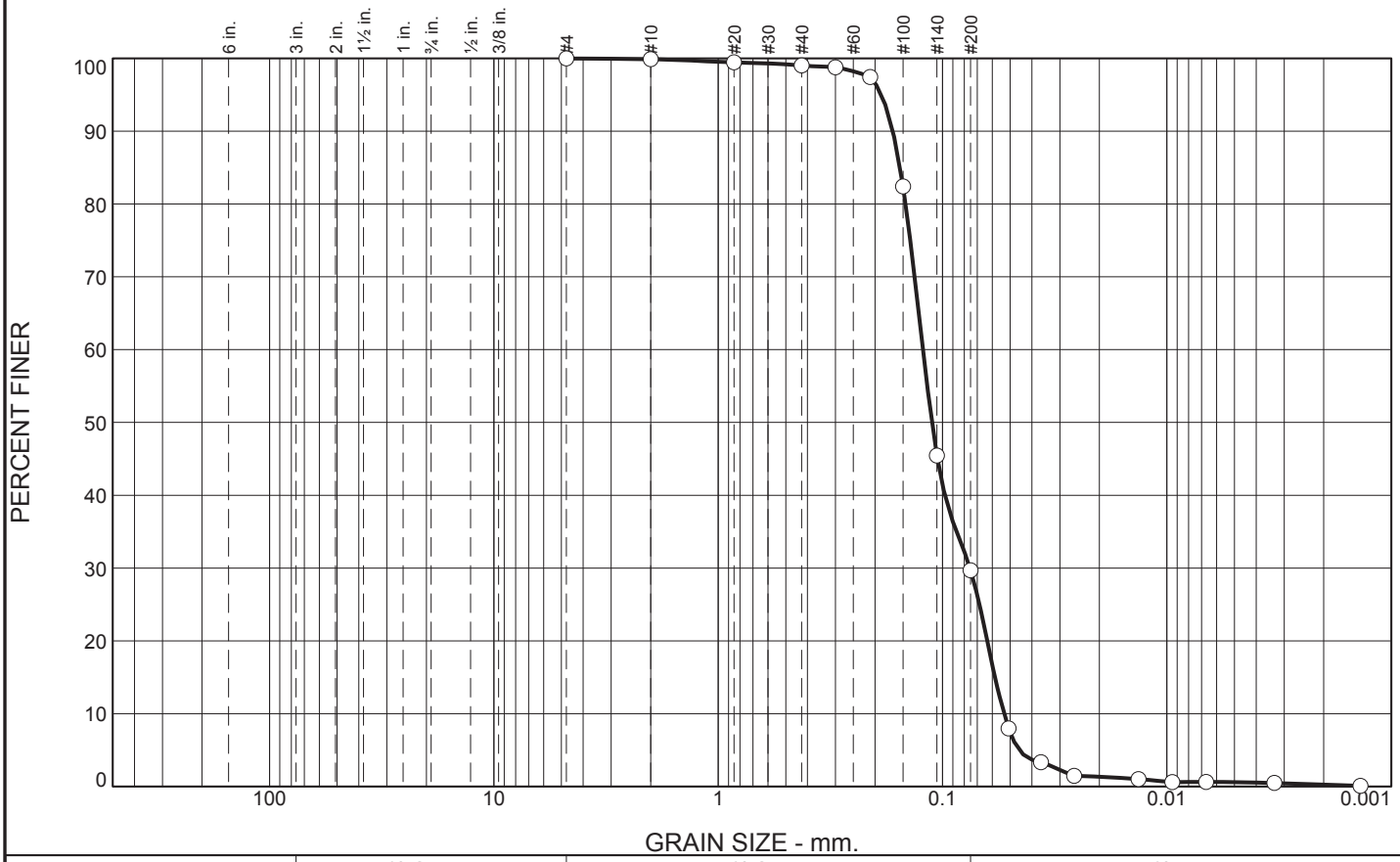
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.9	69.3	29.1	0.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.5		
#40	99.0		
#50	98.8		
#70	97.5		
#100	82.4		
#140	45.5		
#200	29.7		
0.0508 mm.	8.0		
0.0364 mm.	3.3		
0.0259 mm.	1.5		
0.0134 mm.	1.0		
0.0095 mm.	0.6		
0.0067 mm.	0.6		
0.0033 mm.	0.5		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1666 D_{85}= 0.1547 D_{60}= 0.1223
D_{50}= 0.1115 D_{30}= 0.0755 D_{15}= 0.0583
D_{10}= 0.0532 C_u= 2.30 C_c= 0.88

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-5-3B
Sample Number: 31

Date: 3/6/2023

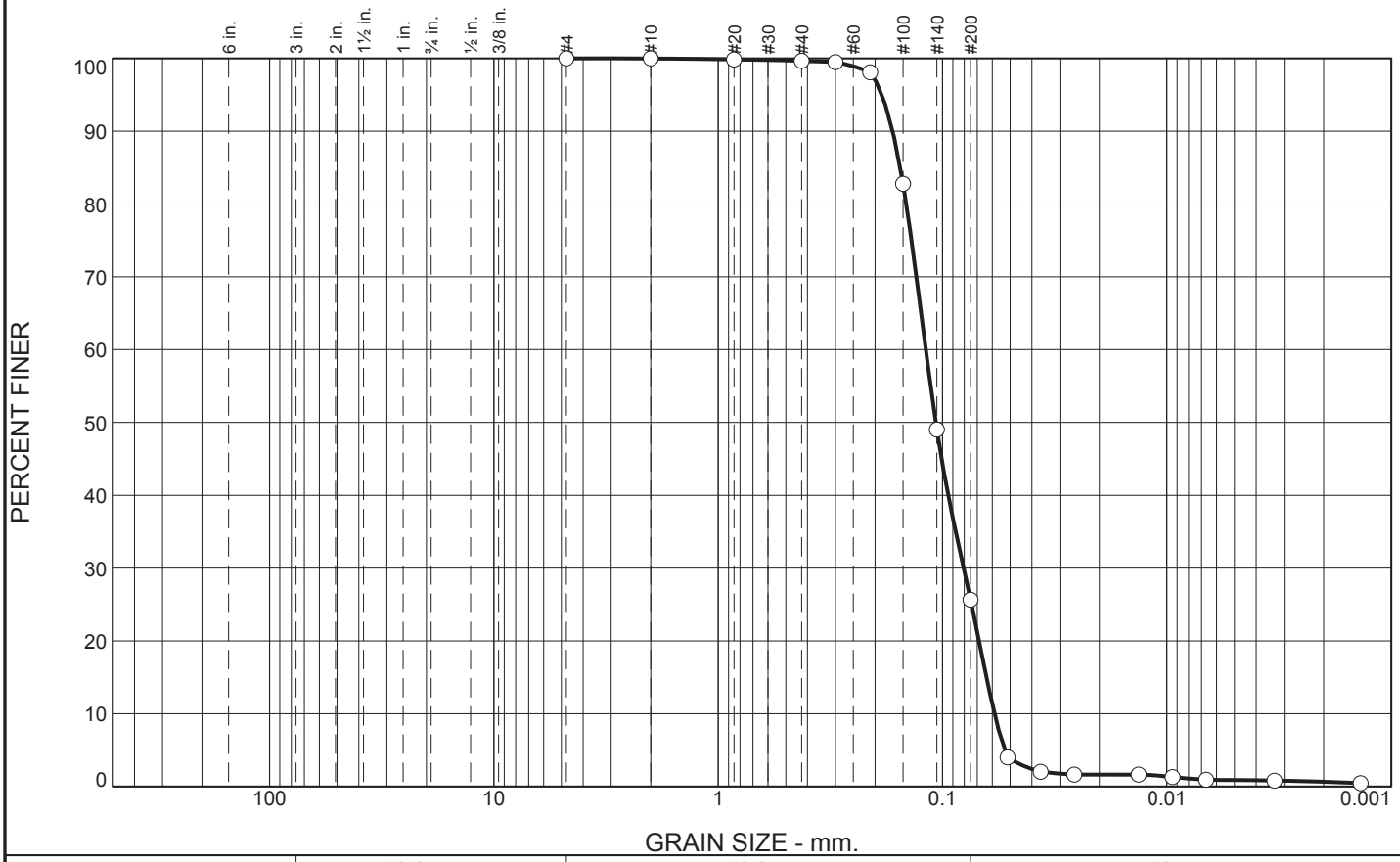
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	74.0	24.8	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.7		
#50	99.5		
#70	98.1		
#100	82.8		
#140	49.0		
#200	25.7		
0.0513 mm.	4.0		
0.0365 mm.	2.0		
0.0259 mm.	1.6		
0.0134 mm.	1.6		
0.0094 mm.	1.3		
0.0067 mm.	0.9		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1669 D_{85}= 0.1544 D_{60}= 0.1188
D_{50}= 0.1072 D_{30}= 0.0805 D_{15}= 0.0638
D_{10}= 0.0587 C_u= 2.02 C_c= 0.93

Classification

USCS= SM AASHTO=

Remarks

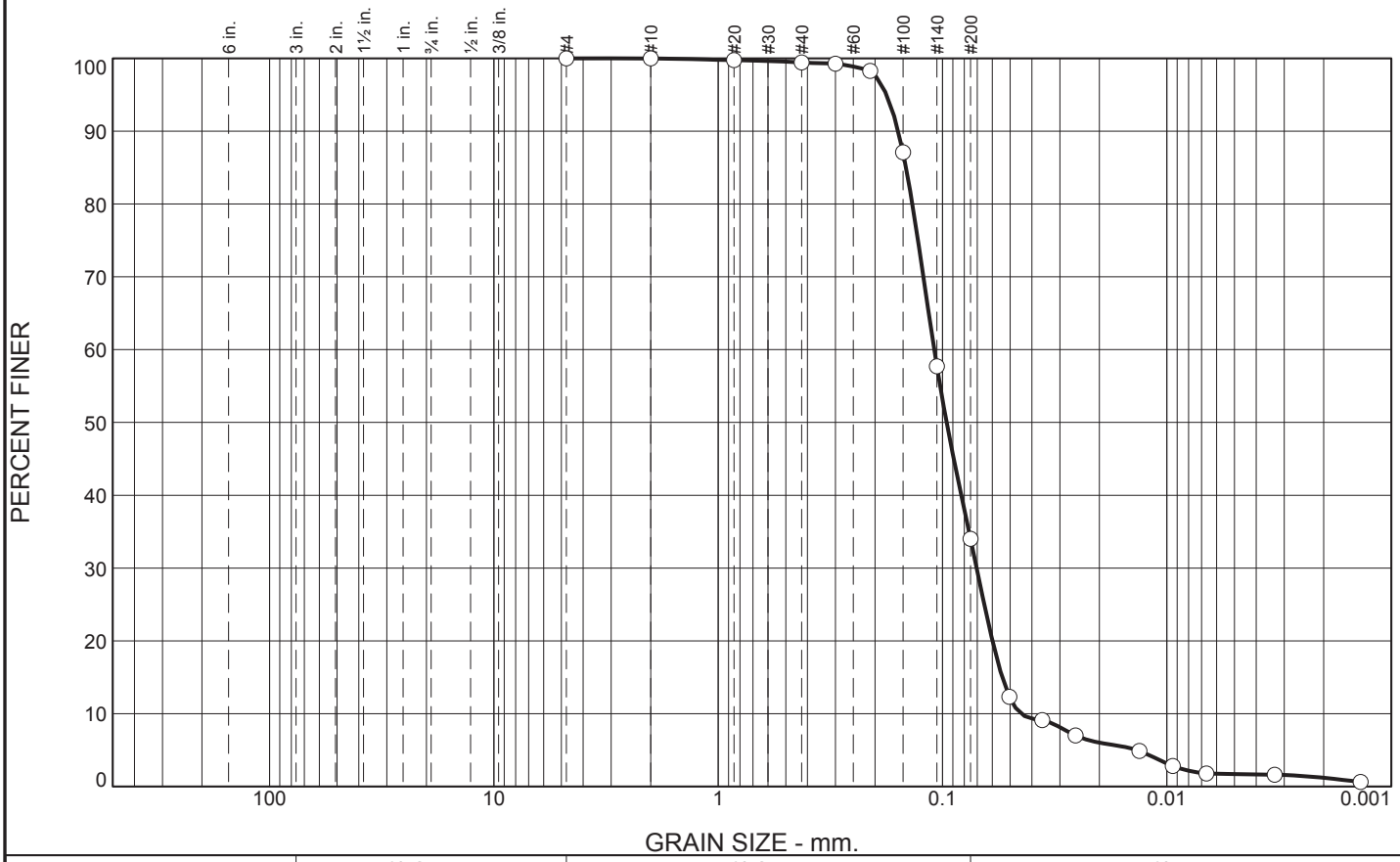
Source of Sample: 23A1459 DMMU-5-3C **Date:** 3/6/2023
Sample Number: 32

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	65.4	32.3	1.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.4		
#50	99.3		
#70	98.3		
#100	87.1		
#140	57.7		
#200	34.0		
0.0504 mm.	12.3		
0.0359 mm.	9.1		
0.0255 mm.	7.0		
0.0133 mm.	4.9		
0.0094 mm.	2.8		
0.0067 mm.	1.8		
0.0033 mm.	1.6		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1575 D_{85}= 0.1454 D_{60}= 0.1089
D_{50}= 0.0959 D_{30}= 0.0705 D_{15}= 0.0542
D_{10}= 0.0448 C_u= 2.43 C_c= 1.02

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-6-3A
Sample Number: 34

Date: 3/6/2023

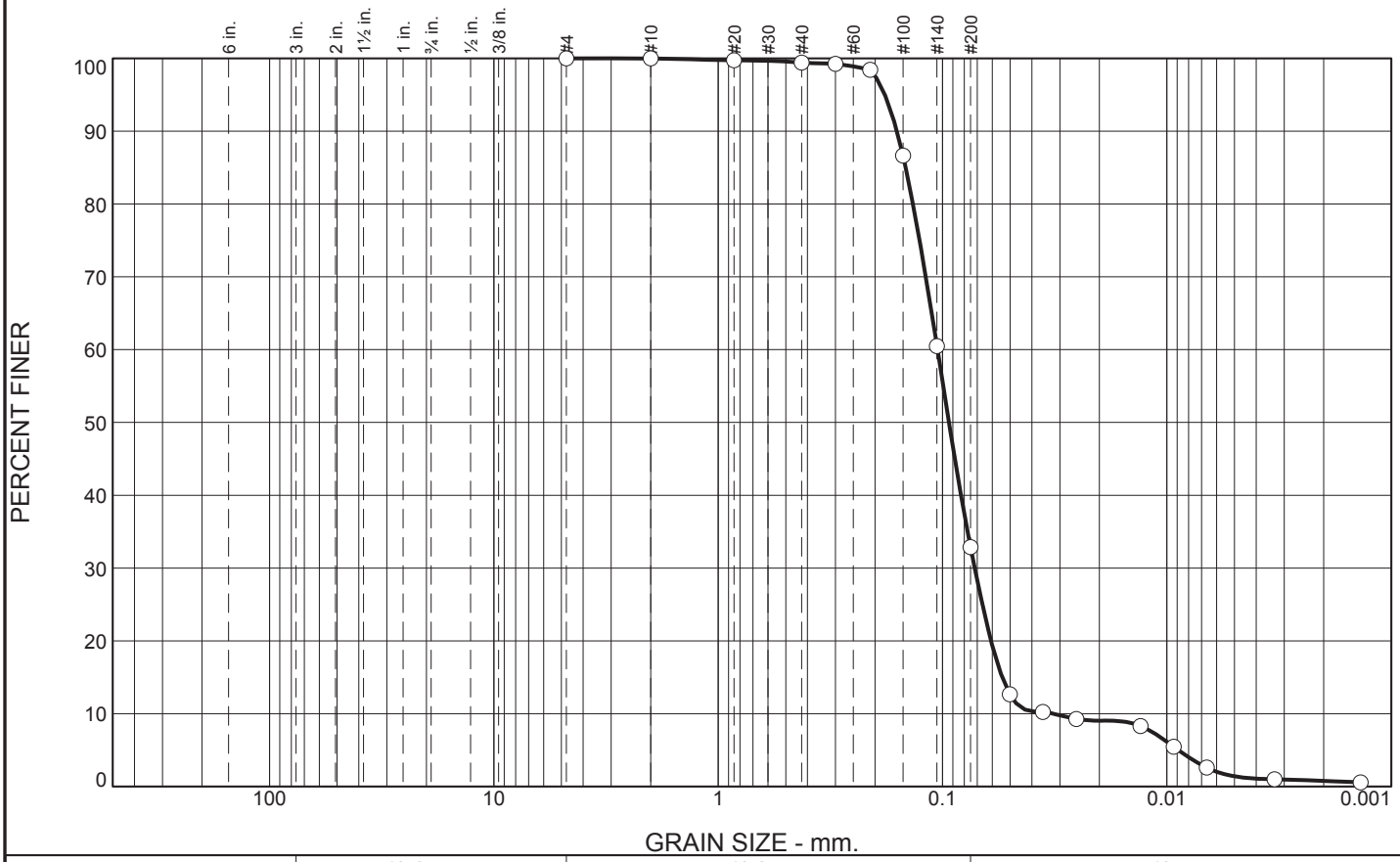
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	66.5	31.5	1.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.7		
#40	99.4		
#50	99.2		
#70	98.4		
#100	86.6		
#140	60.5		
#200	32.9		
0.0502 mm.	12.7		
0.0357 mm.	10.2		
0.0253 mm.	9.3		
0.0131 mm.	8.3		
0.0093 mm.	5.5		
0.0066 mm.	2.6		
0.0033 mm.	1.0		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1597 D_{85}= 0.1459 D_{60}= 0.1054
D_{50}= 0.0935 D_{30}= 0.0720 D_{15}= 0.0543
D_{10}= 0.0319 C_u= 3.30 C_c= 1.54

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-6-3B
Sample Number: 35

Date: 3/6/2023

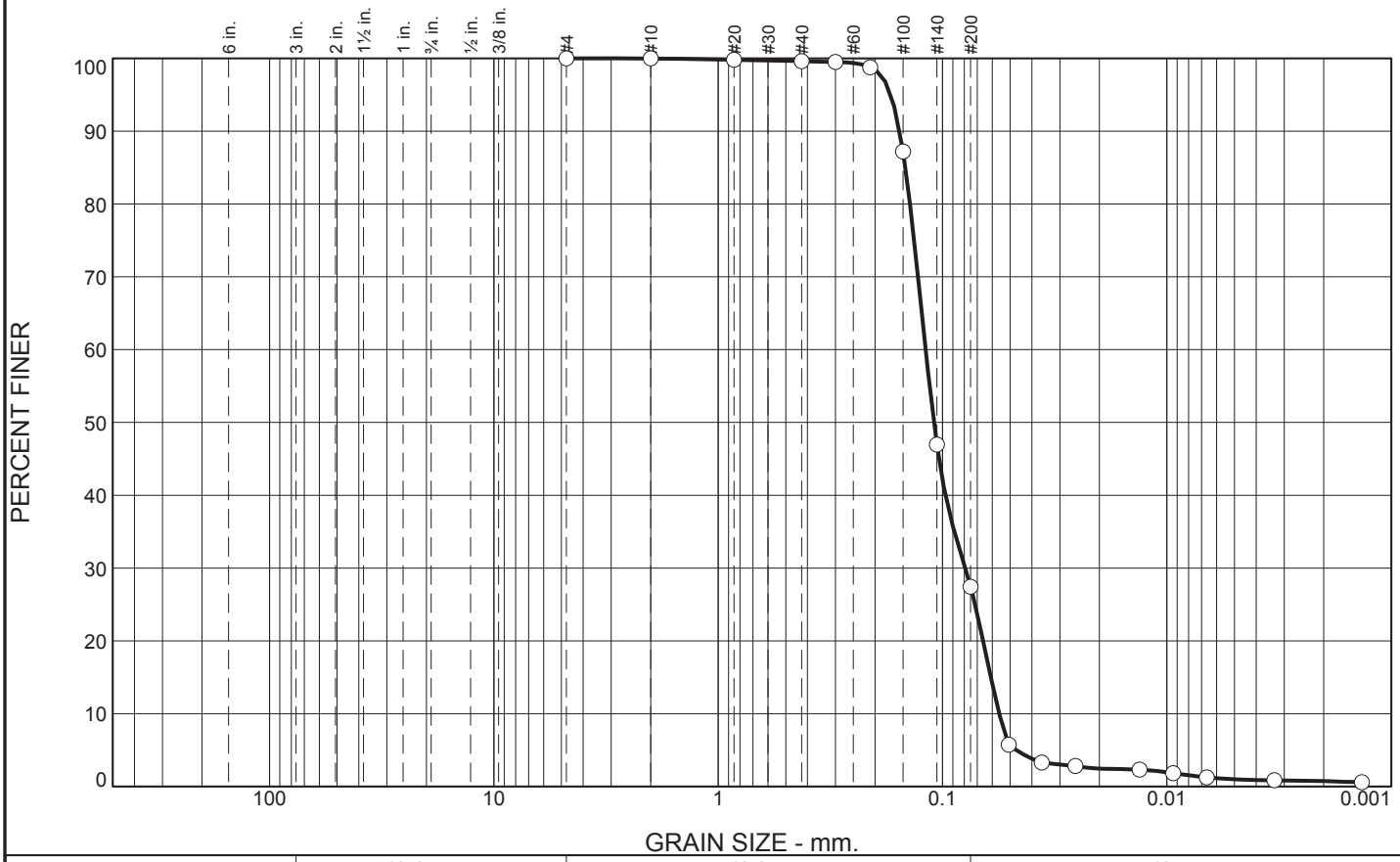
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	72.2	26.4	1.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.6		
#50	99.5		
#70	98.8		
#100	87.2		
#140	47.0		
#200	27.4		
0.0507 mm.	5.7		
0.0361 mm.	3.3		
0.0256 mm.	2.8		
0.0132 mm.	2.3		
0.0094 mm.	1.8		
0.0066 mm.	1.2		
0.0033 mm.	0.9		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1554 D_{85}= 0.1465 D_{60}= 0.1190
D_{50}= 0.1093 D_{30}= 0.0791 D_{15}= 0.0610
D_{10}= 0.0559 C_u= 2.13 C_c= 0.94

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-6-3C
Sample Number: 36

Date: 3/6/2023

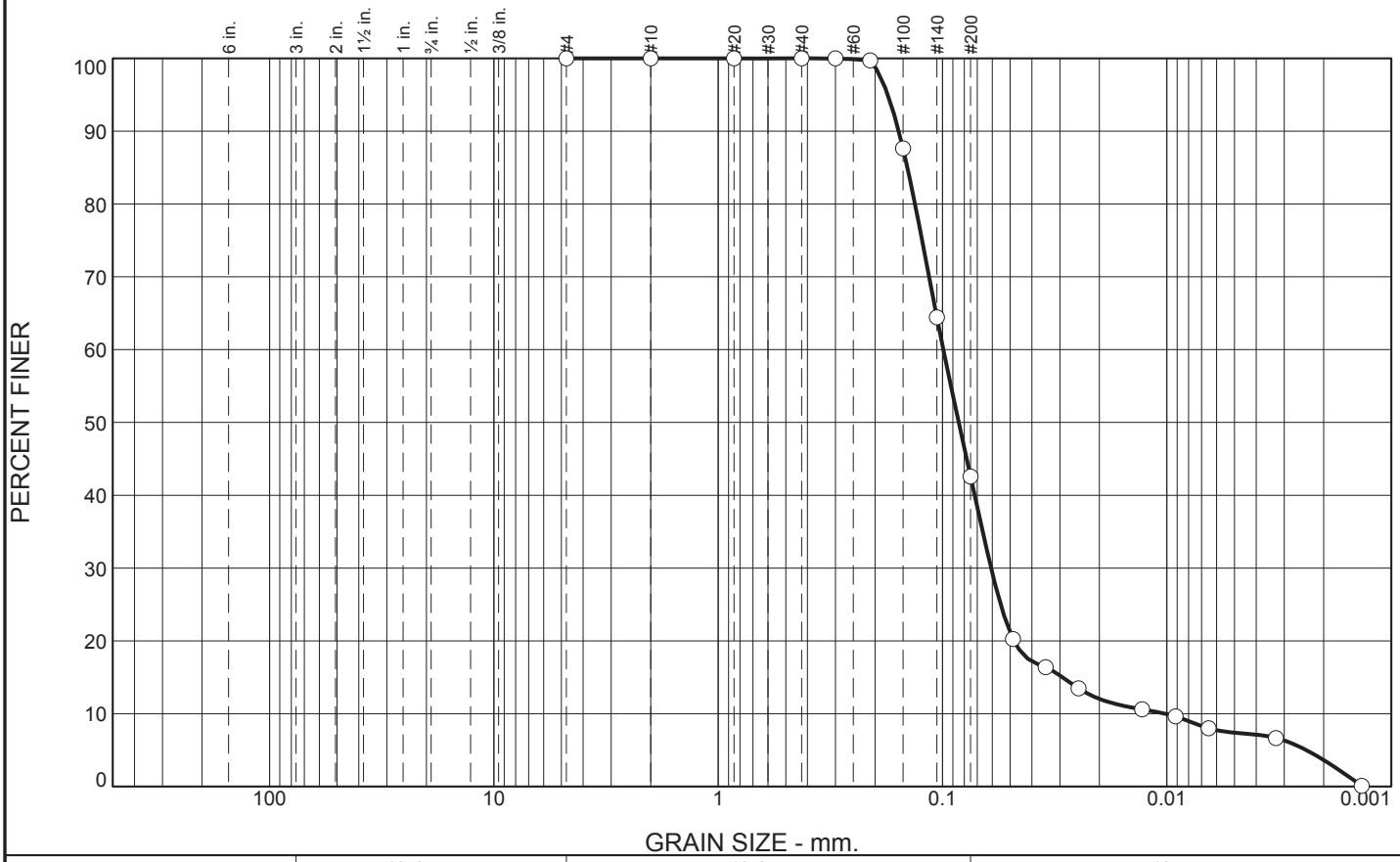
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	57.4	35.2	7.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#50	100.0		
#70	99.7		
#100	87.6		
#140	64.4		
#200	42.6		
0.0485 mm.	20.3		
0.0347 mm.	16.4		
0.0248 mm.	13.5		
0.0129 mm.	10.6		
0.0091 mm.	9.6		
0.0065 mm.	8.0		
0.0033 mm.	6.6		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1567 D_{85}= 0.1434 D_{60}= 0.0992
D_{50}= 0.0846 D_{30}= 0.0608 D_{15}= 0.0292
D_{10}= 0.0102 C_u= 9.74 C_c= 3.66

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-7-4A
Sample Number: 38

Date: 3/6/2023

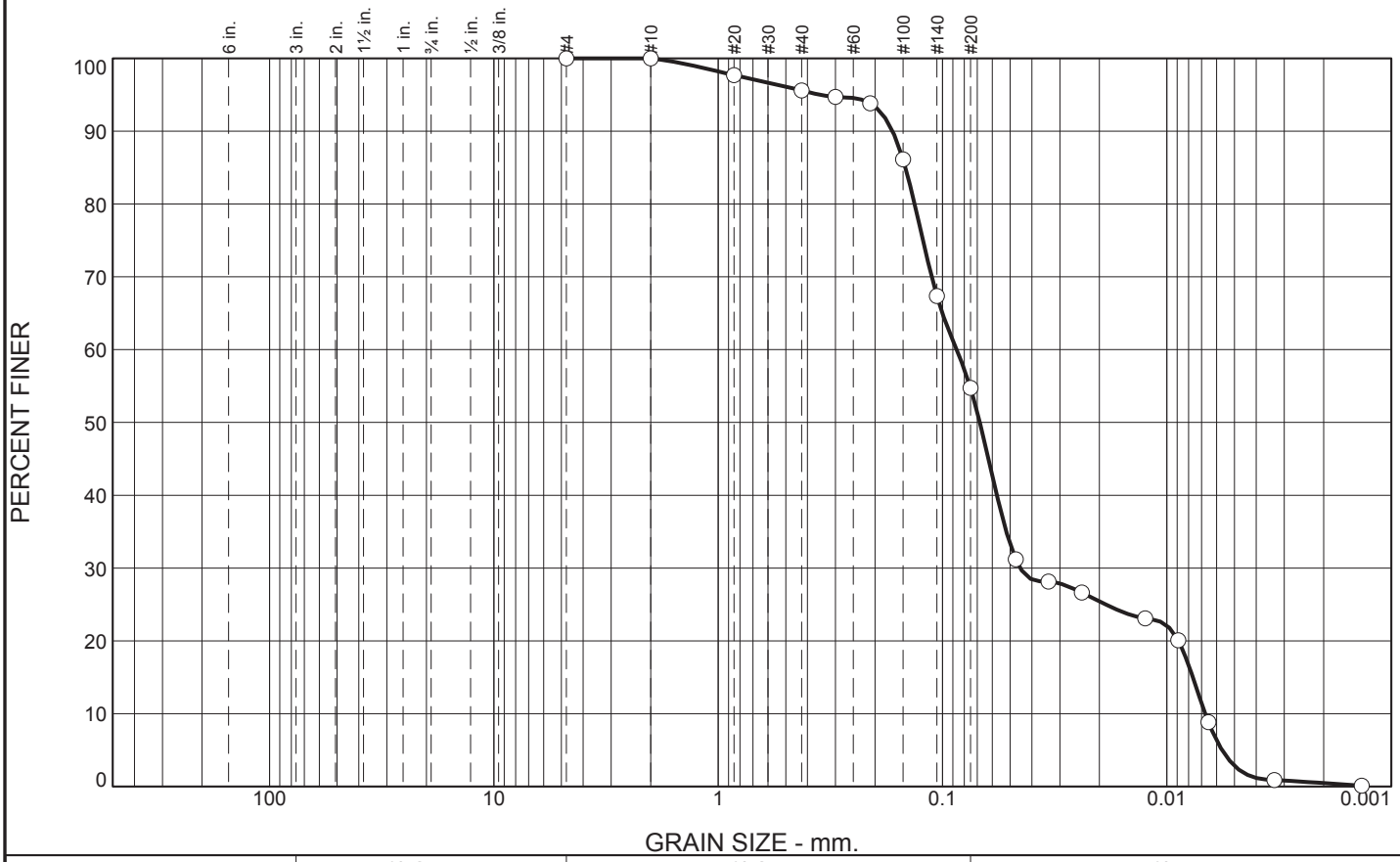
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.4	40.9	51.9	2.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	97.7		
#40	95.6		
#50	94.7		
#70	93.8		
#100	86.1		
#140	67.4		
#200	54.7		
0.0472 mm.	31.2		
0.0337 mm.	28.1		
0.0239 mm.	26.6		
0.0125 mm.	23.1		
0.0089 mm.	20.1		
0.0065 mm.	8.8		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Silt, some fine-grained sand-sized quartz, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1670 D_{85}= 0.1463 D_{60}= 0.0865
D_{50}= 0.0682 D_{30}= 0.0451 D_{15}= 0.0077
D_{10}= 0.0067 C_u= 12.82 C_c= 3.48

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459 **Sample Number:** 39 DMMU-7-4B

Date: 3/6/2023

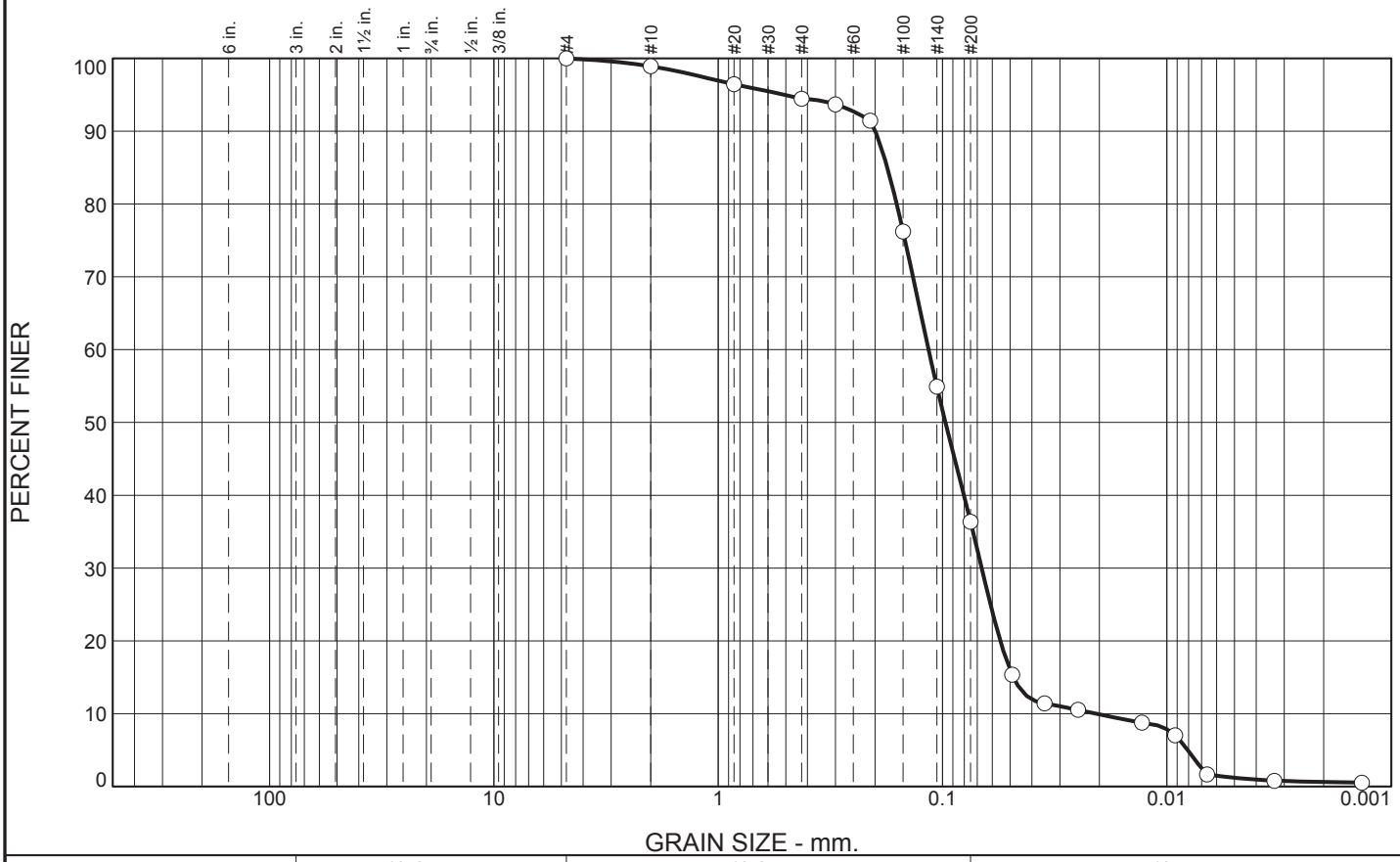
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.1	4.4	58.1	35.2	1.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.9		
#20	96.5		
#40	94.5		
#50	93.7		
#70	91.5		
#100	76.2		
#140	54.9		
#200	36.4		
0.0490 mm.	15.3		
0.0351 mm.	11.4		
0.0249 mm.	10.5		
0.0129 mm.	8.8		
0.0092 mm.	7.0		
0.0066 mm.	1.6		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1995 D_{85}= 0.1763 D_{60}= 0.1154
D_{50}= 0.0970 D_{30}= 0.0670 D_{15}= 0.0484
D_{10}= 0.0207 C_u= 5.58 C_c= 1.88

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-7-4C
Sample Number: 40

Date: 3/6/2023

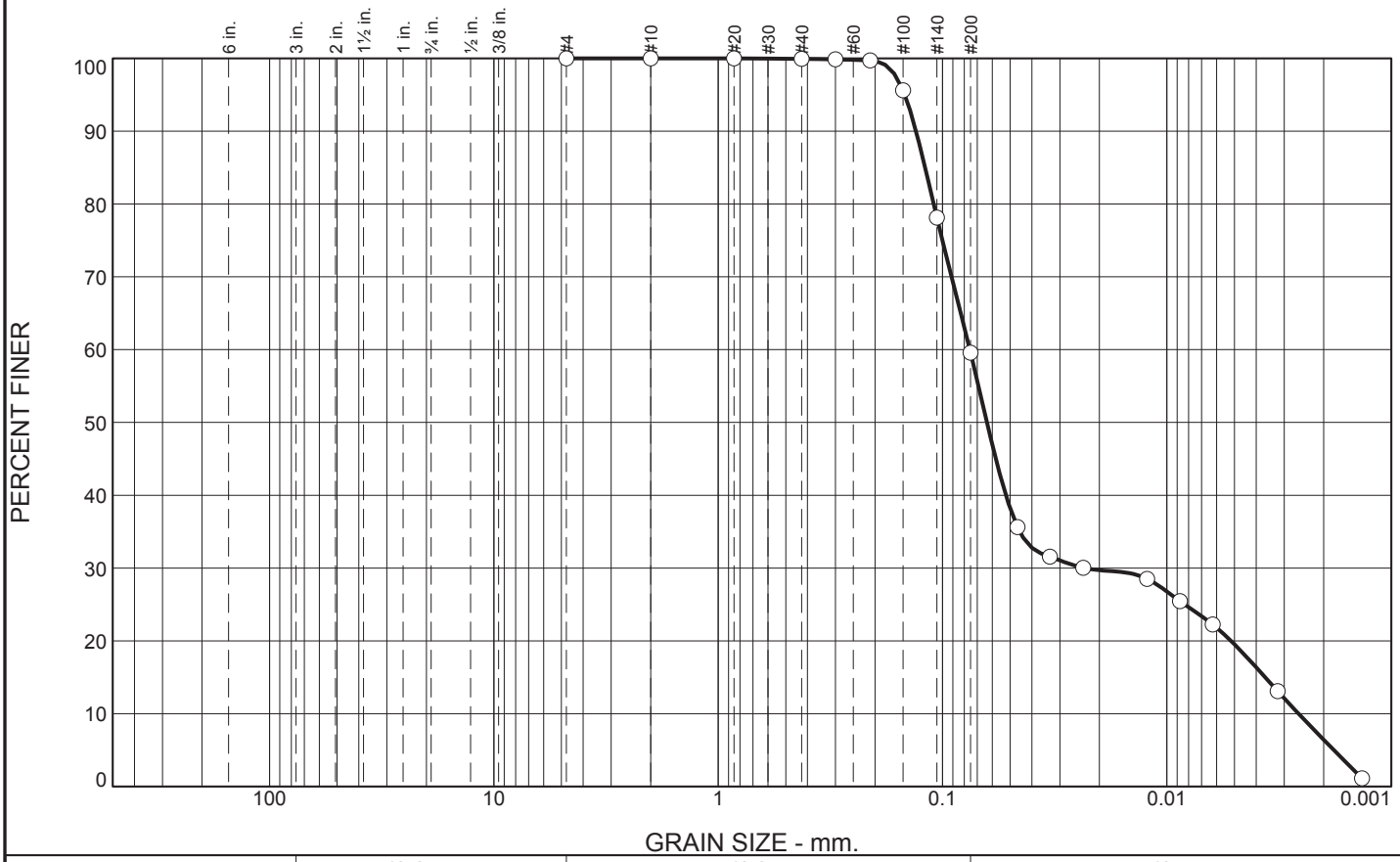
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	40.3	40.1	19.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#50	99.9		
#70	99.7		
#100	95.6		
#140	78.1		
#200	59.6		
0.0464 mm.	35.6		
0.0332 mm.	31.6		
0.0236 mm.	30.0		
0.0122 mm.	28.5		
0.0087 mm.	25.4		
0.0063 mm.	22.3		
0.0032 mm.	13.1		
0.0014 mm.	1.1		

* (no specification provided)

Soil Description

Silt, some fine-grained sand-sized quartz, little clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1313 D_{85}= 0.1196 D_{60}= 0.0756
D_{50}= 0.0634 D_{30}= 0.0234 D_{15}= 0.0037
D_{10}= 0.0026 C_u= 29.17 C_c= 2.79

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-7-4D
Sample Number: 41

Date: 3/6/2023

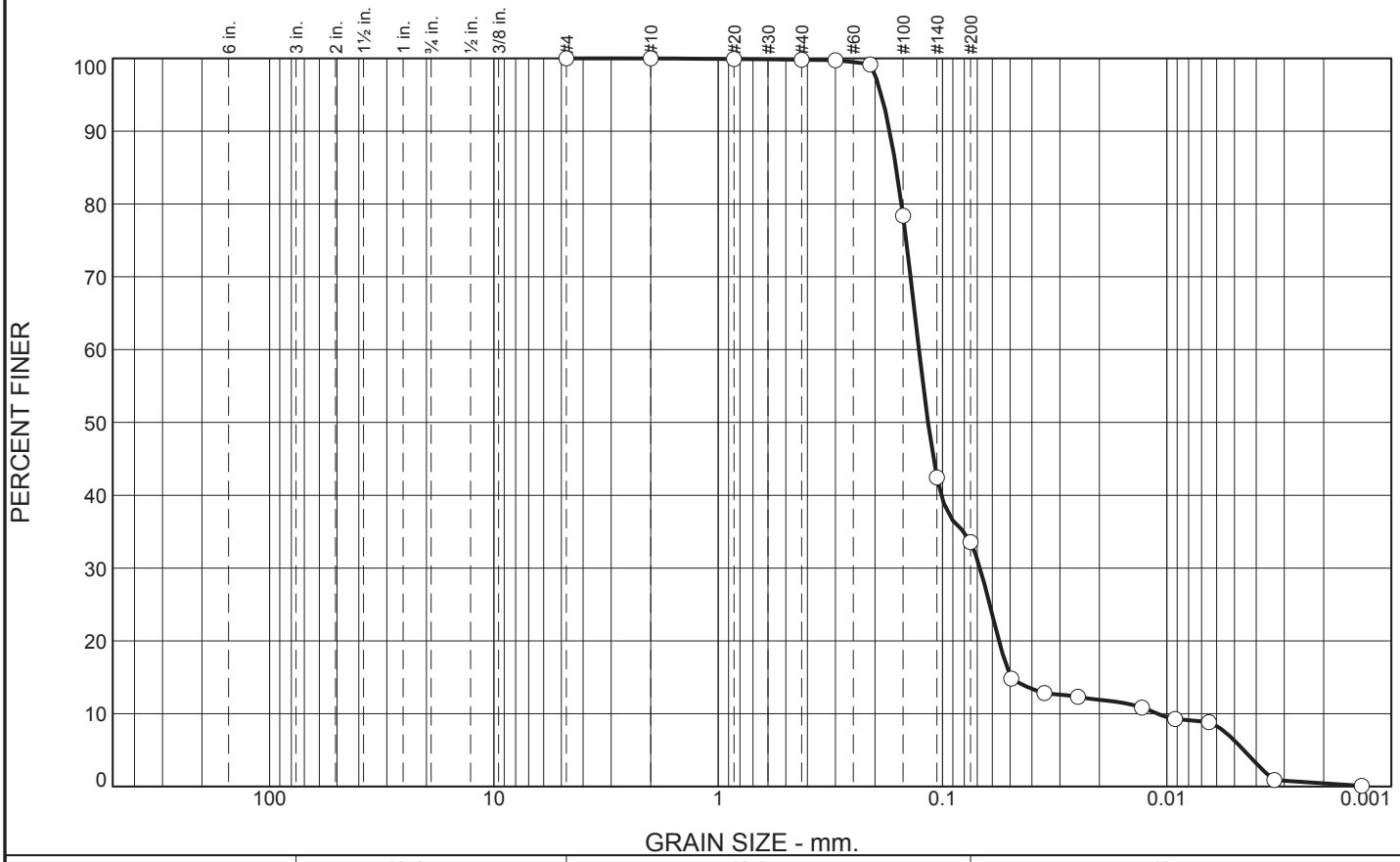
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	66.2	27.3	6.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.8		
#50	99.7		
#70	99.2		
#100	78.4		
#140	42.5		
#200	33.6		
0.0495 mm.	14.8		
0.0352 mm.	12.8		
0.0249 mm.	12.3		
0.0129 mm.	10.8		
0.0092 mm.	9.3		
0.0065 mm.	8.8		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, few clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1720 D_{85}= 0.1611 D_{60}= 0.1274
D_{50}= 0.1161 D_{30}= 0.0681 D_{15}= 0.0498
D_{10}= 0.0110 C_u= 11.56 C_c= 3.31

Classification

USCS= SM AASHTO=

Remarks

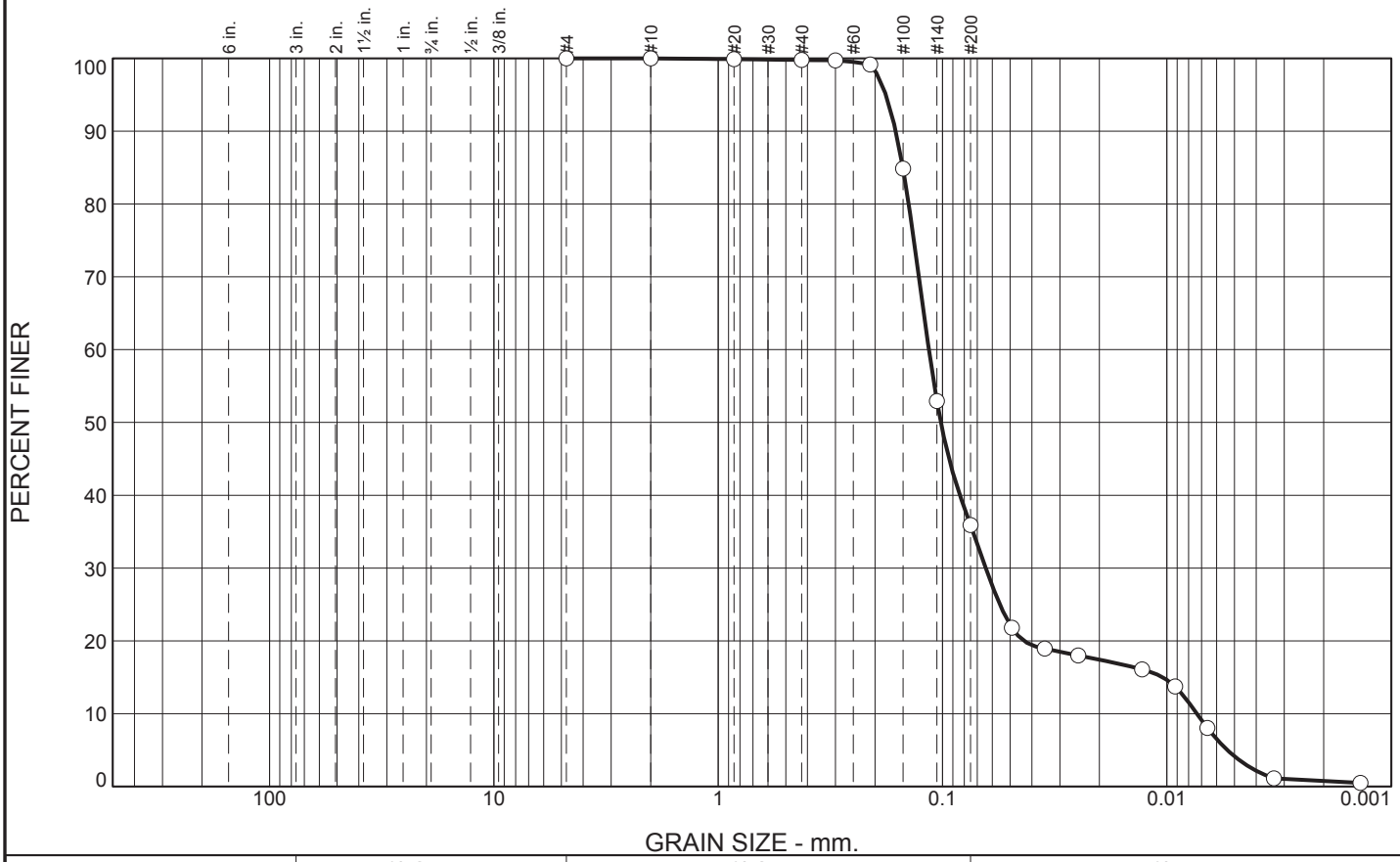
Source of Sample: 23A1459 DMMU-8-5A **Date:** 3/6/2023
Sample Number: 43

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	63.9	31.8	4.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.8		
#50	99.7		
#70	99.2		
#100	84.9		
#140	52.9		
#200	35.9		
0.0491 mm.	21.8		
0.0350 mm.	18.9		
0.0248 mm.	18.0		
0.0129 mm.	16.1		
0.0092 mm.	13.7		
0.0066 mm.	8.0		
0.0033 mm.	1.1		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1617 D_{85}= 0.1503 D_{60}= 0.1151
D_{50}= 0.1018 D_{30}= 0.0642 D_{15}= 0.0104
D_{10}= 0.0074 C_u= 15.65 C_c= 4.87

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 DMMU-8-5B
Sample Number: 44

Date: 3/6/2023

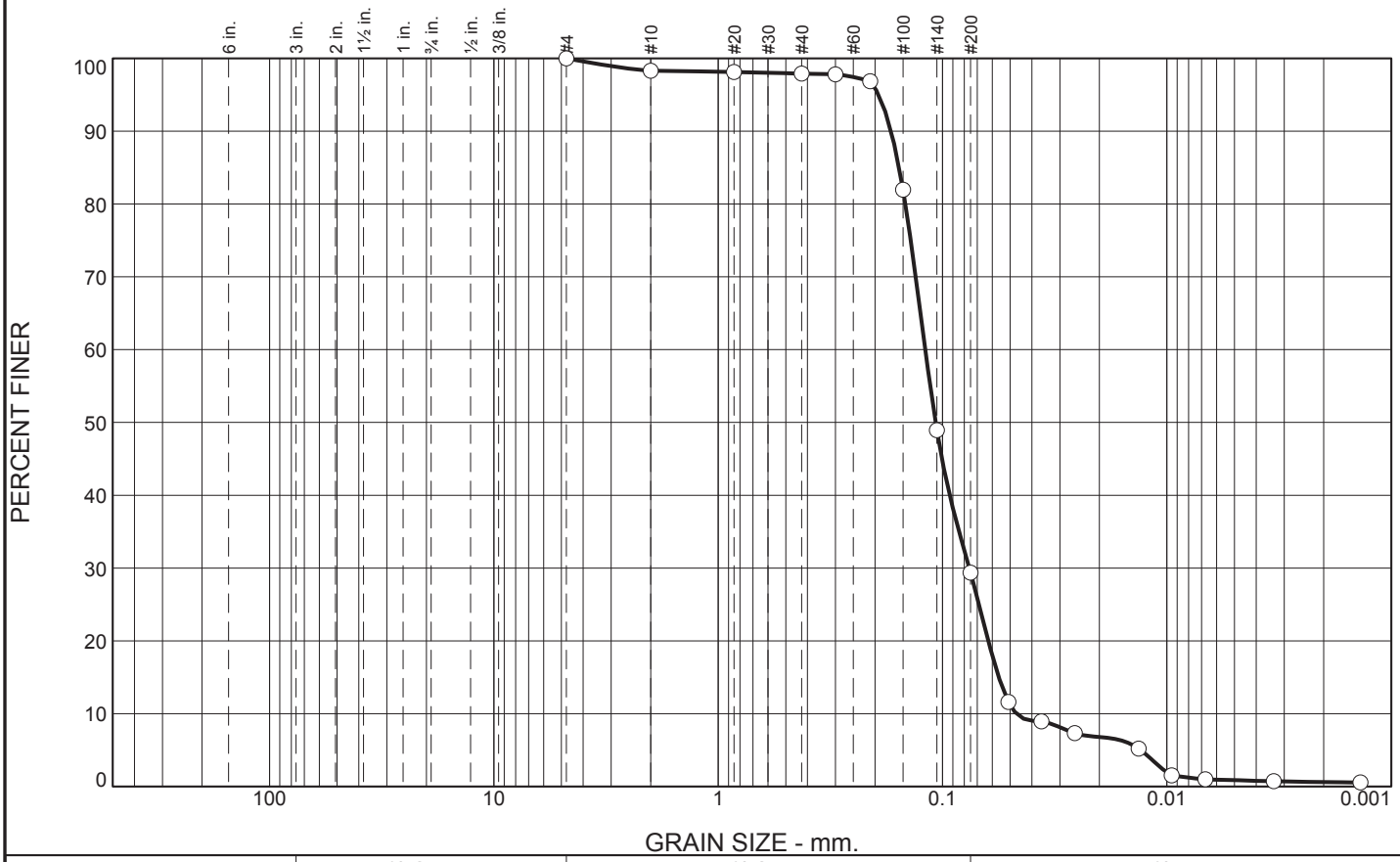
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.7	0.4	68.5	28.5	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.3		
#20	98.1		
#40	97.9		
#50	97.8		
#70	96.9		
#100	82.0		
#140	48.9		
#200	29.4		
0.0509 mm.	11.6		
0.0362 mm.	8.9		
0.0257 mm.	7.3		
0.0134 mm.	5.2		
0.0095 mm.	1.5		
0.0067 mm.	1.0		
0.0033 mm.	0.7		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1697 D_{85}= 0.1562 D_{60}= 0.1194
D_{50}= 0.1074 D_{30}= 0.0760 D_{15}= 0.0562
D_{10}= 0.0469 C_u= 2.55 C_c= 1.03

Classification

USCS= SM AASHTO=

Remarks

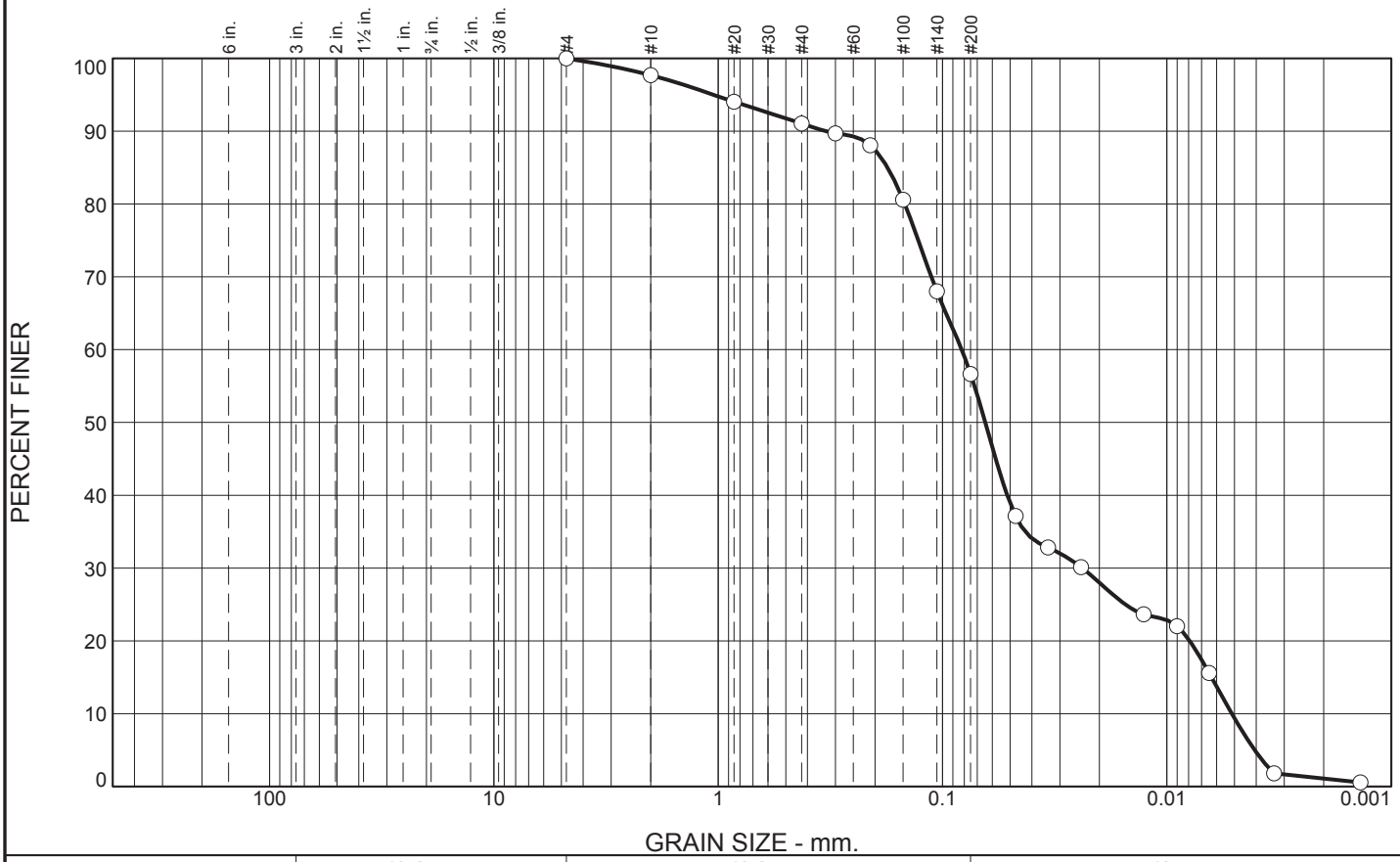
Source of Sample: 23A1459 DMMU-8-5C **Date:** 3/6/2023
Sample Number: 45

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459
Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.3	6.6	34.4	47.3	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	97.7		
#20	94.1		
#40	91.1		
#50	89.7		
#70	88.1		
#100	80.6		
#140	68.0		
#200	56.7		
0.0473 mm.	37.1		
0.0339 mm.	32.8		
0.0241 mm.	30.1		
0.0127 mm.	23.6		
0.0090 mm.	22.0		
0.0065 mm.	15.6		
0.0033 mm.	1.8		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Silt, some fine to coarse-grained sand-sized quartz, few clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3307 D_{85}= 0.1758 D_{60}= 0.0822
D_{50}= 0.0645 D_{30}= 0.0238 D_{15}= 0.0063
D_{10}= 0.0051 C_u= 16.01 C_c= 1.35

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459 **Sample Number:** 46 DMMU-8-5D

Date: 3/6/2023

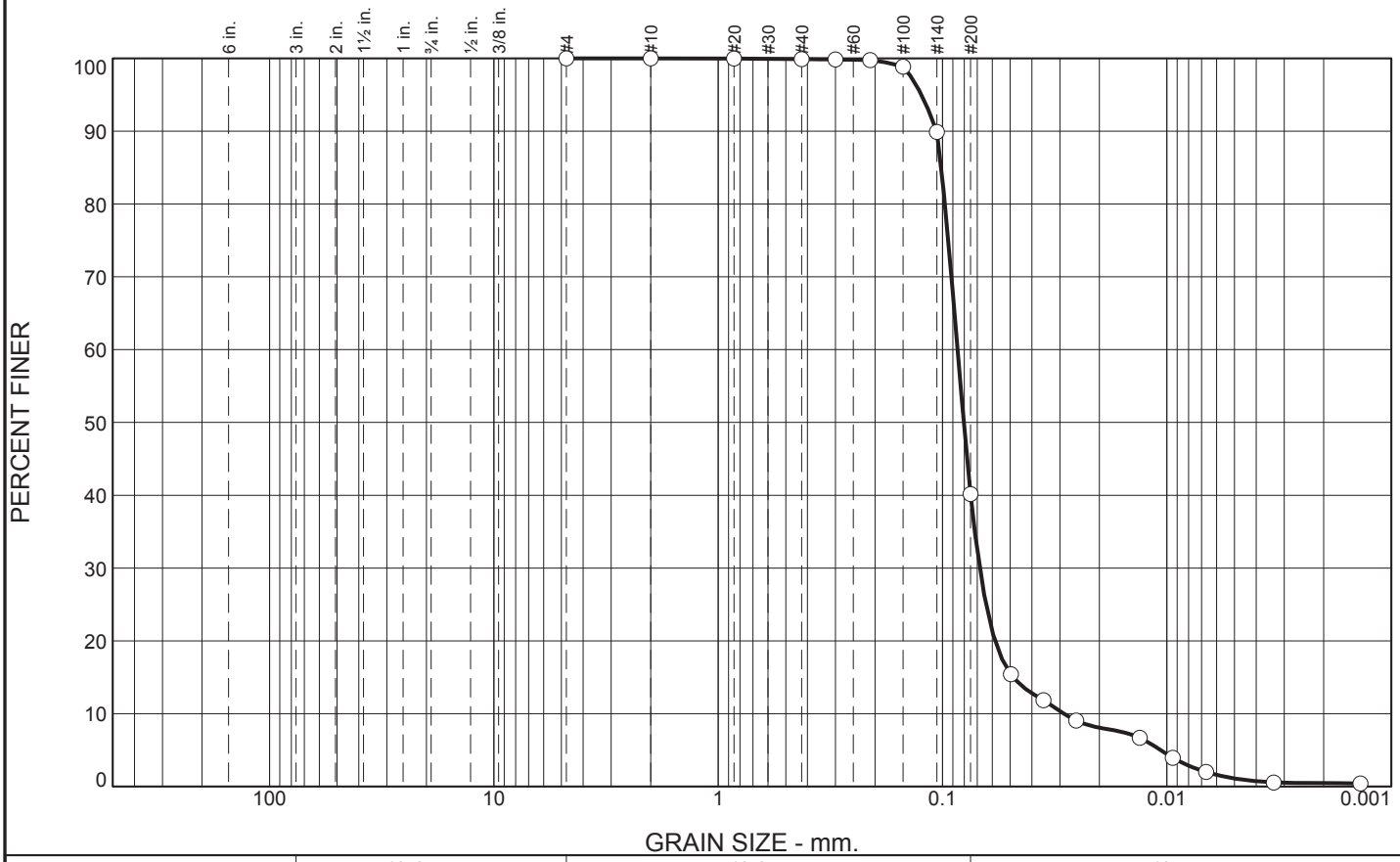
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	59.7	39.1	1.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#50	99.9		
#70	99.8		
#100	98.9		
#140	89.9		
#200	40.2		
0.0496 mm.	15.4		
0.0355 mm.	11.8		
0.0254 mm.	9.1		
0.0132 mm.	6.7		
0.0094 mm.	3.9		
0.0067 mm.	2.0		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1063 D_{85}= 0.1014 D_{60}= 0.0857
D_{50}= 0.0804 D_{30}= 0.0683 D_{15}= 0.0484
D_{10}= 0.0288 C_u= 2.98 C_c= 1.89

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 Reference
Sample Number: 47

Date: 3/6/2023

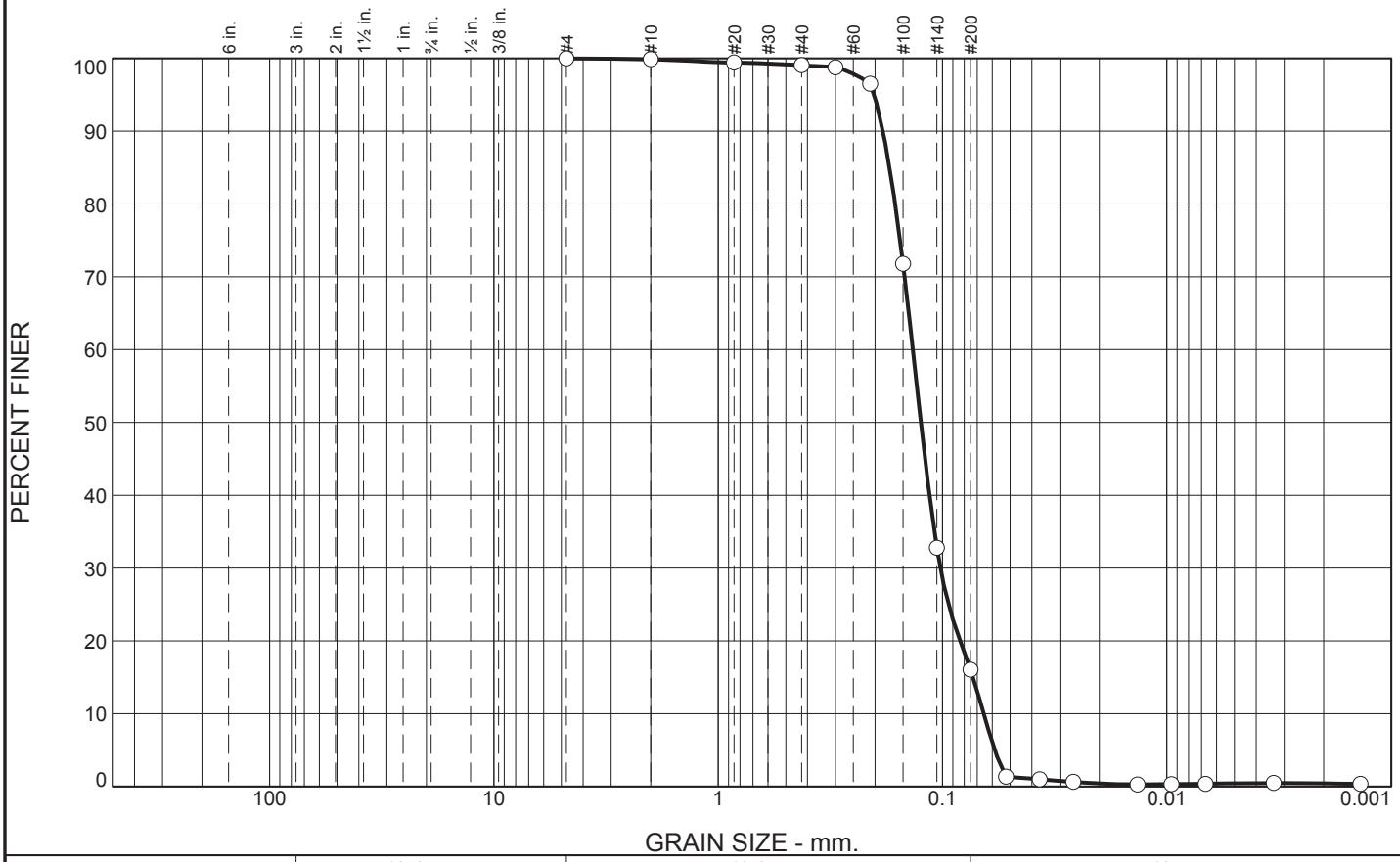
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.8	83.1	15.6	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.4		
#40	99.1		
#50	98.8		
#70	96.5		
#100	71.8		
#140	32.8		
#200	16.0		
0.0521 mm.	1.3		
0.0369 mm.	1.0		
0.0261 mm.	0.6		
0.0135 mm.	0.3		
0.0095 mm.	0.3		
0.0067 mm.	0.4		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1843 D_{85}= 0.1722 D_{60}= 0.1356
D_{50}= 0.1249 D_{30}= 0.1022 D_{15}= 0.0731
D_{10}= 0.0655 C_u= 2.07 C_c= 1.18

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 HI-DUP
Sample Number: 48

Date: 3/6/2023

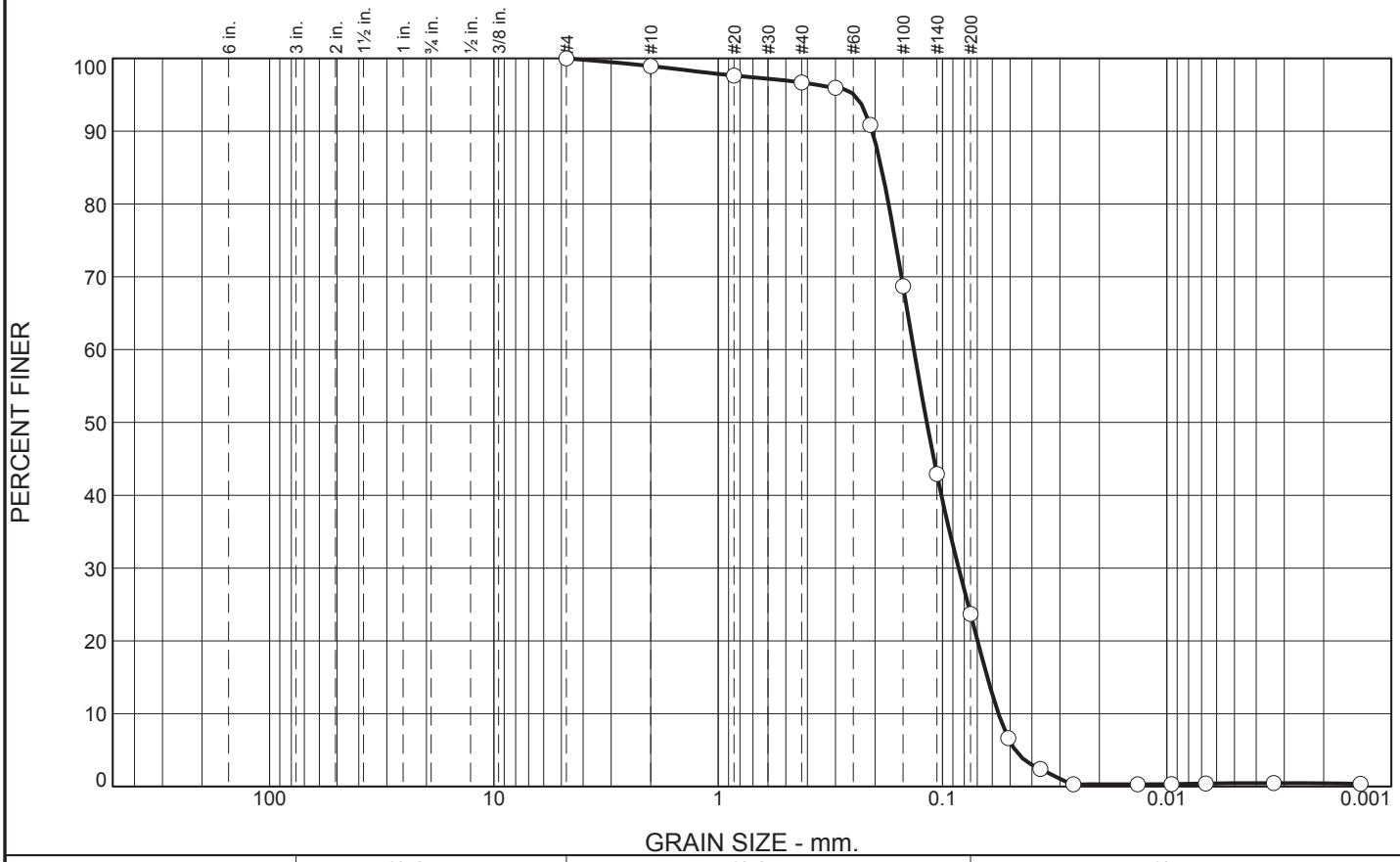
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.0	2.3	73.0	23.3	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.0		
#20	97.6		
#40	96.7		
#50	96.0		
#70	90.9		
#100	68.7		
#140	42.9		
#200	23.7		
0.0510 mm.	6.6		
0.0367 mm.	2.4		
0.0261 mm.	0.3		
0.0135 mm.	0.3		
0.0095 mm.	0.3		
0.0067 mm.	0.4		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2058 D_{85}= 0.1875 D_{60}= 0.1342
D_{50}= 0.1175 D_{30}= 0.0847 D_{15}= 0.0632
D_{10}= 0.0564 C_u= 2.38 C_c= 0.95

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459 ODMDS
Sample Number: 66

Date: 3/6/2023

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

SampleID	SampleName	ClientMatrix
22A3987-01	HI-EQ BLANK	18 MOhm DI Water
22A3987-02	HI-DMMU-7-4A-W	Marine Water
22A3987-03	HI-DMMU-7-4B-W	Marine Water
22A3987-04	HI-DMMU-8-5B-W	Marine Water
22A3987-07	HI-DMMU-1-E	Elutriate
22A3987-08	HI-DMMU-2-E	Elutriate
22A3987-09	HI-DMMU-3-E	Elutriate
22A3987-10	HI-DMMU-4-E	Elutriate
22A3987-11	HI-DMMU-5-E	Elutriate
22A3987-12	HI-DMMU-6-E	Elutriate
22A3987-13	HI-DMMU-7-E	Elutriate
22A3987-14	HI-DMMU-8-E	Elutriate
22A3987-15	HI-DMMU-1-S	Sediment
22A3987-16	HI-DMMU-1-1A-S	Sediment
22A3987-17	HI-DMMU-1-1B-S	Sediment
22A3987-18	HI-DMMU-1-1C-S	Sediment
22A3987-19	HI-DMMU-2-S	Sediment
22A3987-20	HI-DMMU-2-1A-S	Sediment
22A3987-21	HI-DMMU-2-1B-S	Sediment
22A3987-22	HI-DMMU-2-1C-S	Sediment
22A3987-23	HI-DMMU-3-S	Sediment
22A3987-24	HI-DMMU-3-2A-S	Sediment
22A3987-25	HI-DMMU-3-2B-S	Sediment
22A3987-26	HI-DMMU-4-S	Sediment
22A3987-27	HI-DMMU-4-2A-S	Sediment
22A3987-28	HI-DMMU-4-2B-S	Sediment
22A3987-29	HI-DMMU-5-S	Sediment
22A3987-30	HI-DMMU-5-3A-S	Sediment
22A3987-31	HI-DMMU-5-3B-S	Sediment
22A3987-32	HI-DMMU-5-3C-S	Sediment
22A3987-33	HI-DMMU-6-S	Sediment
22A3987-34	HI-DMMU-6-3A-S	Sediment
22A3987-35	HI-DMMU-6-3B-S	Sediment
22A3987-36	HI-DMMU-6-3C-S	Sediment
22A3987-37	HI-DMMU-7-S	Sediment
22A3987-38	HI-DMMU-7-4A-S	Sediment
22A3987-39	HI-DMMU-7-4B-S	Sediment
22A3987-40	HI-DMMU-7-4C-S	Sediment
22A3987-41	HI-DMMU-7-4D-S	Sediment
22A3987-42	HI-DMMU-8-S	Sediment
22A3987-43	HI-DMMU-8-5A-S	Sediment
22A3987-44	HI-DMMU-8-5B-S	Sediment
22A3987-45	HI-DMMU-8-5C-S	Sediment
22A3987-46	HI-DMMU-8-5D-S	Sediment
22A3987-49	HI-DUP-S	Sediment
22A3987-50	HI-DUP-W	Marine Water
22A3987-51	HI-DUP-E	Elutriate

Unified Soil Classification System (USCS, from ASTM D 2487)				
Major Divisions			**Group Symbol**	**Typical Names**
Course-Grained Soils More than 50% retained on the 0.075 mm (No. 200) sieve	**Gravels** 50% or more of course fraction retained on the 4.75 mm (No. 4) sieve	Clean Gravels	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravels with Fines	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sands 50% or more of course fraction passes the 4.75 (No. 4) sieve	Clean Sands	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly graded sands and gravelly sands, little or no fines
		Sands with Fines	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
Fine-Grained Soils More than 50% passes the 0.075 mm (No. 200) sieve	**Silts and Clays** Liquid Limit 50% or less		ML	Inorganic silts, very fine sands, rock four, silty or clayey fine sands
			CL	Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
			CH	Inorganic clays or high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat, muck, and other highly organic soils

Prefix: G = Gravel, S = Sand, M = Silt, C = Clay, O = Organic
Suffix: W = Well Graded, P = Poorly Graded, M = Silty, L = Clay (LL < 50%), H = Clay (LL > 50%)

APPENDIX D

CHEMICAL QUALITY ASSURANCE REPORT

EPA Region 6
Data Review and Validation Requirements
Dredged Material Disposal Evaluation

Project: PCCA Harbor Island Section 103

Project Initiation Date: November 16, 2021

Project Sampling Dates:

Begin: January 17, 2023

End: January 27, 2023

Final Report Date:

Final Review Date: August 3, 2023

Data acceptable (Y/N):

If data unacceptable summarize issues to be addressed:

I certify the review in this document conforms to all applicable regulatory and project-specific requirements.

QA Officer

Laboratory Information

Use one sheet for each laboratory that will perform analytical work for this project.

Laboratory Name/Identification: North Water District Laboratory Services

Is lab NELAC certified? Yes/No If Yes, please supply certification number TCEQ T104704238-21-33

Can lab meet the QC requirements below as specified in the SAP/QAPP?

Yes/No	
Yes	Analytical requirement
Yes	Instrumentation
Yes	MDL's meet project TDL requirements
Yes	Precision and accuracy
Yes	Required turnaround time

Note below any requirements the laboratory is unable to meet.

Various tests were subbed out from NWDLS to ALS Laboratory in Kelso, WA (T104704427),

Eurofins Laboratory in Stafford, TX (T104704215-19-30), and A&B Laboratory in Houston, TX (T104704213-23-31)

List of Acronyms

CCV	continuing calibration verification
IC	initial calibration
ICB	initial calibration blank
ICV	initial calibration verification
IS	internal standard
LCS/DLCS	laboratory control sample/duplicate laboratory control sample
LDR	linear dynamic range
LFB	laboratory fortified blank
MB	method blank
MDL	method detection limit
MN	*Macoma nasuta*
MS/MSD	matrix spike/matrix spike duplicate
NV	*Neanthes virens*
RL	reporting limit
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
RIA	EPA Region 6 - Regional Implementation Manual
SRM	standard reference material

Sample Custody

Was all required information on the chain-of-custody form:

(Yes/No)	
Y	Did chain of custody forms accompany samples to subcontract lab?
Y	Is the project identification on the chain of custody?
See note	Are the analyses requested printed on the sample containers?
Y	Were all samples correctly identified?
Y	Were the analyses correctly identified on the chain of custody or an attached document listed on the chain of custody?
Y	Were sample dates and times listed on the chain of custody?
Y	Were the chains of custody signed by both the relinquisher and receiver of the samples?
Y	Was the carrier identified on the chain of custody?
Y	If more than one chain of custody was needed for samples, are the chains of custody clearly numbered?
See note	Were samples packed on wet ice, with an expected receipt temperature of 4 ± 2°C?
See note	Were any sample conditions or irregularities (broken bottles, improper temperature) noted on the chain of custody or accompanying paperwork?
Y	Was the chain of custody submitted as part of the report to the primary contractor?
Y	Were all requested analyses performed?
Y	Was adequate sample volume provided to the contractor lab?
See note	If any anomalous behavior of the samples was found, was it noted in the lab case narrative?

Additional sample custody issues or deficiencies:

Samples were logged in prior to field sampling. The login printout acted as the chain of custody for the samples.

Samples were stored and shipped in a refrigerated cooler

Samples did not have any identifiable irregularities or anomalous behaviour

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn, Cr(III), Cr(VI)

Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: 6020, 7471

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specifc spike recovery and RSD precision limits	See note	Several spikes, primarily for antimony, were outside acceptance criteria, indicating a potential matrix interference in the samples.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	See LCS	
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method-specific spike recovery limits	Y		
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	Verification standards not provided, but lab indicates that all analytes were acceptable.	
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method-specific recovery limits	Y		
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis		NA	Not provided by lab	
IC	Verify initial calibration for AA and mercury analysis performed daily	Method-specific calibration requirements	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn, Cr(III), Cr(VI)

Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: 6020, 7470

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	See note	All spikes except one for lead and one for nickel were within the acceptance criteria. The exceedances were by less than 5%, so the impact on sample results is low.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	See LCS	
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method-specific spike recovery limits	Y		
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	Verification standards not provided, but lab indicates that all analytes were acceptable.	
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method-specific recovery limits	Y		
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis		NA	Not provided by lab	
IC	Verify initial calibration for AA and mercury analysis performed daily	Method-specific calibration requirements	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA CDP Inner Harbor

Reviewed by: PLB

Review Date: 8/3/23

Parameter: Metals (e.g. Silver, Arsenic)

List Metals Analyzed: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn, Cr(III), Cr(VI)

Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: 6020, 7471

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Matrix spike recoveries for arsenic, selenium, and zinc were above the lab acceptance criteria in at least one set of spikes, indicating a potential high bias in the sample. Further information about selenium and the overall impact may be found in the risk assessment section of the	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	See LCS	
LCS/LFB	1 per 20 samples or 1 per batch up to 20 samples	Method-specific spike recovery limits	Y		
ICV	Immediately following calibration curve	Method-specific spike recovery limits	Y	Verification standards not provided, but lab indicates that all analytes were acceptable.	
CCV	Minimum - check calibration at middle and end of each batch or 1 per 10 analyses, whichever is greater	Method-specific spike recovery limits	Y		
LDR	Verify LDR once per quarter for ICP analyses and one time for mercury analysis		NA	Not provided by lab	
IC	Verify initial calibration for AA and mercury analysis performed daily	Method-specific calibration requirements	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☐ PAHs ☑ Pesticides ☐ PCBs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: 8081

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	Y		
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	See note	Use LCS as SRM. 4,4' DDT had one small exceedance outside the lab acceptance criteria for one LCS. All other compounds were acceptable.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Several calibration verification standards were above the acceptance criteria. Since all sample results for the affected compounds were below detection, there is no impact to the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits			
Surrogates	Every sample	Method-specific recovery limits	Y		
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☐ PAHs ☑ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: 8081

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Several spike recoveries were below the acceptance criteria, indicating a potential matrix interference in the sample.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS for SRM.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Several calibration verification standards were above the acceptance criteria. Since all sample results for the affected compounds were below detection, there is no impact to the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits			
Surrogates	Every sample	Method-specific recovery limits	Y		
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☐ PAHs ☐ Pesticides ☑ PCBs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: 8082

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	Y		
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y		
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Several calibration verification standards were above the acceptance criteria. Since all sample results for the affected compounds were below detection, there is no impact to the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits			
Surrogates	Every sample	Method-specific recovery limits	See note	Several surrogates were above the acceptance criteria. All sample results were below detection, so the overall impact is low to none.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA CDP Inner Harbor

Reviewed by: PLB

Review Date: 9/28/22

Parameter: ☐ PAHs ☐ Pesticides ☑ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: 8082

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Several spike recoveries were below the acceptance criteria, indicating a potential matrix interference in the sample.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS for SRM.	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	ICV and CCV recoveries are not provided, but the lab report indicates there were no exceedances.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	See note	Several surrogates were above the acceptance criteria. All sample results were below detection, so the overall impact is low to none.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☒ PAHs ☐ Pesticides ☐ PCBs
Matrix: ☒ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	The matrix spikes had exceedances outside the acceptance criteria. The sample with the most exceedances also had high levels of SVOC contaminants, and also indicates a likely matrix interference in the sample. The sample was rerun several times to address the spike recovery exceedances.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use blank spike/LCS as SRM	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	ICV and CCV recoveries are not provided, but the lab report indicates there were no exceedances.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	See note	Several surrogates were outside the acceptance criteria. The exceedances were generally above the limit, indicating a potential high bias in the sample results. For any results which exceeded the reporting limit, tissue analysis was performed.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☑ PAHs ☐ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	Y		
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y		
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	ICV and CCV recoveries are not provided, but the lab report indicates there were no exceedances.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	Y		
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/3/23

Parameter: ☑ PAHs ☐ Pesticides ☐ PCBs
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Numerous spikes had exceedances outside the laboratory acceptance criteria, likely due to matrix inteference.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS as SRM	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	ICV and CCV recoveries are not provided, but the lab report indicates there were no exceedances.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	N	Numerous surrogates are outside the lab acceptance criteria and below the standard method acceptance criteria, indicating a likely matrix interference. A discussion of sample results that were found to exceed the reference is in the report risk assessment. For results that are below detection, the overall impact is low.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☐ PAHs ☐ Pesticides ☐ PCBs ☑ SVOCs
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	N	Several compounds across all the batches tested had exceedances above the reporting limit.	
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	The matrix spikes had exceedances outside the acceptance criteria. The sample with the most exceedances also had high levels of SVOC contaminants, and also indicates a likely matrix interference in the sample. The sample was rerun several times to address the spike recovery exceedances.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	See note	Used Blank Spike/LCS for SRM. Several compounds had exceedances outside the acceptance criteria. Since the exceedances are generally small, the overall impact is low.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Several calibration verification standards were above the acceptance criteria. Since all sample results for the affected compounds were below detection, there is no impact to the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits			
Surrogates	Every sample	Method-specific recovery limits	See note	Several surrogates were outside the acceptance criteria. The exceedances were generally above the limit, indicating a potential high bias in the sample results. For any results which exceeded the reporting limit, tissue analysis was performed.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 5/22/23

Parameter: ☐ PAHs ☐ Pesticides ☐ PCBs ☑ SVOCs
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)		Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	N	Three compounds had exceedances above the reporting limit.	
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	Y		
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use blank spike as SRM. Two compounds had slight exceedances outside the lab acceptance criteria. All other compounds tested were within acceptance criteria.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Several calibration verification standards were above the acceptance criteria. Since all sample results for the affected compounds were below detection, there is no impact to the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits			
Surrogates	Every sample	Method-specific recovery limits	Y		
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/3/23

Parameter: ☐ PAHs ☐ Pesticides ☐ PCBs ☑ SVOCs
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: 8270

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	N	Several compounds had exceedances, likely due to the use of tissue in the blank.	
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Several spikes had exceedances outside the laboratory acceptance criteria, likely due to matrix inteference.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use LCS as SRM. Several compounds had exceedances, likely due to the use of tissue in the LCS.	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	ICV and CCV recoveries are not provided, but the lab report indicates there were no exceedances.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	N	Numerous surrogates are outside the lab acceptance criteria and below the standard method acceptance criteria, indicating a likely matrix interference. A discussion of sample results that were found to exceed the reference is in the report risk assessment. For results that are below detection, the overall impact is low.	
Internal Standard	Every sample	Method-specific recovery limits	NA	Not provided by lab	
IC	Verify after each initial calibration	Method-specific acceptibility limits	Y	Maintained at lab	
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	
ICB	Immediately after initial calibration	No analyte should be detected > RL	Y	Maintained at lab	

Project Identification: PCCA Harbor Island
Reviewed by: PLB
Review Date: 8/2/23

Parameter: Tributyltins
Matrix: ☑ Sediment ☐ Water/Elutriate ☐ Tissue

Analytical Method Used: Krone

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y	
MS/MSD/MST	1 set per 20 samples or per batch	40%	Y	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS as SRM
ICV	Immediately following calibration curve	75-125%	NA	ICV and CCV results not provided from lab.
CCV	At the beginning of every 12 hours of analysis	75-125%	NA	
Surrogates	Every sample	20-150%	Y	Met lab acceptance criteria
IC	Verify after each initial calibration	<20% RSD	Y	Maintained at lab
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab

Project Identification: PCCA Harbor Island
Reviewed by: PLB
Review Date: 8/2/23

Parameter: Tributyltins
Matrix: ☐ Sediment ☑ Water/Elutriate ☐ Tissue

Analytical Method Used: Krone

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y	
MS/MSD/MST	1 set per 20 samples or per batch	40%	Y	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS as SRM
ICV	Immediately following calibration curve	75-125%	NA	ICV and CCV results not provided from lab.
CCV	At the beginning of every 12 hours of analysis	75-125%	NA	
Surrogates	Every sample	20-150%	See note	Three samples had exceedances in the surrogate. All corresponding sample results were below the corresponding reporting limit from the lab.
IC	Verify after each initial calibration	<20% RSD	Y	Maintained at lab
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab

Project Identification: PCCA Harbor Island
Reviewed by: PLB
Review Date: 8/3/23

Parameter: Tributyltins
Matrix: ☐ Sediment ☐ Water/Elutriate ☑ Tissue

Analytical Method Used: Krone

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y	
MS/MSD/MST	1 set per 20 samples or per batch	40%	Y	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use LCS as SRM
ICV	Immediately following calibration curve	75-125%	NA	ICV and CCV results not provided from lab.
CCV	At the beginning of every 12 hours of analysis	75-125%	NA	
Surrogates	Every sample	20-150%	See note	Three samples had exceedances in the surrogate. All corresponding sample results were below the corresponding reporting limit from the lab.
IC	Verify after each initial calibration	<20% RSD	Y	Maintained at lab
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab

Note: Samples were reported with an H qualifier, indicating the samples were analyzed past holding time, however the samples were frozen tissues, which have a holding time of 1 year, so the H qualifier does not apply.

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/2/23

Parameter: TOC

Matrix: Sediment

Analytical Method Used: 9060

QC Measurement	Frequency	Acceptance Criteria	Criteria Met (Y/N)	Review Comments	Data Acceptable (Y/N)
MB	1 per 20 samples or 1 per batch up to 20 samples	No analyte should be detected > RL	Y		
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	Y		
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	Y	Use :LCS as SRM	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Verification standards not provided, but lab indicates that all analytes were acceptable.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	See note		
IC	Verify after each initial calibration	Method-specific acceptibility limits	NA		
MDL	Verify MDL study once per year for each analyte of interest	Updated annually	Y	Maintained at lab	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/2/23

Part I	General Data Reporting Requirements	Included (Y/N)	Comments
SUMMARY TABULAR DATA AND PROJECT NARRATIVE			
Each of the following elements should be present as described.			
	A summary table listing the percent survival in all control, reference, and test samples	Y	
	A summary table containing the LC_{50}/EC_{50} values for the suspended particulate phase (SPP) tests and statistical tests from the solid phase tests	Y	
	A narrative which summarizes all of the deviations from the Green Book/Inland Testing Manual, Regional Implementation Agreement and SAP/QAPP protocols. Deviations of sample handling, test conditions, ammonia purging procedures, control performance, reference toxicant test performance, organism handling/acclimation, and water quality parameters should be provided in this section.	Y	
	A summary table which documents collection dates and holding times for the test, control, and reference sediment samples. Holding times for site water, SPP, and lab saltwater for all tests should be included in this table.	Y	
	The data narrative should describe the major biological project activities and results. Computerized tables of results, water quality, and other pertinent information should be placed in this portion of the biological data package.	Y	
RAW BIOLOGICAL AND WATER QUALITY DATA FROM TESTS			
	Survival Data	Y	
	Water Quality Parameters	Y	
	Feeding Schedule and Amount (if applicable)	Y	
	Organism Observations	Y	
	Summary of Test Conditions	Y	
TEST ORGANISM HOLDING, HANDLING AND ACCLIMATION			
	Organism Shipping Data Sheet (or equivalent) if Provided by Supplier	Y	For species not laboratory grown.
	Copy of Overnight Shipping Airbill or Courier Tracking Information (if applicable)	NA	
	Holding/Acclimation Records (including any required water quality, renewals, and feeding)	Y	For samples not cultured at the laboratory
	Mortality During Holding and Acclimation	N	Mortality not provided, samples held for less than 2 days after receipt for test setup.
	Taxonomic Identification for Each Species (where available from vendor)	Y	Provided by supplier
REFERENCE TOXICANT DATA (where applicable)			
	Raw Bench Sheets For Reference Toxicant Tests	Y	
	Reference Toxicant Stock & Test Solution Preparation Sheet	Y	
	LC_{50}/EC_{50} Statistical Calculations	Y	
	Updated Reference Toxicant Control Charts with Acceptability Limits	Y	
STATISTICAL DATA FROM DREDGE MATERIAL TESTS			
	Provide all computer-generated statistical output information for the SPP and solid phase tests.	Y	
INVALID TEST DATA			
	If a test was repeated for any reason, the data from the original test must be included in the final report. If a serious deviation occurs which has the potential to affect test acceptability, USACE and EPA must be contacted immediately to determine if a retest is needed.	NA	

Part II	Test-Specific Information (additional to items specified in Part I)	Included (Y/N)	Comments
AMPHIPOD SOLID PHASE TEST			
	Pretest Overlying Water Renewal Log and Total Porewater Ammonia Data	Y	
	Total/Unionized Porewater Ammonia Measured in Dummy Jars During Testing	Y	
MYSID SOLID PHASE TEST			
	Pretest Overlying Water Renewal Log and Total Porewater Ammonia Data	Y	
	Total/Unionized Overlying Unionized Ammonia Measured During Testing	Y	
SUSPENDED PARTICULATE PHASE TESTS (SPP)			This information is spread across several different tables, but is present in the report.
	SPP Preparation Log (All volumes, Mixing Times, Centrifuge Information etc.)	Y	
BIOACCUMULATION TESTING			
	Daily Flow Calibration or Static Renewal Log	N	
	Preparation Logs for All Artificial Saltwater (if applicable)	Y	
	If Control Survival <90%, Provide Detailed Narrative	NA	
	Statistical Data Output Information Comparing Test and Reference Tissue Chemistry	Y	
	Time 0 tissue samples collected and archived frozen	Y	
SAMPLING / SAMPLE HANDLING			
	Chain of Custody Forms for All Test, Control, and Reference Samples	Y	The lab report indicates the sediment was sieved for the benthic and bioaccumulation, but the sieve size is not specified.
	Field Data Sheets and/or Sampling Logs (Including Photos If Available)	Y	
	Log of Test Sediment Composite Preparation	Y	
	Sieving – Size of Mesh Used for Samples Used in Toxicity Tests/Bioaccumulation specified	N	

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/2/23

Laboratory:	Suspended Particulate Phase Tests								
	Minnow	Review Comments	Data Acceptable (Y/N)	Mysid	Review Comments	Data Acceptable (Y/N)	Zooplankton	Review Comments	Data Acceptable (Y/N)
Test Species: Identify each species used for toxicology in the cells to the right	***Menidia beryllina* 9-14 days old**			***Americamysis bahia* 1-5 days old**			***Americamysis bahia* or *Copepod* ≤ 1 day old**		
Correct species used as stated in the SAP/QAPP? (Y/N)	Y			Y			Y		
Control Survival Criterion Met (where applicable)? (Y/N)	Y			Y			Y		
Reference Toxicant Response within 2 standard deviations of long term mean (where applicable)? (Y/N)	Y			Y			Y		
Temperature within acceptable limits? (Y/N)	Y			Y			Y		
Dissolved Oxygen within acceptable limits? (Y/N)	Y			Y			Y		
pH within acceptable limits? (Y/N)	Y			Y			Y		
Salinity within acceptable limits? (Y/N)	Y			Y			Y		
Acclimation Procedures followed (where required)? (Y/N)	NA			NA			NA		
Sediment Holding Time <8 wks? (Y/N)	Y			Y			Y		
Statistical Analyses Appropriate? (Y/N)	Y			Y			Y		
Ammonia Management conducted (where required)? (Y/N)	NA			NA			NA		

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/2/23

Laboratory:	Solid Phase Tests					
	Amphipod	Review Comments	Data Acceptable (Y/N)	Crustacean	Review Comments	Data Acceptable (Y/N)
Test Species: Identify each species used for toxicology in the cells to the right	***Leptocheirus plumulosus***			***Americamysis bahia (1 - 5 days old)***		
Correct species used as stated in the SAP/QAPP? (Y/N)	Y			Y		
Control Survival Criterion Met (where applicable)? (Y/N)	Y			Y		
Reference Toxicant Response within 2 standard deviations of long term mean (where applicable)? (Y/N)	Y			Y		
Temperature within acceptable limits? (Y/N)	Y			Y		
Dissolved Oxygen within acceptable limits? (Y/N)	Y			Y		
pH within acceptable limits? (Y/N)	Y			Y		
Salinity within acceptable limits? (Y/N)	Y			Y		
Acclimation Procedures followed (where required)? (Y/N)	NA			NA		
Sediment Holding Time <8 wks? (Y/N)	Y			Y		
Statistical Analyses Appropriate? (Y/N)	Y			Y		
Ammonia Management conducted (where required)? (Y/N)	NA			NA		

Project Identification: PCCA Harbor Island

Reviewed by: PLB

Review Date: 8/2/23

Laboratory:	Bioaccumulation Potential Tests					
	Sand Worm *Alitta virens*	**Review Comments**	**Data Acceptable (Y/N)**	**Clam *Mercenaria mercenaria***	**Review Comments**	**Data Acceptable (Y/N)**
Test Species: Identify each species used for toxicology in the cells to the right	***Neanthes (Nereis) virens***			***Merenaria mercenaria***		
Correct species used as stated in the SAP/QAPP? (Y/N)	Y			Y	*Mercenaria mercenaria* used as alternate species to *Macoma nasuta* due to availability. This was approved by USACE on 2/3/23 by Jayson Hudson.	
Control Survival Criterion Met (where applicable)? (Y/N)						
Reference Toxicant Response within 2 standard deviations of long term mean (where applicable)? (Y/N)						
Temperature within acceptable limits? (Y/N)	Y			Y		
Dissolved Oxygen within acceptable limits? (Y/N)	Y			Y		
pH within acceptable limits? (Y/N)	Y			Y		
Salinity within acceptable limits? (Y/N)	Y			Y		
Acclimation Procedures followed (where required)? (Y/N)	NA			NA		
Sediment Holding Time <8 wks? (Y/N)	Y			Y		
Statistical Analyses Appropriate? (Y/N)	Y			Y		
Ammonia Management conducted (where required)? (Y/N)	NA			NA		

APPENDIX E

CHEMISTRY LAB REPORTS

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-23-38
TCEQ-TOX T104704202-22-17

April 03, 2023

LAB REPORT

Gregg Pawlak
Terracon_Houston
11555 Clay Road
Houston, TX 77043

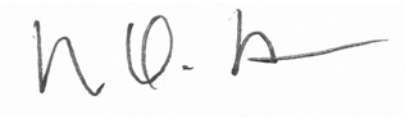
Report ID: 20230403140831MM

RE: PCCA HI & CDP Resampling 2023

The following test results meet all NELAP requirements for analytes for which certification is available. Any deviations from our quality system will be noted in the case narrative. All analyses performed by North Water District Laboratory Services, Inc. unless noted.

For questions regarding this report, contact Monica Martin at 936-321-6060.

Sincerely,



Monica O. Martin
Chief Administrative Officer

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Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-23-38
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Work Order Case Narrative

A total of 52 samples were collected on:

Laboratory ID	Sample Name	Sample Date
23A1459-01	HI-EQ BLANK	01/20/2023 09:50
23A1459-02	HI-DMMU-7-4A-W	01/25/2023 09:30
23A1459-03	HI-DMMU-7-4B-W	01/25/2023 12:50
23A1459-04	HI-DMMU-8-5B-W	01/25/2023 14:50
23A1459-05	HI-REF-W	01/27/2023 11:25
23A1459-06	HI-ODMDS-W	04/12/2022 16:10
23A1459-07	HI-DMMU-1-E	01/16/2023 14:20
23A1459-08	HI-DMMU-2-E	01/16/2023 17:20
23A1459-09	HI-DMMU-3-E	01/19/2023 15:20
23A1459-10	HI-DMMU-4-E	01/19/2023 17:00
23A1459-11	HI-DMMU-5-E	01/18/2023 09:40
23A1459-12	HI-DMMU-6-E	01/18/2023 11:15
23A1459-13	HI-DMMU-7-E	01/16/2023 16:37
23A1459-14	HI-DMMU-8-E	01/18/2023 14:10
23A1459-15	HI-DMMU-1-S	01/16/2023 14:20
23A1459-16	HI-DMMU-1-1A-S	01/16/2023 14:20
23A1459-17	HI-DMMU-1-1B-S	01/17/2023 09:40
23A1459-18	HI-DMMU-1-1C-S	01/17/2023 14:40
23A1459-19	HI-DMMU-2-S	01/16/2023 17:20
23A1459-20	HI-DMMU-2-1A-S	01/16/2023 17:20
23A1459-21	HI-DMMU-2-1B-S	01/17/2023 11:30
23A1459-22	HI-DMMU-2-1C-S	01/17/2023 16:30
23A1459-23	HI-DMMU-3-S	01/19/2023 15:20
23A1459-24	HI-DMMU-3-2A-S	01/19/2023 15:20
23A1459-25	HI-DMMU-3-2B-S	01/20/2023 11:00
23A1459-26	HI-DMMU-4-S	01/19/2023 17:00
23A1459-27	HI-DMMU-4-2A-S	01/19/2023 17:00
23A1459-28	HI-DMMU-4-2B-S	01/20/2023 12:50
23A1459-29	HI-DMMU-5-S	01/18/2023 09:40
23A1459-30	HI-DMMU-5-3A-S	01/18/2023 09:40
23A1459-31	HI-DMMU-5-3B-S	01/18/2023 14:00
23A1459-32	HI-DMMU-5-3C-S	01/19/2023 09:20
23A1459-33	HI-DMMU-6-S	01/18/2023 11:15
23A1459-34	HI-DMMU-6-3A-S	01/18/2023 11:15
23A1459-35	HI-DMMU-6-3B-S	01/18/2023 15:45
23A1459-36	HI-DMMU-6-3C-S	01/19/2023 11:10
23A1459-37	HI-DMMU-7-S	01/16/2023 16:37
23A1459-38	HI-DMMU-7-4A-S	01/17/2023 14:12
23A1459-39	HI-DMMU-7-4B-S	01/18/2023 09:25
23A1459-40	HI-DMMU-7-4C-S	01/16/2023 16:37
23A1459-41	HI-DMMU-7-4D-S	01/17/2023 09:20
23A1459-42	HI-DMMU-8-S	01/18/2023 14:10
23A1459-43	HI-DMMU-8-5A-S	01/18/2023 14:10
23A1459-44	HI-DMMU-8-5B-S	01/19/2023 08:15
23A1459-45	HI-DMMU-8-5C-S	01/20/2023 09:15
23A1459-46	HI-DMMU-8-5D-S	01/27/2023 14:05

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

23A1459-47	REF-S	01/27/2023 09:20
23A1459-48	HI-DUP-S	01/19/2023 14:00
23A1459-61	HI-DUP-W	01/25/2023 09:30
23A1459-62	ODMDS-W	01/27/2023 13:10
23A1459-64	HI-DUP-E	01/19/2023 14:00
23A1459-66	ODMDS-S	01/27/2023 12:30

Samples were received and accepted at NWDLS on 01/19/2023 - 01/28//2023. Any receiving discrepancies are recorded and stored in NWDLS' database. The samples received a Work Order of 23A1459. The lab sample IDs, client sample IDs, and dates of collection can be found at the top of each result page.

NWDLS provided their lowest detection limit for all requested analyses. Note that detection and reporting limits are adjusted to account for sample specific parameters.

Any QC that did not meet the laboratory specified control limits was flagged and reported with qualifiers. For additional information, please refer to the included quality control data pages.

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results

Client Sample ID: HI-EQ BLANK
Lab Sample ID: 23A1459-01
Sample Alias:

Sample Matrix: 18 MOhm DI Water
Date Collected: 01/20/2023 9:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:10	NAZ
EPA 200.8	Selenium	A	0.759J	ug/L	1	0.330	2.00	BGB3632	03/01/2023 10:58	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<0.200U	ug/L	1	0.200	1.00	BGB0721	02/09/2023 14:04	JLK
EPA 200.8	Arsenic	A	<0.100U	ug/L	1	0.100	0.500	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Beryllium	A	0.0230J	ug/L	1	0.0100	0.200	BGB0721	02/14/2023 16:24	TBB
EPA 200.8	Cadmium	A	<0.0500U	ug/L	1	0.0500	1.00	BGB0721	02/09/2023 14:04	JLK
EPA 200.8	Chromium	A	0.373J	ug/L	1	0.0800	3.00	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Copper	A	0.781V, J	ug/L	1	0.200	1.00	BGB0721	02/08/2023 15:39	JLK
Calc	Chromium (III)		<1.58U	ug/L	1	1.58	6.00	[CALC]	02/15/2023 14:42	SAB
SM 3500-Cr B	Chromium (VI)	A	11.1	ug/L	1	1.50	3.00	BGB2104	02/15/2023 14:42	SAB
EPA 200.8	Lead	A	0.146J	ug/L	1	0.100	0.500	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Nickel	A	0.613J	ug/L	1	0.0500	1.00	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Silver	A	<0.0300U	ug/L	1	0.0300	0.500	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Thallium	A	<0.0300U	ug/L	1	0.0300	0.500	BGB0721	02/08/2023 15:39	JLK
EPA 200.8	Zinc	A	3.47	ug/L	1	0.200	2.00	BGB0721	02/09/2023 14:04	JLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4A-W	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-02	Date Collected:	01/25/2023 9:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/07/2023 23:13	KRB
SW-8270	Benzidine	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/07/2023 23:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*97.1%*	*54.6-148*					*02/07/2023 23:13*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*121%*	*55-152*					*02/07/2023 23:13*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*136%*	*52.4-136*					*02/07/2023 23:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*115%*	*52-162*					*02/07/2023 23:13*	
SW-8270	*Surrogate: Phenol-d5-surr*		*121%*	*58.7-152*					*02/07/2023 23:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*73.3%*	*51.9-147*					*02/07/2023 23:13*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:22	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGA3839	02/06/2023 21:22	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*93.4%*	*60-140*					*02/06/2023 21:22*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4A-W (Continued)
Lab Sample ID: 23A1459-02
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 9:30
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*40.2%*	*S*	*60-140*					*02/06/2023 21:22*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB0277	02/11/2023 07:44	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*78.2%*		*60-140*					*02/11/2023 07:44*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*30.1%*	*S*	*60-140*					*02/11/2023 07:44*	
Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:00	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 13:59	JLK
Metals, Dissolved											
EPA 200.8	Antimony	A	<1.00	U	ug/L	5	1.00	5.00	BGB0721	02/14/2023 16:15	TBB
EPA 200.8	Arsenic	A	1.89	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Beryllium	A	<0.0500	U	ug/L	5	0.0500	1.00	BGB0721	02/14/2023 16:15	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:15	TBB
EPA 200.8	Chromium	A	0.979	J	ug/L	5	0.400	15.0	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Copper	A	2.09	V, J	ug/L	5	1.00	5.00	BGB0721	02/08/2023 15:31	JLK
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/10/2023 14:44	SAB
EPA 200.8	Lead	A	1.16	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Nickel	A	1.03	J	ug/L	5	0.250	5.00	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:31	JLK
EPA 200.8	Zinc	A	4.16	J	ug/L	5	1.00	10.0	BGB0721	02/14/2023 16:15	TBB
General Chemistry											
EPA 350.1	Ammonia as N	A	0.618		mg/L	1	0.0200	0.0500	BGB0479	02/03/2023 12:54	DLK
SM 2520 B	Salinity	N	28.9		Salinity units	1	1.00	1.00	BGB1516	02/10/2023 12:47	AKA
SM 2540 D	Residue-nonfilterable (TSS)	A	249		mg/L	1	1.00	1.00	BGA3833	01/31/2023 12:49	BP / JRU

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4A-W
Lab Sample ID: 23A1459-02RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 9:30
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.11U	ug/L	1	1.11	2.23	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.46C+, U	ug/L	1	4.46	4.46	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.555C+, U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.46U	ug/L	1	4.46	4.46	BGA3953	02/13/2023 19:40	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Anthracene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.278U	ug/L	1	0.278	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4A-W (Continued)
Lab Sample ID: 23A1459-02RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 9:30
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Chrysene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.522V, J	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.278B, U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.19V	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Fluorene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.278C+, U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Isophorone (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Naphthalene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.278U	ug/L	1	0.278	2.23	BGA3953	02/13/2023 19:40	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.555U	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	Phenol, Total (Rerun)	A	0.803J	ug/L	1	0.555	1.11	BGA3953	02/13/2023 19:40	KRB
SW-8270	Pyrene (Rerun)	A	<0.278U	ug/L	1	0.278	0.557	BGA3953	02/13/2023 19:40	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*98.1%*	*54.6-148*					*02/13/2023 19:40*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*128%*	*55-152*					*02/13/2023 19:40*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*98.4%*	*52.4-136*					*02/13/2023 19:40*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*93.2%*	*52-162*					*02/13/2023 19:40*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*122%*	*58.7-152*					*02/13/2023 19:40*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4A-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-02RE1	Date Collected:	01/25/2023 9:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.6%*		*51.9-147*					*02/13/2023 19:40*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	18.8		ug/L	1	1.50	3.00	BGB1154	02/10/2023 14:44	SAB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-W
Lab Sample ID: 23A1459-03
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 12:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/07/2023 23:48	KRB
SW-8270	Benzidine	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/07/2023 23:48	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*93.5%*		*54.6-148*					*02/07/2023 23:48*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*118%*		*55-152*					*02/07/2023 23:48*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*141%*	*S*	*52.4-136*					*02/07/2023 23:48*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*116%*		*52-162*					*02/07/2023 23:48*	
SW-8270	*Surrogate: Phenol-d5-surr*		*111%*		*58.7-152*					*02/07/2023 23:48*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.3%*		*51.9-147*					*02/07/2023 23:48*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	C+, U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 21:49	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BGA3839	02/06/2023 21:49	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*93.9%*		*60-140*					*02/06/2023 21:49*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-W (Continued)
Lab Sample ID: 23A1459-03
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 12:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*39.5%*	*S*	*60-140*					*02/06/2023 21:49*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB0277	02/11/2023 08:11	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*77.7%*		*60-140*					*02/11/2023 08:11*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*30.9%*	*S*	*60-140*					*02/11/2023 08:11*	
Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:13	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 14:02	JLK
Metals, Dissolved											
EPA 200.8	Antimony	A	<1.00	U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:06	JLK
EPA 200.8	Arsenic	A	1.66	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Beryllium	A	0.0560	J	ug/L	5	0.0500	1.00	BGB0721	02/14/2023 16:27	TBB
EPA 200.8	Cadmium	A	0.278	J	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:06	JLK
EPA 200.8	Chromium	A	0.655	J	ug/L	5	0.400	15.0	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Copper	A	1.40	V, J	ug/L	5	1.00	5.00	BGB0721	02/08/2023 15:42	JLK
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/10/2023 14:45	SAB
EPA 200.8	Lead	A	0.722	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Nickel	A	0.858	J	ug/L	5	0.250	5.00	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:42	JLK
EPA 200.8	Zinc	A	3.74	J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:06	JLK
General Chemistry											
EPA 350.1	Ammonia as N	A	0.615		mg/L	1	0.0200	0.0500	BGB0480	02/03/2023 13:19	DLK
SM 2520 B	Salinity	N	28.6		Salinity units	1	1.00	1.00	BGB1516	02/10/2023 12:15	AKA
SM 2540 D	Residue-nonfilterable (TSS)	A	133		mg/L	1	1.00	1.00	BGA3841	01/31/2023 12:35	BP

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4B-W	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-03RE1	Date Collected:	01/25/2023 12:50
Sample Alias:		Collected by:	Gregg Pawlak

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12U	ug/L	1	1.12	2.24	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.49C+, U	ug/L	1	4.49	4.49	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.559C+, U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.49U	ug/L	1	4.49	4.49	BGA3953	02/13/2023 20:15	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Anthracene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.280U	ug/L	1	0.280	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-W (Continued)
Lab Sample ID: 23A1459-03RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 12:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Chrysene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.611	V	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.280	B, U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.88	V	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Fluorene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.280	C+, U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Isophorone (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Naphthalene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.280	U	ug/L	1	0.280	2.24	BGA3953	02/13/2023 20:15	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.559	U	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	Phenol, Total (Rerun)	A	1.07	J	ug/L	1	0.559	1.12	BGA3953	02/13/2023 20:15	KRB
SW-8270	Pyrene (Rerun)	A	<0.280	U	ug/L	1	0.280	0.561	BGA3953	02/13/2023 20:15	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*93.9%*		*54.6-148*					*02/13/2023 20:15*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*117%*		*55-152*					*02/13/2023 20:15*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*94.1%*		*52.4-136*					*02/13/2023 20:15*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*89.4%*		*52-162*					*02/13/2023 20:15*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*119%*		*58.7-152*					*02/13/2023 20:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4B-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-03RE1	Date Collected:	01/25/2023 12:50
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*63.7%*		*51.9-147*					*02/13/2023 20:15*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	7.48		ug/L	1	1.50	3.00	BGB1154	02/10/2023 14:45	SAB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-W
Lab Sample ID: 23A1459-04
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 14:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<0.279	U	ug/L	1	0.279	0.559	BGA3953	02/08/2023 00:23	KRB
SW-8270	Benzidine	A	<0.279	U	ug/L	1	0.279	0.559	BGA3953	02/08/2023 00:23	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*98.0%*		*54.6-148*					*02/08/2023 00:23*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*116%*		*55-152*					*02/08/2023 00:23*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*149%*	*S*	*52.4-136*					*02/08/2023 00:23*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*120%*		*52-162*					*02/08/2023 00:23*	
SW-8270	*Surrogate: Phenol-d5-surr*		*121%*		*58.7-152*					*02/08/2023 00:23*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.8%*		*51.9-147*					*02/08/2023 00:23*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	C+, U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:15	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BGA3839	02/06/2023 22:15	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*81.2%*		*60-140*					*02/06/2023 22:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-W (Continued)
Lab Sample ID: 23A1459-04
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 14:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*37.1%*	*S*	*60-140*					*02/06/2023 22:15*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB0277	02/11/2023 08:37	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*96.8%*		*60-140*					*02/11/2023 08:37*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*35.2%*	*S*	*60-140*					*02/11/2023 08:37*	
Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:16	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 15:16	TBB
Metals, Dissolved											
EPA 200.8	Antimony	A	1.32	J	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:09	JLK
EPA 200.8	Arsenic	A	1.60	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Beryllium	A	<0.0500	U	ug/L	5	0.0500	1.00	BGB0721	02/14/2023 16:30	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:09	JLK
EPA 200.8	Chromium	A	1.03	J	ug/L	5	0.400	15.0	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Copper	A	1.73	V, J	ug/L	5	1.00	5.00	BGB0721	02/08/2023 15:45	JLK
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/10/2023 14:46	SAB
EPA 200.8	Lead	A	0.866	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Nickel	A	1.02	J	ug/L	5	0.250	5.00	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:45	JLK
EPA 200.8	Zinc	A	6.59	J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:09	JLK
General Chemistry											
EPA 350.1	Ammonia as N	A	0.617		mg/L	1	0.0200	0.0500	BGB0480	02/03/2023 13:07	DLK
SM 2520 B	Salinity	N	29.0		Salinity units	1	1.00	1.00	BGB1516	02/10/2023 12:23	AKA
SM 2540 D	Residue-nonfilterable (TSS)	A	124		mg/L	1	1.00	1.00	BGA3879	01/31/2023 12:15	BP / JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-W
Lab Sample ID: 23A1459-04RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 14:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.11U	ug/L	1	1.11	2.23	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.47C+, U	ug/L	1	4.47	4.47	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.556C+, U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.47U	ug/L	1	4.47	4.47	BGA3953	02/13/2023 20:50	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.279U	ug/L	1	0.279	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-W (Continued)
Lab Sample ID: 23A1459-04RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/25/2023 14:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Chrysene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.476V, J	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.279B, U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.67V	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Fluorene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.279C+, U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Isophorone (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Naphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.279U	ug/L	1	0.279	2.23	BGA3953	02/13/2023 20:50	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	Phenol, Total (Rerun)	A	0.971J	ug/L	1	0.556	1.12	BGA3953	02/13/2023 20:50	KRB
SW-8270	Pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 20:50	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*95.7%*	*54.6-148*					*02/13/2023 20:50*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*120%*	*55-152*					*02/13/2023 20:50*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*92.2%*	*52.4-136*					*02/13/2023 20:50*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*90.7%*	*52-162*					*02/13/2023 20:50*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*126%*	*58.7-152*					*02/13/2023 20:50*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5B-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-04RE1	Date Collected:	01/25/2023 14:50
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.3%*		*51.9-147*					*02/13/2023 20:50*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	58.4		ug/L	1	1.50	3.00	BGB1154	02/10/2023 14:46	SAB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-REF-W
Lab Sample ID: 23A1459-05
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 11:25
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/08/2023 00:57	KRB
SW-8270	Benzidine	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/08/2023 00:57	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*96.3%*	*54.6-148*					*02/08/2023 00:57*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*121%*	*55-152*					*02/08/2023 00:57*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*146% S*	*52.4-136*					*02/08/2023 00:57*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*118%*	*52-162*					*02/08/2023 00:57*	
SW-8270	*Surrogate: Phenol-d5-surr*		*119%*	*58.7-152*					*02/08/2023 00:57*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*79.5%*	*51.9-147*					*02/08/2023 00:57*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/06/2023 22:42	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGA3839	02/06/2023 22:42	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*96.6%*	*60-140*					*02/06/2023 22:42*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-REF-W (Continued)
Lab Sample ID: 23A1459-05
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 11:25
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*62.9%*		*60-140*					*02/06/2023 22:42*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB0277	02/11/2023 09:04	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*93.0%*		*60-140*					*02/11/2023 09:04*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*62.8%*		*60-140*					*02/11/2023 09:04*	
Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:20	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 13:51	JLK
Metals, Dissolved											
EPA 200.8	Antimony	A	<1.00	U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:11	JLK
EPA 200.8	Arsenic	A	1.21	J	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Beryllium	A	<0.0500	U	ug/L	5	0.0500	1.00	BGB0721	02/14/2023 16:33	TBB
EPA 200.8	Cadmium	A	0.312	J	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:11	JLK
EPA 200.8	Chromium	A	0.448	J	ug/L	5	0.400	15.0	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Copper	A	<1.00	B, U	ug/L	5	1.00	5.00	BGB0721	02/08/2023 15:47	JLK
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/10/2023 14:47	SAB
EPA 200.8	Lead	A	<0.500	U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Nickel	A	0.302	J	ug/L	5	0.250	5.00	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:47	JLK
EPA 200.8	Zinc	A	<1.00	U	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:11	JLK
General Chemistry											
EPA 350.1	Ammonia as N	A	0.520		mg/L	1	0.0200	0.0500	BGB0479	02/03/2023 12:50	DLK
SM 2520 B	Salinity	N	29.2		Salinity units	1	1.00	1.00	BGB1516	02/10/2023 12:31	AKA
SM 2540 D	Residue-nonfilterable (TSS)	A	9.47		mg/L	1	1.00	1.00	BGA3833	01/31/2023 12:49	BP / JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-REF-W	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-05RE1	Date Collected:	01/27/2023 11:25
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.11U	ug/L	1	1.11	2.23	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.47C+, U	ug/L	1	4.47	4.47	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.556C+, U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.47U	ug/L	1	4.47	4.47	BGA3953	02/13/2023 21:25	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.279U	ug/L	1	0.279	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-REF-W (Continued)
Lab Sample ID: 23A1459-05RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 11:25
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Chrysene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.685V	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.279B, U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.865V	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Fluorene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.279C+, U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Isophorone (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Naphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.279U	ug/L	1	0.279	2.23	BGA3953	02/13/2023 21:25	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.556U	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	Phenol, Total (Rerun)	A	0.766J	ug/L	1	0.556	1.12	BGA3953	02/13/2023 21:25	KRB
SW-8270	Pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGA3953	02/13/2023 21:25	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*95.0%*	*54.6-148*					*02/13/2023 21:25*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*120%*	*55-152*					*02/13/2023 21:25*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*88.3%*	*52.4-136*					*02/13/2023 21:25*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*81.7%*	*52-162*					*02/13/2023 21:25*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*118%*	*58.7-152*					*02/13/2023 21:25*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-REF-W (Continued)
Lab Sample ID: 23A1459-05RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 11:25
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*73.9%*		*51.9-147*					*02/13/2023 21:25*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	7.62		ug/L	1	1.50	3.00	BGB1154	02/10/2023 14:47	SAB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-07	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 22:08	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 22:08	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*86.0%*		*54.6-148*					*02/10/2023 22:08*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*84.7%*		*55-152*					*02/10/2023 22:08*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*116%*		*52.4-136*					*02/10/2023 22:08*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*96.0%*		*52-162*					*02/10/2023 22:08*	
SW-8270	*Surrogate: Phenol-d5-surr*		*100%*		*58.7-152*					*02/10/2023 22:08*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*85.9%*		*51.9-147*					*02/10/2023 22:08*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	4,4'-DDE	A	0.00790		ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:20	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BGB0543	02/08/2023 21:20	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*101%*		*60-140*					*02/08/2023 21:20*	

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-1-E (Continued)
Lab Sample ID: 23A1459-07
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 14:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*41.0% S*	*60-140*					*02/08/2023 21:20*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 04:17	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*128%*	*60-140*					*02/17/2023 04:17*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*37.6% S*	*60-140*					*02/17/2023 04:17*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	1.54V2, J	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:21	JLK
EPA 200.8	Arsenic	A	4.46	ug/L	5	0.500	2.50	BGB0721	02/14/2023 16:44	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 10:23	TBB
EPA 200.8	Cadmium	A	0.267J	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:21	JLK
EPA 200.8	Chromium	A	<0.400U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 16:44	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	03/03/2023 16:24	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/14/2023 16:44	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 15:58	JLK
EPA 200.8	Nickel	A	3.03V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:44	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:21	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 15:58	JLK
EPA 200.8	Zinc	A	4.89V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:21	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:21	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:00	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	5.16	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-07RE1	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Elutriate Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12	U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 21:30	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562	U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-07RE1	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	0.365	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.824V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.21V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 21:30	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	Phenol, Total (Rerun)	A	<0.560B2, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 21:30	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 21:30	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*96.0%*	*54.6-148*					*02/14/2023 21:30*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*114%*	*55-152*					*02/14/2023 21:30*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*94.7%*	*52.4-136*					*02/14/2023 21:30*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*90.2%*	*52-162*					*02/14/2023 21:30*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*130%*	*58.7-152*					*02/14/2023 21:30*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-07RE1	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*71.0%*		*51.9-147*					*02/14/2023 21:30*	
Elutriate Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	0.0251	V2	mg/L	1	0.00150	0.00300	BGB1154	02/10/2023 14:48	SAB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.797		mg/L	1	0.0200	0.0500	BGB0807	02/07/2023 10:27	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-E
Lab Sample ID: 23A1459-08
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 17:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 22:43	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 22:43	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*82.9%*	*54.6-148*					*02/10/2023 22:43*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*87.6%*	*55-152*					*02/10/2023 22:43*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*114%*	*52.4-136*					*02/10/2023 22:43*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*102%*	*52-162*					*02/10/2023 22:43*	
SW-8270	*Surrogate: Phenol-d5-surr*		*95.3%*	*58.7-152*					*02/10/2023 22:43*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*74.6%*	*51.9-147*					*02/10/2023 22:43*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 21:47	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/08/2023 21:47	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*115%*	*60-140*					*02/08/2023 21:47*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-E (Continued)
Lab Sample ID: 23A1459-08
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 17:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*73.4%*	*60-140*					*02/08/2023 21:47*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 04:44	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*125%*	*60-140*					*02/17/2023 04:44*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*55.6% S*	*60-140*					*02/17/2023 04:44*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:24	JLK
EPA 200.8	Arsenic	A	3.22	ug/L	5	0.500	2.50	BGB0721	02/14/2023 16:47	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:12	TBB
EPA 200.8	Cadmium	A	0.263J	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:24	JLK
EPA 200.8	Chromium	A	0.670J	ug/L	5	0.400	15.0	BGB0721	02/14/2023 16:47	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	03/03/2023 16:26	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/14/2023 16:47	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:01	JLK
EPA 200.8	Nickel	A	1.78V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:47	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:24	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:01	JLK
EPA 200.8	Zinc	A	2.15V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:24	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:24	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:03	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	2.84	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-08RE1	Date Collected:	01/16/2023 17:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 22:05	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-08RE1	Date Collected:	01/16/2023 17:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.837V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.34V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 22:05	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	Phenol, Total (Rerun)	A	<0.560B2, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:05	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:05	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*93.0%*	*54.6-148*					*02/14/2023 22:05*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*105%*	*55-152*					*02/14/2023 22:05*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*102%*	*52.4-136*					*02/14/2023 22:05*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*82.0%*	*52-162*					*02/14/2023 22:05*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*121%*	*58.7-152*					*02/14/2023 22:05*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-08RE1	Date Collected:	01/16/2023 17:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*76.9%*		*51.9-147*					*02/14/2023 22:05*	
Elutriate Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	0.0248	V2	mg/L	1	0.00150	0.00300	BGB1154	02/10/2023 14:49	SAB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.456		mg/L	1	0.0200	0.0500	BGB0807	02/07/2023 10:04	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-09	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 21:34	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 21:34	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*90.0%*	*54.6-148*					*02/10/2023 21:34*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*94.4%*	*55-152*					*02/10/2023 21:34*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*113%*	*52.4-136*					*02/10/2023 21:34*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*101%*	*52-162*					*02/10/2023 21:34*	
SW-8270	*Surrogate: Phenol-d5-surr*		*94.9%*	*58.7-152*					*02/10/2023 21:34*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*84.5%*	*51.9-147*					*02/10/2023 21:34*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Methoxychlor	A	0.0101P	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 22:14	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/08/2023 22:14	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*81.1%*	*60-140*					*02/08/2023 22:14*	

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-3-E (Continued)
Lab Sample ID: 23A1459-09
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/19/2023 15:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*63.9%*	*60-140*					*02/08/2023 22:14*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 05:11	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*161% S*	*60-140*					*02/17/2023 05:11*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*48.9% S*	*60-140*					*02/17/2023 05:11*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:26	JLK
EPA 200.8	Arsenic	A	5.53	ug/L	5	0.500	2.50	BGB0721	02/14/2023 16:50	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:14	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:26	JLK
EPA 200.8	Chromium	A	<0.400U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 16:50	TBB
EPA 200.8	Copper	A	1.08V, V2, J	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:26	JLK
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/14/2023 16:50	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:04	JLK
EPA 200.8	Nickel	A	2.90V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:50	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:26	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:04	JLK
EPA 200.8	Zinc	A	5.24V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:26	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:27	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:05	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	5.89	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-09RE1	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Elutriate Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12	U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 20:55	KRB
SW-8270	Acenaphthene (Rerun)	A	1.29		ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Acenaphthylene (Rerun)	A	0.579		ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562	U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-09RE1	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Chrysene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.898	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281	B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	7.87	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Fluorene (Rerun)	A	3.55		ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Isophorone (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 20:55	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560	C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	Phenanthrene (Rerun)	A	1.08		ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	Phenol, Total (Rerun)	A	<0.560	B2, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 20:55	KRB
SW-8270	Pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 20:55	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*95.7%*		*54.6-148*					*02/14/2023 20:55*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*110%*		*55-152*					*02/14/2023 20:55*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*92.2%*		*52.4-136*					*02/14/2023 20:55*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*89.6%*		*52-162*					*02/14/2023 20:55*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*131%*		*58.7-152*					*02/14/2023 20:55*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-09RE1	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*76.0%*		*51.9-147*					*02/14/2023 20:55*	
Elutriate Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	0.0258	V2	mg/L	1	0.00150	0.00300	BGB1154	02/10/2023 14:50	SAB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.912		mg/L	1	0.0200	0.0500	BGB0807	02/07/2023 10:07	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-10	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 23:18	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 23:18	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*85.6%*	*54.6-148*					*02/10/2023 23:18*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*93.0%*	*55-152*					*02/10/2023 23:18*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*119%*	*52.4-136*					*02/10/2023 23:18*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*101%*	*52-162*					*02/10/2023 23:18*	
SW-8270	*Surrogate: Phenol-d5-surr*		*96.3%*	*58.7-152*					*02/10/2023 23:18*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*78.0%*	*51.9-147*					*02/10/2023 23:18*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/08/2023 23:36	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/08/2023 23:36	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*124%*	*60-140*					*02/08/2023 23:36*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-4-E (Continued)
Lab Sample ID: 23A1459-10
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/19/2023 17:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*78.3%*		*60-140*					*02/08/2023 23:36*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 05:38	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*130%*		*60-140*					*02/17/2023 05:38*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*49.0%*	*S*	*60-140*					*02/17/2023 05:38*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	<1.00	B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:29	JLK
EPA 200.8	Arsenic	A	2.39	J	ug/L	5	0.500	2.50	BGB0721	02/14/2023 16:53	TBB
EPA 200.8	Beryllium	A	<0.0500	B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:16	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:29	JLK
EPA 200.8	Chromium	A	<0.400	U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 16:53	TBB
EPA 200.8	Copper	A	<1.00	B, B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:29	JLK
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/14/2023 16:53	SAB
EPA 200.8	Lead	A	<0.500	U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:07	JLK
EPA 200.8	Nickel	A	1.27	V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:53	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:29	JLK
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:07	JLK
EPA 200.8	Zinc	A	1.76	V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:29	JLK
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:31	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:15	TBB
Elutriate General Chemistry											
SM 2540 D	Residue-nonfilterable (TSS)	A	3.04		mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-10RE1	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 22:40	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-10RE1	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Chrysene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.834	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281	B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.89	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Fluorene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Isophorone (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 22:40	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560	C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	Phenol, Total (Rerun)	A	<0.560	B2, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 22:40	KRB
SW-8270	Pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 22:40	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*94.8%*		*54.6-148*					*02/14/2023 22:40*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*112%*		*55-152*					*02/14/2023 22:40*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*94.7%*		*52.4-136*					*02/14/2023 22:40*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*85.3%*		*52-162*					*02/14/2023 22:40*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*129%*		*58.7-152*					*02/14/2023 22:40*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-10RE1	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*82.7%*		*51.9-147*					*02/14/2023 22:40*	
Elutriate Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	0.00208	V2, J	mg/L	1	0.00150	0.00300	BGB1154	02/10/2023 14:51	SAB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.864		mg/L	1	0.0200	0.0500	BGB0808	02/07/2023 10:33	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-11	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 23:52	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/10/2023 23:52	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*83.6%*		*54.6-148*					*02/10/2023 23:52*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*90.9%*		*55-152*					*02/10/2023 23:52*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*113%*		*52.4-136*					*02/10/2023 23:52*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*104%*		*52-162*					*02/10/2023 23:52*	
SW-8270	*Surrogate: Phenol-d5-surr*		*97.8%*		*58.7-152*					*02/10/2023 23:52*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*81.9%*		*51.9-147*					*02/10/2023 23:52*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:03	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BGB0543	02/09/2023 00:03	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*103%*		*60-140*					*02/09/2023 00:03*	

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-5-E (Continued)
Lab Sample ID: 23A1459-11
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 9:40
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*67.9%*	*60-140*					*02/09/2023 00:03*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 06:31	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*148% S*	*60-140*					*02/17/2023 06:31*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*62.1%*	*60-140*					*02/17/2023 06:31*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:31	JLK
EPA 200.8	Arsenic	A	3.09	ug/L	5	0.500	2.50	BGB0721	02/14/2023 16:56	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:19	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:31	JLK
EPA 200.8	Chromium	A	<0.400U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 16:56	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:31	JLK
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 14:44	SAB
SM 3500-Cr B	Chromium (VI)	A	0.0297V2	mg/L	1	0.00150	0.00300	BGB2104	02/15/2023 14:44	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:10	JLK
EPA 200.8	Nickel	A	0.895V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 16:56	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:31	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:10	JLK
EPA 200.8	Zinc	A	2.26V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:31	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:41	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:18	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	5.64	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-11RE1	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Elutriate Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12	U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 23:15	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562	U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-11RE1	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Chrysene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.787	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281	B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	9.59	V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Fluorene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Isophorone (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 23:15	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560	C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	Phenol, Total (Rerun)	A	<0.560	B2, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:15	KRB
SW-8270	Pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:15	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*93.4%*		*54.6-148*					*02/14/2023 23:15*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*112%*		*55-152*					*02/14/2023 23:15*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*96.3%*		*52.4-136*					*02/14/2023 23:15*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*86.1%*		*52-162*					*02/14/2023 23:15*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*128%*		*58.7-152*					*02/14/2023 23:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-11RE1	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*81.1%*		*51.9-147*					*02/14/2023 23:15*	
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.877		mg/L	5	0.100	0.250	BGB0807	02/07/2023 10:10	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-E
Lab Sample ID: 23A1459-12
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 11:15
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/11/2023 00:27	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/11/2023 00:27	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*84.0%*	*54.6-148*					*02/11/2023 00:27*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*89.4%*	*55-152*					*02/11/2023 00:27*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*111%*	*52.4-136*					*02/11/2023 00:27*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*104%*	*52-162*					*02/11/2023 00:27*	
SW-8270	*Surrogate: Phenol-d5-surr*		*97.3%*	*58.7-152*					*02/11/2023 00:27*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*80.0%*	*51.9-147*					*02/11/2023 00:27*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:30	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/09/2023 00:30	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*119%*	*60-140*					*02/09/2023 00:30*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-E (Continued)
Lab Sample ID: 23A1459-12
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 11:15
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*63.9%*	*60-140*					*02/09/2023 00:30*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 06:58	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*127%*	*60-140*					*02/17/2023 06:58*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*60.2%*	*60-140*					*02/17/2023 06:58*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	1.07V2, J	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:41	JLK
EPA 200.8	Arsenic	A	0.943J	ug/L	5	0.500	2.50	BGB0721	02/14/2023 17:08	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:21	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:41	JLK
EPA 200.8	Chromium	A	0.941J	ug/L	5	0.400	15.0	BGB0721	02/14/2023 17:08	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:41	JLK
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 14:44	SAB
SM 3500-Cr B	Chromium (VI)	A	0.0239V2	mg/L	1	0.00150	0.00300	BGB2104	02/15/2023 14:44	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:21	JLK
EPA 200.8	Nickel	A	2.16V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 17:08	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:41	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:21	JLK
EPA 200.8	Zinc	A	2.09V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:41	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:44	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB3632	03/01/2023 11:20	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	1.68	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-12RE1	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Elutriate Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12	U	ug/L	1	1.12	2.25	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50	U	ug/L	1	4.50	4.50	BGB0925	02/14/2023 23:50	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562	U	ug/L	1	0.562	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-12RE1	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.686V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.03V, V2	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BGB0925	02/14/2023 23:50	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560C+, U	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	Phenol, Total (Rerun)	A	0.669V2	ug/L	1	0.560	1.12	BGB0925	02/14/2023 23:50	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/14/2023 23:50	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*96.2%*	*54.6-148*					*02/14/2023 23:50*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*110%*	*55-152*					*02/14/2023 23:50*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*105%*	*52.4-136*					*02/14/2023 23:50*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*83.5%*	*52-162*					*02/14/2023 23:50*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*128%*	*58.7-152*					*02/14/2023 23:50*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-12RE1	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*76.9%*		*51.9-147*					*02/14/2023 23:50*	
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.133		mg/L	1	0.0200	0.0500	BGB0807	02/07/2023 10:14	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-E
Lab Sample ID: 23A1459-13
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/11/2023 01:02	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/11/2023 01:02	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*84.5%*	*54.6-148*					*02/11/2023 01:02*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*87.3%*	*55-152*					*02/11/2023 01:02*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*114%*	*52.4-136*					*02/11/2023 01:02*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*100%*	*52-162*					*02/11/2023 01:02*	
SW-8270	*Surrogate: Phenol-d5-surr*		*94.6%*	*58.7-152*					*02/11/2023 01:02*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*80.1%*	*51.9-147*					*02/11/2023 01:02*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGB0543	02/09/2023 00:57	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/09/2023 00:57	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*104%*	*60-140*					*02/09/2023 00:57*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-E (Continued)
Lab Sample ID: 23A1459-13
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*95.0%*	*60-140*					*02/09/2023 00:57*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BGB1127	02/17/2023 07:25	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*135%*	*60-140*					*02/17/2023 07:25*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*81.8%*	*60-140*					*02/17/2023 07:25*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:44	JLK
EPA 200.8	Arsenic	A	9.28	ug/L	5	0.500	2.50	BGB0721	02/14/2023 17:11	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 12:23	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0721	02/09/2023 14:44	JLK
EPA 200.8	Chromium	A	<0.400U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 17:11	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	02/09/2023 14:44	JLK
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 14:45	SAB
SM 3500-Cr B	Chromium (VI)	A	0.0103V2	mg/L	1	0.00150	0.00300	BGB2104	02/15/2023 14:45	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:24	JLK
EPA 200.8	Nickel	A	2.41V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 17:11	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/09/2023 14:44	JLK
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:24	JLK
EPA 200.8	Zinc	A	2.12V2, J	ug/L	5	1.00	10.0	BGB0721	02/09/2023 14:44	JLK
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:47	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	1	1.65	10.0	BGB3632	03/01/2023 10:51	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	2.32	mg/L	1	1.00	1.00	BGB0150	02/02/2023 11:48	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-13RE1	Date Collected:	01/16/2023 16:37
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12U	ug/L	1	1.12	2.25	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BGB0925	02/15/2023 00:26	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.562U	ug/L	1	0.562	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-E (Continued)
Lab Sample ID: 23A1459-13RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	0.290	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.939V, V2	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281B, B2, U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.82V, V2	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Naphthalene (Rerun)	A	0.328	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BGB0925	02/15/2023 00:26	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560C+, U	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	Phenol, Total (Rerun)	A	0.610V2	ug/L	1	0.560	1.12	BGB0925	02/15/2023 00:26	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BGB0925	02/15/2023 00:26	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*96.7%*	*54.6-148*					*02/15/2023 00:26*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*113%*	*55-152*					*02/15/2023 00:26*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*106%*	*52.4-136*					*02/15/2023 00:26*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*86.2%*	*52-162*					*02/15/2023 00:26*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*133%*	*58.7-152*					*02/15/2023 00:26*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-13RE1	Date Collected:	01/16/2023 16:37
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*87.2%*		*51.9-147*					*02/15/2023 00:26*	
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	7.62		mg/L	20	0.400	1.00	BGB0807	02/07/2023 10:08	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-E
Lab Sample ID: 23A1459-14
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 14:10
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/11/2023 05:39	KRB
SW-8270	Benzidine	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/11/2023 05:39	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*84.9%*	*54.6-148*					*02/11/2023 05:39*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*78.2%*	*55-152*					*02/11/2023 05:39*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*101%*	*52.4-136*					*02/11/2023 05:39*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*96.5%*	*52-162*					*02/11/2023 05:39*	
SW-8270	*Surrogate: Phenol-d5-surr*		*85.6%*	*58.7-152*					*02/11/2023 05:39*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*79.7%*	*51.9-147*					*02/11/2023 05:39*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	4,4'-DDE	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	4,4'-DDT	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Aldrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00599C+, U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Chlordane (tech.)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	delta-BHC	A	<0.00599B2, U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Dieldrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endosulfan I	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endosulfan II	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endosulfan sulfate	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endrin aldehyde	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Endrin ketone	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	gamma-Chlordane	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Heptachlor	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Heptachlor epoxide	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Methoxychlor	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:06	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/09/2023 04:06	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*141% S*	*60-140*					*02/09/2023 04:06*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-E (Continued)
Lab Sample ID: 23A1459-14
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 14:10
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*93.9%*	*60-140*					*02/09/2023 04:06*	
SW-8082	PCBs, Total	A	<0.00597U	ug/L	1	0.00597	0.119	BGB1127	02/17/2023 10:59	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*132%*	*60-140*					*02/17/2023 10:59*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*93.6%*	*60-140*					*02/17/2023 10:59*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BGB0720	02/09/2023 12:14	JLK
EPA 200.8	Arsenic	A	2.88	ug/L	5	0.500	2.50	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Beryllium	A	<0.0500B, B2, U	ug/L	5	0.0500	1.00	BGB0720	03/01/2023 15:43	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Chromium	A	<0.400B2, U	ug/L	5	0.400	15.0	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Copper	A	1.12V2, J	ug/L	5	1.00	5.00	BGB0720	02/08/2023 13:09	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 14:46	SAB
SM 3500-Cr B	Chromium (VI)	A	0.00286V2, J	mg/L	1	0.00150	0.00300	BGB2104	02/15/2023 14:46	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Nickel	A	2.02V2, J	ug/L	5	0.250	5.00	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0720	03/01/2023 15:43	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0720	02/08/2023 10:11	TBB
EPA 200.8	Zinc	A	2.28V2, J	ug/L	5	1.00	10.0	BGB0720	02/08/2023 10:11	TBB
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 16:51	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 15:19	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	6.59V2	mg/L	1	1.00	1.00	BGB0805	02/07/2023 13:44	BP

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-14RE1	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.12U	ug/L	1	1.12	2.24	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.559U	ug/L	1	0.559	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.49U	ug/L	1	4.49	4.49	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.49U	ug/L	1	4.49	4.49	BGB0925	02/15/2023 05:06	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Anthracene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.561U	ug/L	1	0.561	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-E (Continued)
Lab Sample ID: 23A1459-14RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/18/2023 14:10
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Chrysene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Diethyl phthalate (Rerun)	A	1.15V, V2	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.280B, B2, U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.56V, V2	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Fluorene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.280C+, U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Isophorone (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Naphthalene (Rerun)	A	0.299	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.280U	ug/L	1	0.280	2.24	BGB0925	02/15/2023 05:06	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.280C+, U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.559C+, U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	Phenol, Total (Rerun)	A	0.779V2	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:06	KRB
SW-8270	Pyrene (Rerun)	A	<0.280U	ug/L	1	0.280	0.561	BGB0925	02/15/2023 05:06	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*92.6%*	*54.6-148*					*02/15/2023 05:06*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*110%*	*55-152*					*02/15/2023 05:06*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*95.6%*	*52.4-136*					*02/15/2023 05:06*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*75.2%*	*52-162*					*02/15/2023 05:06*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*123%*	*58.7-152*					*02/15/2023 05:06*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-14RE1	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*82.1%*		*51.9-147*					*02/15/2023 05:06*	
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.698		mg/L	5	0.100	0.250	BGB0807	02/07/2023 10:12	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-16	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.64	U	ug/kg dry	1	1.64	3.28	BGA3094	02/08/2023 22:58	KRB
SW-8270	Benzidine	A	<1.64	U	ug/kg dry	1	1.64	3.28	BGA3094	02/08/2023 22:58	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*123%*		*60-140*					*02/08/2023 22:58*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*114%*		*60-140*					*02/08/2023 22:58*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*162%*	*S*	*60-140*					*02/08/2023 22:58*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*123%*		*60-140*					*02/08/2023 22:58*	
SW-8270	*Surrogate: Phenol-d5-surr*		*124%*		*60-140*					*02/08/2023 22:58*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*106%*		*60-140*					*02/08/2023 22:58*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	4,4'-DDE	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	4,4'-DDT	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Aldrin	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Chlordane (tech.)	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	delta-BHC	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Dieldrin	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endosulfan I	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endosulfan II	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endosulfan sulfate	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endrin	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endrin aldehyde	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Endrin ketone	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	gamma-Chlordane	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Heptachlor	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Heptachlor epoxide	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Methoxychlor	A	<0.390	U	ug/kg dry	10	0.390	1.30	BGA3044	02/01/2023 22:15	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.5	U	ug/kg dry	10	19.5	19.5	BGA3044	02/01/2023 22:15	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*87.7%*		*60-140*					*02/01/2023 22:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-1-1A-S (Continued)
Lab Sample ID: 23A1459-16
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 14:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*109%*		*60-140*					*02/01/2023 22:15*	
SW-8082	PCBs, Total	A	<1.34	C+, U	ug/kg dry	1	1.34	2.69	BGA3182	01/28/2023 17:40	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*174%*	*S*	*60-140*					*01/28/2023 17:40*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*60.9%*		*60-140*					*01/28/2023 17:40*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0277	U	mg/kg dry	1	0.0277	0.0556	BGA3226	01/30/2023 14:05	TBB
EPA 200.8	Arsenic	A	0.891		mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 14:05	TBB
EPA 200.8	Beryllium	A	0.0436		mg/kg dry	1	0.000556	0.0111	BGA3226	01/30/2023 14:05	TBB
EPA 200.8	Cadmium	A	0.0132	J	mg/kg dry	1	0.00277	0.0556	BGA3226	01/31/2023 09:57	TBB
EPA 200.8	Chromium	A	1.10		mg/kg dry	1	0.00833	0.167	BGA3226	01/31/2023 09:57	TBB
EPA 200.8	Copper	A	0.568	V	mg/kg dry	1	0.0111	0.0556	BGA3226	01/31/2023 09:57	TBB
Calc	Chromium (III)		0.953	J	mg/kg (dry wt) dry	1	0.142	5.17	[CALC]	02/01/2023 12:12	EM
SW-7196	Chromium (VI)	A	0.150	J	mg/kg dry	1	0.133	5.00	BGA3843	02/01/2023 12:12	EM
SW-7471B	Mercury	A	0.00962	J	mg/kg dry	1	0.00916	0.0183	BGA3912	01/31/2023 14:31	NAZ
EPA 200.8	Lead	A	1.23		mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 14:05	TBB
EPA 200.8	Nickel	A	0.998		mg/kg dry	1	0.0556	0.0556	BGA3226	01/31/2023 15:20	TBB
EPA 200.8	Selenium	A	0.312		mg/kg dry	1	0.0556	0.111	BGA3226	01/31/2023 09:57	TBB
EPA 200.8	Silver	A	0.00472	J	mg/kg dry	1	0.00139	0.0277	BGA3226	01/30/2023 14:05	TBB
EPA 200.8	Thallium	A	0.0241	J	mg/kg dry	1	0.00139	0.0277	BGA3226	01/31/2023 09:57	TBB
EPA 200.8	Zinc	A	3.48		mg/kg dry	1	0.0556	0.111	BGA3226	01/30/2023 14:05	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0320	U	mg/kg dry	1	0.0320	0.0640	BGA3214	01/26/2023 15:42	GJG
EPA 350.2	Ammonia as N	A	8.26	J	mg/kg dry	1	6.70	13.4	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.16	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	74.4	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-16RE1	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.1U	ug/kg dry	1	13.1	26.2	BGA3094	02/25/2023 02:37	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-16RE1	Date Collected:	01/16/2023 14:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.32V, J	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Chrysene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.75V, J	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	5.75V	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Fluoranthene (Rerun)	A	5.04	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Fluorene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Isophorone (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Naphthalene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3094	02/25/2023 02:37	KRB
SW-8270	Pyrene (Rerun)	A	3.75	ug/kg dry	1	1.64	3.28	BGA3094	02/25/2023 02:37	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*95.2%*	*60-140*					*02/25/2023 02:37*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*89.3%*	*60-140*					*02/25/2023 02:37*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*98.0%*	*60-140*					*02/25/2023 02:37*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*81.2%*	*60-140*					*02/25/2023 02:37*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*89.5%*	*60-140*					*02/25/2023 02:37*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*83.2%*	*60-140*					*02/25/2023 02:37*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-17	Date Collected:	01/17/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/08/2023 23:32	KRB
SW-8270	Benzidine	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/08/2023 23:32	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*109%*	*60-140*					*02/08/2023 23:32*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*103%*	*60-140*					*02/08/2023 23:32*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*139%*	*60-140*					*02/08/2023 23:32*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*105%*	*60-140*					*02/08/2023 23:32*	
SW-8270	*Surrogate: Phenol-d5-surr*		*111%*	*60-140*					*02/08/2023 23:32*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*94.7%*	*60-140*					*02/08/2023 23:32*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	4,4'-DDE	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	4,4'-DDT	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Aldrin	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Chlordane (tech.)	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	delta-BHC	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Dieldrin	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endosulfan I	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endosulfan II	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endosulfan sulfate	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endrin	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endrin aldehyde	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Endrin ketone	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	gamma-Chlordane	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Heptachlor	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Heptachlor epoxide	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Methoxychlor	A	<0.398U	ug/kg dry	10	0.398	1.33	BGA3044	02/01/2023 21:49	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.9U	ug/kg dry	10	19.9	19.9	BGA3044	02/01/2023 21:49	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*90.3%*	*60-140*					*02/01/2023 21:49*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-1-1B-S (Continued)
Lab Sample ID: 23A1459-17
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 9:40
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*106%*		*60-140*					*02/01/2023 21:49*	
SW-8082	PCBs, Total	A	<1.34	C+, U	ug/kg dry	1	1.34	2.68	BGA3182	01/28/2023 18:07	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*182%*	*S*	*60-140*					*01/28/2023 18:07*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*102%*		*60-140*					*01/28/2023 18:07*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0276	U	mg/kg dry	1	0.0276	0.0554	BGA3226	01/30/2023 14:20	TBB
EPA 200.8	Arsenic	A	0.666		mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 14:20	TBB
EPA 200.8	Beryllium	A	0.0394		mg/kg dry	1	0.000554	0.0110	BGA3226	01/30/2023 14:20	TBB
EPA 200.8	Cadmium	A	0.0105	J	mg/kg dry	1	0.00276	0.0554	BGA3226	01/31/2023 10:04	TBB
EPA 200.8	Chromium	A	0.886		mg/kg dry	1	0.00830	0.166	BGA3226	01/31/2023 10:04	TBB
EPA 200.8	Copper	A	0.502	V	mg/kg dry	1	0.0110	0.0554	BGA3226	01/31/2023 10:04	TBB
Calc	Chromium (III)		<0.139	U	mg/kg (dry wt) dry	1	0.139	5.17	[CALC]	02/01/2023 12:17	EM
SW-7196	Chromium (VI)	A	1.50	J	mg/kg dry	1	0.131	5.00	BGA3843	02/01/2023 12:17	EM
SW-7471B	Mercury	A	<0.00966	U	mg/kg dry	1	0.00966	0.0193	BGA3912	01/31/2023 14:41	NAZ
EPA 200.8	Lead	A	1.19		mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 14:20	TBB
EPA 200.8	Nickel	A	0.818		mg/kg dry	1	0.0554	0.0554	BGA3226	01/31/2023 15:28	TBB
EPA 200.8	Selenium	A	0.266		mg/kg dry	1	0.0554	0.110	BGA3226	01/31/2023 10:04	TBB
EPA 200.8	Silver	A	0.00415	J	mg/kg dry	1	0.00138	0.0276	BGA3226	01/30/2023 14:20	TBB
EPA 200.8	Thallium	A	0.0220	J	mg/kg dry	1	0.00138	0.0276	BGA3226	01/31/2023 10:04	TBB
EPA 200.8	Zinc	A	2.69		mg/kg dry	1	0.0554	0.110	BGA3226	01/30/2023 14:20	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0325	U	mg/kg dry	1	0.0325	0.0651	BGA3214	01/26/2023 15:43	GJG
EPA 350.2	Ammonia as N	A	6.74	J	mg/kg dry	1	6.69	13.4	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.84	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	74.6	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-17RE1	Date Collected:	01/17/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.5U	ug/kg dry	1	12.5	24.9	BGA3094	02/25/2023 03:12	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-17RE1	Date Collected:	01/17/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.26V, J	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Chrysene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Diethyl phthalate (Rerun)	A	1.73V, J	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	5.03V	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Fluorene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Isophorone (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Naphthalene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3094	02/25/2023 03:12	KRB
SW-8270	Pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 03:12	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*81.1%*	*60-140*					*02/25/2023 03:12*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*73.7%*	*60-140*					*02/25/2023 03:12*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*84.3%*	*60-140*					*02/25/2023 03:12*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*66.4%*	*60-140*					*02/25/2023 03:12*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*74.7%*	*60-140*					*02/25/2023 03:12*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*71.9%*	*60-140*					*02/25/2023 03:12*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-18	Date Collected:	01/17/2023 14:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.59	U	ug/kg dry	1	1.59	3.18	BGA3094	02/09/2023 00:07	KRB
SW-8270	Benzidine	A	<1.59	U	ug/kg dry	1	1.59	3.18	BGA3094	02/09/2023 00:07	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*108%*		*60-140*					*02/09/2023 00:07*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*109%*		*60-140*					*02/09/2023 00:07*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*154%*	*S*	*60-140*					*02/09/2023 00:07*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*111%*		*60-140*					*02/09/2023 00:07*	
SW-8270	*Surrogate: Phenol-d5-surr*		*119%*		*60-140*					*02/09/2023 00:07*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*94.5%*		*60-140*					*02/09/2023 00:07*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	4,4'-DDE	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	4,4'-DDT	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Aldrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Chlordane (tech.)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	delta-BHC	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Dieldrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endosulfan I	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endosulfan II	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endosulfan sulfate	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endrin aldehyde	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Endrin ketone	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	gamma-Chlordane	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Heptachlor	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Heptachlor epoxide	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Methoxychlor	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/01/2023 22:42	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.1	U	ug/kg dry	10	20.1	20.1	BGA3044	02/01/2023 22:42	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*91.4%*		*60-140*					*02/01/2023 22:42*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-1-1C-S (Continued)
Lab Sample ID: 23A1459-18
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 14:40
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*114%*		*60-140*					*02/01/2023 22:42*	
SW-8082	PCBs, Total	A	<1.34	C+, U	ug/kg dry	1	1.34	2.69	BGA3182	01/28/2023 17:13	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*177%*	*S*	*60-140*					*01/28/2023 17:13*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*30.7%*	*S*	*60-140*					*01/28/2023 17:13*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0279	U	mg/kg dry	1	0.0279	0.0560	BGA3226	01/30/2023 14:33	TBB
EPA 200.8	Arsenic	A	1.05		mg/kg dry	1	0.00279	0.0279	BGA3226	01/30/2023 14:33	TBB
EPA 200.8	Beryllium	A	0.0692		mg/kg dry	1	0.000560	0.0112	BGA3226	01/30/2023 14:33	TBB
EPA 200.8	Cadmium	A	0.0443	J	mg/kg dry	1	0.00279	0.0560	BGA3226	01/31/2023 10:07	TBB
EPA 200.8	Chromium	A	1.52		mg/kg dry	1	0.00838	0.168	BGA3226	01/31/2023 10:07	TBB
EPA 200.8	Copper	A	1.39	V	mg/kg dry	1	0.0112	0.0560	BGA3226	01/31/2023 10:07	TBB
Calc	Chromium (III)		1.19	J	mg/kg (dry wt) dry	1	0.142	5.17	[CALC]	02/01/2023 12:18	EM
SW-7196	Chromium (VI)	A	0.334	J	mg/kg dry	1	0.134	5.00	BGA3843	02/01/2023 12:18	EM
SW-7471B	Mercury	A	<0.00902	U	mg/kg dry	1	0.00902	0.0180	BGA3912	01/31/2023 14:44	NAZ
EPA 200.8	Lead	A	1.36		mg/kg dry	1	0.00279	0.0279	BGA3226	01/30/2023 14:33	TBB
EPA 200.8	Nickel	A	1.57		mg/kg dry	1	0.0560	0.0560	BGA3226	01/31/2023 15:30	TBB
EPA 200.8	Selenium	A	0.375		mg/kg dry	1	0.0560	0.112	BGA3226	01/31/2023 10:07	TBB
EPA 200.8	Silver	A	0.00844	J	mg/kg dry	1	0.00140	0.0279	BGA3226	01/30/2023 14:33	TBB
EPA 200.8	Thallium	A	0.0404		mg/kg dry	1	0.00140	0.0279	BGA3226	01/31/2023 10:07	TBB
EPA 200.8	Zinc	A	3.34		mg/kg dry	1	0.0560	0.112	BGA3226	01/30/2023 14:33	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0323	U	mg/kg dry	1	0.0323	0.0646	BGA3214	01/26/2023 15:43	GJG
EPA 350.2	Ammonia as N	A	12.8	J	mg/kg dry	1	6.70	13.4	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.27	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	74.4	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-18RE1	Date Collected:	01/17/2023 14:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.7U	ug/kg dry	1	12.7	25.5	BGA3094	02/25/2023 03:47	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Anthracene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-1-1C-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-18RE1	Date Collected:	01/17/2023 14:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.06V, J	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Chrysene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.32V, J	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.39V	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Fluorene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Isophorone (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Naphthalene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.37	BGA3094	02/25/2023 03:47	KRB
SW-8270	Pyrene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 03:47	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*85.5%*	*60-140*					*02/25/2023 03:47*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*75.6%*	*60-140*					*02/25/2023 03:47*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*86.4%*	*60-140*					*02/25/2023 03:47*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*68.6%*	*60-140*					*02/25/2023 03:47*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*76.3%*	*60-140*					*02/25/2023 03:47*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*69.2%*	*60-140*					*02/25/2023 03:47*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-1A-S
Lab Sample ID: 23A1459-20
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 17:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/09/2023 00:42	KRB
SW-8270	Benzidine	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/09/2023 00:42	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*91.4%*	*60-140*					*02/09/2023 00:42*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*112%*	*60-140*					*02/09/2023 00:42*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*141% S*	*60-140*					*02/09/2023 00:42*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*99.0%*	*60-140*					*02/09/2023 00:42*	
SW-8270	*Surrogate: Phenol-d5-surr*		*118%*	*60-140*					*02/09/2023 00:42*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*60.7%*	*60-140*					*02/09/2023 00:42*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	4,4'-DDE	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	4,4'-DDT	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Aldrin	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Chlordane (tech.)	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	delta-BHC	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Dieldrin	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endosulfan I	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endosulfan II	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endosulfan sulfate	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endrin	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endrin aldehyde	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Endrin ketone	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	gamma-Chlordane	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Heptachlor	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Heptachlor epoxide	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Methoxychlor	A	<0.445U	ug/kg dry	10	0.445	1.48	BGA3044	02/01/2023 23:09	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<22.2U	ug/kg dry	10	22.2	22.2	BGA3044	02/01/2023 23:09	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*88.8%*	*60-140*					*02/01/2023 23:09*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-1A-S (Continued)
Lab Sample ID: 23A1459-20
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 17:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*		*60-140*					*02/01/2023 23:09*	
SW-8082	PCBs, Total	A	<1.48	C+, U	ug/kg dry	1	1.48	2.96	BGA3182	01/28/2023 18:33	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*162%*	*S*	*60-140*					*01/28/2023 18:33*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*95.9%*		*60-140*					*01/28/2023 18:33*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0298	U	mg/kg dry	1	0.0298	0.0598	BGA3226	01/30/2023 14:35	TBB
EPA 200.8	Arsenic	A	3.07		mg/kg dry	1	0.00298	0.0298	BGA3226	01/30/2023 14:35	TBB
EPA 200.8	Beryllium	A	0.167		mg/kg dry	1	0.000598	0.0119	BGA3226	01/30/2023 14:35	TBB
EPA 200.8	Cadmium	A	0.0607		mg/kg dry	1	0.00298	0.0598	BGA3226	01/31/2023 10:09	TBB
EPA 200.8	Chromium	A	3.85		mg/kg dry	1	0.00895	0.179	BGA3226	01/31/2023 10:09	TBB
EPA 200.8	Copper	A	3.22	V	mg/kg dry	1	0.0119	0.0598	BGA3226	01/31/2023 10:09	TBB
Calc	Chromium (III)		3.61	J	mg/kg (dry wt) dry	1	0.153	5.18	[CALC]	02/01/2023 12:20	EM
SW-7196	Chromium (VI)	A	0.248	J	mg/kg dry	1	0.144	5.00	BGA3843	02/01/2023 12:20	EM
SW-7471B	Mercury	A	<0.00940	U	mg/kg dry	1	0.00940	0.0188	BGA3912	01/31/2023 14:47	NAZ
EPA 200.8	Lead	A	3.11		mg/kg dry	1	0.00298	0.0298	BGA3226	01/30/2023 14:35	TBB
EPA 200.8	Nickel	A	3.40		mg/kg dry	1	0.0598	0.0598	BGA3226	01/31/2023 15:32	TBB
EPA 200.8	Selenium	A	0.703		mg/kg dry	1	0.0598	0.119	BGA3226	01/31/2023 10:09	TBB
EPA 200.8	Silver	A	0.0125	J	mg/kg dry	1	0.00149	0.0298	BGA3226	01/30/2023 14:35	TBB
EPA 200.8	Thallium	A	0.0499		mg/kg dry	1	0.00149	0.0298	BGA3226	01/31/2023 10:09	TBB
EPA 200.8	Zinc	A	8.13		mg/kg dry	1	0.0598	0.119	BGA3226	01/30/2023 14:35	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0363	U	mg/kg dry	1	0.0363	0.0727	BGA3214	01/26/2023 15:44	GJG
EPA 350.2	Ammonia as N	A	8.71	J	mg/kg dry	1	7.40	14.8	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.19	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	67.5	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-20RE1	Date Collected:	01/16/2023 17:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.4U	ug/kg dry	1	14.4	28.9	BGA3094	02/25/2023 04:22	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.61U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Anthracene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.81U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-20RE1	Date Collected:	01/16/2023 17:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	1.89	V, J	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Chrysene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.10	V, J	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	6.35	V	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Fluorene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Isophorone (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Naphthalene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.61	U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.61	U	ug/kg dry	1	3.61	7.22	BGA3094	02/25/2023 04:22	KRB
SW-8270	Pyrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.61	BGA3094	02/25/2023 04:22	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*66.2%*		*60-140*					*02/25/2023 04:22*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*75.2%*		*60-140*					*02/25/2023 04:22*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*76.7%*		*60-140*					*02/25/2023 04:22*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*61.6%*		*60-140*					*02/25/2023 04:22*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*74.3%*		*60-140*					*02/25/2023 04:22*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*41.0%*	*S*	*60-140*					*02/25/2023 04:22*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-21	Date Collected:	01/17/2023 11:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.83	U	ug/kg dry	1	1.83	3.65	BGA3094	02/09/2023 01:16	KRB
SW-8270	Benzidine	A	<1.83	U	ug/kg dry	1	1.83	3.65	BGA3094	02/09/2023 01:16	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*89.2%*		*60-140*					*02/09/2023 01:16*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*106%*		*60-140*					*02/09/2023 01:16*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*143%*	*S*	*60-140*					*02/09/2023 01:16*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*105%*		*60-140*					*02/09/2023 01:16*	
SW-8270	*Surrogate: Phenol-d5-surr*		*112%*		*60-140*					*02/09/2023 01:16*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*49.8%*	*S*	*60-140*					*02/09/2023 01:16*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	4,4'-DDE	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	4,4'-DDT	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Aldrin	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Chlordane (tech.)	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	delta-BHC	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Dieldrin	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endosulfan I	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endosulfan II	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endosulfan sulfate	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endrin	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endrin aldehyde	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Endrin ketone	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	gamma-Chlordane	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Heptachlor	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Heptachlor epoxide	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Methoxychlor	A	<0.443	U	ug/kg dry	10	0.443	1.48	BGA3044	02/02/2023 00:28	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<22.1	U	ug/kg dry	10	22.1	22.1	BGA3044	02/02/2023 00:28	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*88.6%*		*60-140*					*02/02/2023 00:28*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-1B-S (Continued)
Lab Sample ID: 23A1459-21
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 11:30
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*111%*		*60-140*					*02/02/2023 00:28*	
SW-8082	PCBs, Total	A	<1.48	C+, U	ug/kg dry	1	1.48	2.95	BGA3182	01/28/2023 19:00	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*183%*	*S*	*60-140*					*01/28/2023 19:00*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*71.8%*		*60-140*					*01/28/2023 19:00*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0302	U	mg/kg dry	1	0.0302	0.0606	BGA3226	01/30/2023 14:38	TBB
EPA 200.8	Arsenic	A	1.69		mg/kg dry	1	0.00302	0.0302	BGA3226	01/30/2023 14:38	TBB
EPA 200.8	Beryllium	A	0.151		mg/kg dry	1	0.000606	0.0121	BGA3226	01/30/2023 14:38	TBB
EPA 200.8	Cadmium	A	0.0570	J	mg/kg dry	1	0.00302	0.0606	BGA3226	01/31/2023 10:12	TBB
EPA 200.8	Chromium	A	3.74		mg/kg dry	1	0.00908	0.182	BGA3226	01/31/2023 10:12	TBB
EPA 200.8	Copper	A	2.64	V	mg/kg dry	1	0.0121	0.0606	BGA3226	01/31/2023 10:12	TBB
Calc	Chromium (III)		3.74	J	mg/kg (dry wt) dry	1	0.153	5.18	[CALC]	02/01/2023 12:21	EM
SW-7196	Chromium (VI)	A	<0.144	U	mg/kg dry	1	0.144	5.00	BGA3843	02/01/2023 12:21	EM
SW-7471B	Mercury	A	<0.00947	U	mg/kg dry	1	0.00947	0.0189	BGA3912	01/31/2023 14:51	NAZ
EPA 200.8	Lead	A	2.46		mg/kg dry	1	0.00302	0.0302	BGA3226	01/30/2023 14:38	TBB
EPA 200.8	Nickel	A	2.54		mg/kg dry	1	0.0606	0.0606	BGA3226	01/31/2023 15:35	TBB
EPA 200.8	Selenium	A	0.755		mg/kg dry	1	0.0606	0.121	BGA3226	01/31/2023 10:12	TBB
EPA 200.8	Silver	A	0.00847	J	mg/kg dry	1	0.00151	0.0302	BGA3226	01/30/2023 14:38	TBB
EPA 200.8	Thallium	A	0.0382		mg/kg dry	1	0.00151	0.0302	BGA3226	01/31/2023 10:12	TBB
EPA 200.8	Zinc	A	5.43		mg/kg dry	1	0.0606	0.121	BGA3226	01/30/2023 14:38	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0358	U	mg/kg dry	1	0.0358	0.0716	BGA3214	01/26/2023 15:47	GJG
EPA 350.2	Ammonia as N	A	15.1		mg/kg dry	1	7.31	14.6	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.03	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	67.8	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-21RE1	Date Collected:	01/17/2023 11:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.6U	ug/kg dry	1	14.6	29.2	BGA3094	02/25/2023 04:57	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-21RE1	Date Collected:	01/17/2023 11:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.00V, J	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Chrysene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.17V, J	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	8.89V	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Fluorene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Isophorone (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Naphthalene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.65U	ug/kg dry	1	3.65	7.31	BGA3094	02/25/2023 04:57	KRB
SW-8270	Pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.65	BGA3094	02/25/2023 04:57	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*58.5% S*	*60-140*					*02/25/2023 04:57*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*77.5%*	*60-140*					*02/25/2023 04:57*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*73.5%*	*60-140*					*02/25/2023 04:57*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*67.0%*	*60-140*					*02/25/2023 04:57*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*78.5%*	*60-140*					*02/25/2023 04:57*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*32.4% S*	*60-140*					*02/25/2023 04:57*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-22	Date Collected:	01/17/2023 16:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<2.09	U	ug/kg dry	1	2.09	4.19	BGA3094	02/09/2023 01:51	KRB
SW-8270	Benzidine	A	<2.09	U	ug/kg dry	1	2.09	4.19	BGA3094	02/09/2023 01:51	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*113%*		*60-140*					*02/09/2023 01:51*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*98.1%*		*60-140*					*02/09/2023 01:51*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*166%*	*S*	*60-140*					*02/09/2023 01:51*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*55.4%*	*S*	*60-140*					*02/09/2023 01:51*	
SW-8270	*Surrogate: Phenol-d5-surr*		*111%*		*60-140*					*02/09/2023 01:51*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*75.4%*		*60-140*					*02/09/2023 01:51*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	4,4'-DDE	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	4,4'-DDT	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Aldrin	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Chlordane (tech.)	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	delta-BHC	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Dieldrin	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endosulfan I	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endosulfan II	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endosulfan sulfate	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endrin	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endrin aldehyde	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Endrin ketone	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	gamma-Chlordane	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Heptachlor	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Heptachlor epoxide	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Methoxychlor	A	<0.518	U	ug/kg dry	10	0.518	1.73	BGA3044	02/02/2023 00:55	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<25.9	U	ug/kg dry	10	25.9	25.9	BGA3044	02/02/2023 00:55	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*85.1%*		*60-140*					*02/02/2023 00:55*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-2-1C-S (Continued)
Lab Sample ID: 23A1459-22
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 16:30
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*112%*		*60-140*					*02/02/2023 00:55*	
SW-8082	PCBs, Total	A	<1.73	C+, U	ug/kg dry	1	1.73	3.45	BGA3182	01/28/2023 19:27	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*179%*	*S*	*60-140*					*01/28/2023 19:27*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*96.3%*		*60-140*					*01/28/2023 19:27*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0350	U	mg/kg dry	1	0.0350	0.0703	BGA3226	01/30/2023 14:40	TBB
EPA 200.8	Arsenic	A	2.40		mg/kg dry	1	0.00350	0.0350	BGA3226	01/30/2023 14:40	TBB
EPA 200.8	Beryllium	A	0.211		mg/kg dry	1	0.000703	0.0140	BGA3226	01/30/2023 14:40	TBB
EPA 200.8	Cadmium	A	0.0585	J	mg/kg dry	1	0.00350	0.0703	BGA3226	01/31/2023 10:21	TBB
EPA 200.8	Chromium	A	4.63		mg/kg dry	1	0.0105	0.210	BGA3226	01/31/2023 10:21	TBB
EPA 200.8	Copper	A	2.91	V	mg/kg dry	1	0.0140	0.0703	BGA3226	01/31/2023 10:21	TBB
Calc	Chromium (III)		3.72	J	mg/kg (dry wt) dry	1	0.178	5.21	[CALC]	02/01/2023 12:22	EM
SW-7196	Chromium (VI)	A	0.909	J	mg/kg dry	1	0.168	5.00	BGA3843	02/01/2023 12:22	EM
SW-7471B	Mercury	A	<0.00936	U	mg/kg dry	1	0.00936	0.0187	BGA3912	01/31/2023 14:54	NAZ
EPA 200.8	Lead	A	2.80		mg/kg dry	1	0.00350	0.0350	BGA3226	01/30/2023 14:40	TBB
EPA 200.8	Nickel	A	3.59		mg/kg dry	1	0.0703	0.0703	BGA3226	01/31/2023 15:45	TBB
EPA 200.8	Selenium	A	0.612		mg/kg dry	1	0.0703	0.140	BGA3226	01/31/2023 10:21	TBB
EPA 200.8	Silver	A	0.0113	J	mg/kg dry	1	0.00175	0.0350	BGA3226	01/30/2023 14:40	TBB
EPA 200.8	Thallium	A	0.0515		mg/kg dry	1	0.00175	0.0350	BGA3226	01/31/2023 10:21	TBB
EPA 200.8	Zinc	A	7.30		mg/kg dry	1	0.0703	0.140	BGA3226	01/30/2023 14:40	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0423	U	mg/kg dry	1	0.0423	0.0846	BGA3214	01/26/2023 15:48	GJG
EPA 350.2	Ammonia as N	A	17.3		mg/kg dry	1	8.58	17.2	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.23	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	58.0	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-22RE1	Date Collected:	01/17/2023 16:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<16.7U	ug/kg dry	1	16.7	33.5	BGA3094	02/25/2023 05:32	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Acenaphthene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Acenaphthylene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Anthracene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-2-1C-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-22RE1	Date Collected:	01/17/2023 16:30
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.42V, J	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Chrysene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Diethyl phthalate (Rerun)	A	3.57V, J	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	11.4V	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Fluoranthene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Fluorene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Hexachloroethane (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Isophorone (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Naphthalene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Nitrobenzene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	Phenanthrene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	Phenol, Total (Rerun)	A	<4.19U	ug/kg dry	1	4.19	8.37	BGA3094	02/25/2023 05:32	KRB
SW-8270	Pyrene (Rerun)	A	<2.09U	ug/kg dry	1	2.09	4.19	BGA3094	02/25/2023 05:32	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*71.4%*	*60-140*					*02/25/2023 05:32*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*77.2%*	*60-140*					*02/25/2023 05:32*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*77.7%*	*60-140*					*02/25/2023 05:32*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*35.6% S*	*60-140*					*02/25/2023 05:32*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*78.8%*	*60-140*					*02/25/2023 05:32*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*46.8% S*	*60-140*					*02/25/2023 05:32*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-24	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.69	CQ, U	ug/kg dry	1	1.69	3.38	BGA3368	02/13/2023 23:13	KRB
SW-8270	Benzidine	A	<1.69	CQ, U	ug/kg dry	1	1.69	3.38	BGA3368	02/13/2023 23:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*203%*	*CQ, S*	*60-140*					*02/13/2023 23:13*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*1450%*	*CQ, S*	*60-140*					*02/13/2023 23:13*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*105%*	*CQ*	*60-140*					*02/13/2023 23:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*2190%*	*CQ, S*	*60-140*					*02/13/2023 23:13*	
SW-8270	*Surrogate: Phenol-d5-surr*		*1270%*	*CQ, S*	*60-140*					*02/13/2023 23:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*176%*	*CQ, S*	*60-140*					*02/13/2023 23:13*	
Organics by GC											
SW-8082	PCBs, Total	A	<1.32	U	ug/kg dry	1	1.32	2.64	BGA3651	02/24/2023 21:20	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*%*	*S, U*	*60-140*					*02/24/2023 21:20*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*10.4%*	*S*	*60-140*					*02/24/2023 21:20*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0285	U	mg/kg dry	1	0.0285	0.0571	BGA3226	01/30/2023 14:43	TBB
EPA 200.8	Arsenic	A	0.741		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 14:43	TBB
EPA 200.8	Beryllium	A	0.0341		mg/kg dry	1	0.000571	0.0114	BGA3226	01/30/2023 14:43	TBB
EPA 200.8	Cadmium	A	0.0141	J	mg/kg dry	1	0.00285	0.0571	BGA3226	01/31/2023 10:24	TBB
EPA 200.8	Chromium	A	0.748		mg/kg dry	1	0.00855	0.171	BGA3226	01/31/2023 10:24	TBB
EPA 200.8	Copper	A	0.459	V	mg/kg dry	1	0.0114	0.0571	BGA3226	01/31/2023 10:24	TBB
Calc	Chromium (III)		0.228	J	mg/kg (dry wt) dry	1	0.144	5.17	[CALC]	02/01/2023 12:24	EM
SW-7196	Chromium (VI)	A	0.520	J	mg/kg dry	1	0.135	5.00	BGA3843	02/01/2023 12:24	EM
SW-7471B	Mercury	A	<0.00929	U	mg/kg dry	1	0.00929	0.0186	BGA3912	01/31/2023 14:57	NAZ
EPA 200.8	Lead	A	1.32		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 14:43	TBB
EPA 200.8	Nickel	A	0.679		mg/kg dry	1	0.0571	0.0571	BGA3226	01/31/2023 15:47	TBB
EPA 200.8	Selenium	A	0.269		mg/kg dry	1	0.0571	0.114	BGA3226	01/31/2023 10:24	TBB
EPA 200.8	Silver	A	0.00730	J	mg/kg dry	1	0.00143	0.0285	BGA3226	01/30/2023 14:43	TBB
EPA 200.8	Thallium	A	0.0235	J	mg/kg dry	1	0.00143	0.0285	BGA3226	01/31/2023 10:24	TBB
EPA 200.8	Zinc	A	2.28		mg/kg dry	1	0.0571	0.114	BGA3226	01/30/2023 14:43	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0333	U	mg/kg dry	1	0.0333	0.0666	BGA3214	01/26/2023 15:49	GJG
EPA 350.2	Ammonia as N	A	<6.91	U	mg/kg dry	1	6.91	13.8	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	8.47	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	72.2	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-24RE1	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<135A, U	ug/kg dry	10	135	270	BGA3368	02/27/2023 23:40	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Acenaphthene (Rerun)	A	355A	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Acenaphthylene (Rerun)	A	333A	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Anthracene (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	52.9A	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<16.9CQ, A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	65.2A, CQ	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-3-2A-S (Continued)
Lab Sample ID: 23A1459-24RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 15:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	21.3A, V, J	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Chrysene (Rerun)	A	71.5A	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<16.9A, B, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	293A, CQ, V	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Fluoranthene (Rerun)	A	181CQ, A	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Fluorene (Rerun)	A	1840A, CQ, L	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<16.9A, CQ, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Hexachloroethane (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	44.3A, CQ	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Isophorone (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Naphthalene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Nitrobenzene (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<16.9A, U	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<33.8CQ, A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	Phenanthrene (Rerun)	A	1380A, CQ	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	Phenol, Total (Rerun)	A	<33.8A, U	ug/kg dry	10	33.8	67.5	BGA3368	02/27/2023 23:40	KRB
SW-8270	Pyrene (Rerun)	A	232A, CQ	ug/kg dry	10	16.9	33.8	BGA3368	02/27/2023 23:40	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*540% S*	*60-140*					*02/27/2023 23:40*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*58.8% S*	*60-140*					*02/27/2023 23:40*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*55.6% CQ, S*	*60-140*					*02/27/2023 23:40*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*846% S*	*60-140*					*02/27/2023 23:40*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*110%*	*60-140*					*02/27/2023 23:40*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*104% CQ*	*60-140*					*02/27/2023 23:40*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-3-2A-S (Continued)
Lab Sample ID: 23A1459-24RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 15:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC										
SW-8081	4,4'-DDD (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	4,4'-DDE (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	4,4'-DDT (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Aldrin (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane) (Rerun)	A	<0.409C+, U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane) (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Chlordane (tech.) (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	cis-Chlordane (alpha-Chlordane) (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	delta-BHC (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Dieldrin (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endosulfan I (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endosulfan II (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endosulfan sulfate (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endrin (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endrin aldehyde (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Endrin ketone (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE) (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	gamma-Chlordane (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Heptachlor (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Heptachlor epoxide (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Methoxychlor (Rerun)	A	<0.409U	ug/kg dry	10	0.409	1.36	BGA3603	02/10/2023 02:44	ALA
SW-8081	Toxaphene (Chlorinated Camphene) (Rerun)	A	<20.4U	ug/kg dry	10	20.4	20.4	BGA3603	02/10/2023 02:44	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*156% S*	*60-140*					*02/10/2023 02:44*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr (Rerun)*		*86.2%*	*60-140*					*02/10/2023 02:44*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-24RE2	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<33.7H, A, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<135A, H, U	ug/kg dry	10	135	269	BGC0816	03/15/2023 11:04	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<33.7H, A, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Acenaphthene (Rerun)	A	416A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Acenaphthylene (Rerun)	A	323A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Anthracene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	31.3A, H, J	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	22.3A, H, J	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	18.8V, A, H, J	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Chrysene (Rerun)	A	36.7A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-3-2A-S (Continued)
Lab Sample ID: 23A1459-24RE2
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 15:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	120A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Fluoranthene (Rerun)	A	81.3A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Isophorone (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Naphthalene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Nitrobenzene (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<16.8A, H, U	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	Phenanthrene (Rerun)	A	522A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	Phenol, Total (Rerun)	A	<33.7A, H, U	ug/kg dry	10	33.7	67.3	BGC0816	03/15/2023 11:04	KRB
SW-8270	Pyrene (Rerun)	A	90.3A, H	ug/kg dry	10	16.8	33.7	BGC0816	03/15/2023 11:04	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*52.1% A, S*	*60-140*					*03/15/2023 11:04*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*112% A*	*60-140*					*03/15/2023 11:04*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*41.7% A, S*	*60-140*					*03/15/2023 11:04*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*73.7% A*	*60-140*					*03/15/2023 11:04*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*66.6% A*	*60-140*					*03/15/2023 11:04*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*59.8% A, S*	*60-140*					*03/15/2023 11:04*	
Organics by GC										
SW-8082	PCBs, Total (Rerun)	A	<13.2C+, U	ug/kg dry	10	13.2	26.5	BGC1392	03/11/2023 17:07	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*154% S*	*60-140*					*03/11/2023 17:07*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr (Rerun)*		*92.7%*	*60-140*					*03/11/2023 17:07*	

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-24RE3	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Fluorene (Rerun)	A	1470	HP	ug/kg dry	25	42.2	84.4	BGA3368	03/16/2023 13:29	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*% S, U*		*60-140*					*03/16/2023 13:29*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*934% S*		*60-140*					*03/16/2023 13:29*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*% S, U*		*60-140*					*03/16/2023 13:29*	

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-24RE4	Date Collected:	01/19/2023 15:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Fluorene (Rerun)	A	1190	H	ug/kg dry	25	42.1	84.1	BGC0816	03/16/2023 15:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*80.1%*		*60-140*					*03/16/2023 15:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*269%*	*S*	*60-140*					*03/16/2023 15:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*66.4%*		*60-140*					*03/16/2023 15:13*	

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-25	Date Collected:	01/20/2023 11:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/13/2023 23:47	KRB
SW-8270	Benzidine	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/13/2023 23:47	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*161% S*	*60-140*					*02/13/2023 23:47*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*151% S*	*60-140*					*02/13/2023 23:47*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*198% S*	*60-140*					*02/13/2023 23:47*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*155% S*	*60-140*					*02/13/2023 23:47*	
SW-8270	*Surrogate: Phenol-d5-surr*		*184% S*	*60-140*					*02/13/2023 23:47*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*120%*	*60-140*					*02/13/2023 23:47*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	4,4'-DDE	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	4,4'-DDT	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Aldrin	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Chlordane (tech.)	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	delta-BHC	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Dieldrin	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endosulfan I	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endosulfan II	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endosulfan sulfate	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endrin	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endrin aldehyde	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Endrin ketone	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	gamma-Chlordane	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Heptachlor	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Heptachlor epoxide	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Methoxychlor	A	<0.397U	ug/kg dry	10	0.397	1.32	BGA3603	02/03/2023 21:38	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.8C+, U	ug/kg dry	10	19.8	19.8	BGA3603	02/03/2023 21:38	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*96.8%*	*60-140*					*02/03/2023 21:38*	

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Sample Results
(Continued)

Client Sample ID: HI-DMMU-3-2B-S (Continued)
Lab Sample ID: 23A1459-25
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/20/2023 11:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*		*60-140*					*02/03/2023 21:38*	
SW-8082	PCBs, Total	A	<1.31	U	ug/kg dry	1	1.31	2.63	BGA3651	02/11/2023 18:21	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*107%*		*60-140*					*02/11/2023 18:21*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*99.4%*		*60-140*					*02/11/2023 18:21*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0276	U	mg/kg dry	1	0.0276	0.0554	BGA3226	01/30/2023 14:45	TBB
EPA 200.8	Arsenic	A	0.793		mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 14:45	TBB
EPA 200.8	Beryllium	A	0.0373		mg/kg dry	1	0.000554	0.0110	BGA3226	01/30/2023 14:45	TBB
EPA 200.8	Cadmium	A	0.0220	J	mg/kg dry	1	0.00276	0.0554	BGA3226	01/31/2023 10:26	TBB
EPA 200.8	Chromium	A	0.939		mg/kg dry	1	0.00829	0.166	BGA3226	01/31/2023 10:26	TBB
EPA 200.8	Copper	A	0.633	V	mg/kg dry	1	0.0110	0.0554	BGA3226	01/31/2023 10:26	TBB
Calc	Chromium (III)		<0.141	U	mg/kg (dry wt) dry	1	0.141	5.17	[CALC]	02/01/2023 12:25	EM
SW-7196	Chromium (VI)	A	0.966	J	mg/kg dry	1	0.132	5.00	BGA3843	02/01/2023 12:25	EM
SW-7471B	Mercury	A	<0.00964	U	mg/kg dry	1	0.00964	0.0193	BGA3912	01/31/2023 15:07	NAZ
EPA 200.8	Lead	A	0.983		mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 14:45	TBB
EPA 200.8	Nickel	A	0.819		mg/kg dry	1	0.0554	0.0554	BGA3226	01/31/2023 15:49	TBB
EPA 200.8	Selenium	A	0.288		mg/kg dry	1	0.0554	0.110	BGA3226	01/31/2023 10:26	TBB
EPA 200.8	Silver	A	0.00630	J	mg/kg dry	1	0.00138	0.0276	BGA3226	01/30/2023 14:45	TBB
EPA 200.8	Thallium	A	0.0285		mg/kg dry	1	0.00138	0.0276	BGA3226	01/31/2023 10:26	TBB
EPA 200.8	Zinc	A	2.20		mg/kg dry	1	0.0554	0.110	BGA3226	01/30/2023 14:45	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0334	U	mg/kg dry	1	0.0334	0.0667	BGA3214	01/26/2023 15:49	GJG
EPA 350.2	Ammonia as N	A	6.78	J	mg/kg dry	1	6.73	13.5	BGA4008	02/01/2023 09:08	GIW
SW-9045C	pH	A	9.04	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	74.2	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-25RE1	Date Collected:	01/20/2023 11:00
Sample Alias:		Collected by:	Gregg Pawlak

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.1U	ug/kg dry	1	13.1	26.2	BGA3368	02/28/2023 00:15	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-3-2B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-25RE1	Date Collected:	01/20/2023 11:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.57V, J	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Chrysene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.86V, J	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	14.1V	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Fluorene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Isophorone (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Naphthalene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.28U	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	Phenol, Total (Rerun)	A	3.92J	ug/kg dry	1	3.28	6.56	BGA3368	02/28/2023 00:15	KRB
SW-8270	Pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.28	BGA3368	02/28/2023 00:15	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*64.8%*	*60-140*					*02/28/2023 00:15*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*65.3%*	*60-140*					*02/28/2023 00:15*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*71.1%*	*60-140*					*02/28/2023 00:15*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*64.8%*	*60-140*					*02/28/2023 00:15*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*58.2% S*	*60-140*					*02/28/2023 00:15*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.2%*	*60-140*					*02/28/2023 00:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-2A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-27	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.80	U	ug/kg dry	1	1.80	3.60	BGA3368	02/14/2023 00:22	KRB
SW-8270	Benzidine	A	<1.80	U	ug/kg dry	1	1.80	3.60	BGA3368	02/14/2023 00:22	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*133%*		*60-140*					*02/14/2023 00:22*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*126%*		*60-140*					*02/14/2023 00:22*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*177%*	*S*	*60-140*					*02/14/2023 00:22*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*124%*		*60-140*					*02/14/2023 00:22*	
SW-8270	*Surrogate: Phenol-d5-surr*		*177%*	*S*	*60-140*					*02/14/2023 00:22*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*73.4%*		*60-140*					*02/14/2023 00:22*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	4,4'-DDE	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	4,4'-DDT	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Aldrin	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Chlordane (tech.)	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	delta-BHC	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Dieldrin	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endosulfan I	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endosulfan II	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endosulfan sulfate	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endrin	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endrin aldehyde	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Endrin ketone	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	gamma-Chlordane	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Heptachlor	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Heptachlor epoxide	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Methoxychlor	A	<0.453	U	ug/kg dry	10	0.453	1.51	BGA3603	02/03/2023 22:32	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<22.7	C+, U	ug/kg dry	10	22.7	22.7	BGA3603	02/03/2023 22:32	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*75.9%*		*60-140*					*02/03/2023 22:32*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-4-2A-S (Continued)
Lab Sample ID: 23A1459-27
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 17:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*118%*		*60-140*					*02/03/2023 22:32*	
SW-8082	PCBs, Total	A	<1.50	U	ug/kg dry	1	1.50	3.00	BGA3651	02/11/2023 17:01	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*73.7%*		*60-140*					*02/11/2023 17:01*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*85.3%*		*60-140*					*02/11/2023 17:01*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0313	U	mg/kg dry	1	0.0313	0.0627	BGA3226	01/30/2023 14:48	TBB
EPA 200.8	Arsenic	A	2.78		mg/kg dry	1	0.00313	0.0313	BGA3226	01/30/2023 14:48	TBB
EPA 200.8	Beryllium	A	0.131		mg/kg dry	1	0.000627	0.0125	BGA3226	01/30/2023 14:48	TBB
EPA 200.8	Cadmium	A	0.100		mg/kg dry	1	0.00313	0.0627	BGA3226	01/31/2023 10:29	TBB
EPA 200.8	Chromium	A	2.73		mg/kg dry	1	0.00938	0.188	BGA3226	01/31/2023 10:29	TBB
EPA 200.8	Copper	A	2.00	V	mg/kg dry	1	0.0125	0.0627	BGA3226	01/31/2023 10:29	TBB
Calc	Chromium (III)		2.50	J	mg/kg (dry wt) dry	1	0.162	5.19	[CALC]	02/01/2023 12:26	EM
SW-7196	Chromium (VI)	A	0.230	J	mg/kg dry	1	0.153	5.00	BGA3843	02/01/2023 12:26	EM
SW-7471B	Mercury	A	<0.00979	U	mg/kg dry	1	0.00979	0.0196	BGA3912	01/31/2023 15:11	NAZ
EPA 200.8	Lead	A	2.36		mg/kg dry	1	0.00313	0.0313	BGA3226	01/30/2023 14:48	TBB
EPA 200.8	Nickel	A	3.64		mg/kg dry	1	0.0627	0.0627	BGA3226	01/31/2023 15:52	TBB
EPA 200.8	Selenium	A	0.550		mg/kg dry	1	0.0627	0.125	BGA3226	01/31/2023 10:29	TBB
EPA 200.8	Silver	A	0.0121	J	mg/kg dry	1	0.00156	0.0313	BGA3226	01/30/2023 14:48	TBB
EPA 200.8	Thallium	A	0.0570		mg/kg dry	1	0.00156	0.0313	BGA3226	01/31/2023 10:29	TBB
EPA 200.8	Zinc	A	5.61		mg/kg dry	1	0.0627	0.125	BGA3226	01/30/2023 14:48	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0384	U	mg/kg dry	1	0.0384	0.0768	BGA3214	01/26/2023 15:50	GJG
EPA 350.2	Ammonia as N	A	9.86	J	mg/kg dry	1	7.66	15.3	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.09	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	65.1	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-4-2A-S
Lab Sample ID: 23A1459-27RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 17:00
Collected by: Gregg Pawlak

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.4U	ug/kg dry	1	14.4	28.8	BGA3368	02/28/2023 00:50	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Acenaphthylene (Rerun)	A	2.03J	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Anthracene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-2A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-27RE1	Date Collected:	01/19/2023 17:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.51V, J	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Chrysene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.97V, J	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	13.7V	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Fluorene (Rerun)	A	4.00	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Isophorone (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Naphthalene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	Phenanthrene (Rerun)	A	2.74J	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.60U	ug/kg dry	1	3.60	7.19	BGA3368	02/28/2023 00:50	KRB
SW-8270	Pyrene (Rerun)	A	<1.80U	ug/kg dry	1	1.80	3.60	BGA3368	02/28/2023 00:50	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*62.7%*	*60-140*					*02/28/2023 00:50*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*74.8%*	*60-140*					*02/28/2023 00:50*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*61.8%*	*60-140*					*02/28/2023 00:50*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*73.8%*	*60-140*					*02/28/2023 00:50*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*67.2%*	*60-140*					*02/28/2023 00:50*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*43.2% S*	*60-140*					*02/28/2023 00:50*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-2B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-28	Date Collected:	01/20/2023 12:50
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/14/2023 00:57	KRB
SW-8270	Benzidine	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/14/2023 00:57	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*100%*	*60-140*					*02/14/2023 00:57*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*115%*	*60-140*					*02/14/2023 00:57*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*139%*	*60-140*					*02/14/2023 00:57*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*122%*	*60-140*					*02/14/2023 00:57*	
SW-8270	*Surrogate: Phenol-d5-surr*		*133%*	*60-140*					*02/14/2023 00:57*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*41.6% S*	*60-140*					*02/14/2023 00:57*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	4,4'-DDE	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	4,4'-DDT	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Aldrin	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.425C+, U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Chlordane (tech.)	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	delta-BHC	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Dieldrin	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endosulfan I	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endosulfan II	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endosulfan sulfate	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endrin	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endrin aldehyde	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Endrin ketone	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	gamma-Chlordane	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Heptachlor	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Heptachlor epoxide	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Methoxychlor	A	<0.425U	ug/kg dry	10	0.425	1.42	BGA3603	02/03/2023 23:52	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<21.2C+, U	ug/kg dry	10	21.2	21.2	BGA3603	02/03/2023 23:52	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*93.4%*	*60-140*					*02/03/2023 23:52*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-4-2B-S (Continued)
Lab Sample ID: 23A1459-28
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/20/2023 12:50
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*105%*		*60-140*					*02/03/2023 23:52*	
SW-8082	PCBs, Total	A	<1.35	U	ug/kg dry	1	1.35	2.71	BGA3651	02/11/2023 18:47	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*144%*	*S*	*60-140*					*02/11/2023 18:47*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*94.6%*		*60-140*					*02/11/2023 18:47*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0285	U	mg/kg dry	1	0.0285	0.0572	BGA3226	01/30/2023 14:50	TBB
EPA 200.8	Arsenic	A	1.17		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 14:50	TBB
EPA 200.8	Beryllium	A	0.117		mg/kg dry	1	0.000572	0.0114	BGA3226	01/30/2023 14:50	TBB
EPA 200.8	Cadmium	A	0.0312	J	mg/kg dry	1	0.00285	0.0572	BGA3226	01/31/2023 10:31	TBB
EPA 200.8	Chromium	A	2.63		mg/kg dry	1	0.00856	0.171	BGA3226	01/31/2023 10:31	TBB
EPA 200.8	Copper	A	2.06	V	mg/kg dry	1	0.0114	0.0572	BGA3226	01/31/2023 10:31	TBB
Calc	Chromium (III)		2.39	J	mg/kg (dry wt) dry	1	0.151	5.17	[CALC]	02/01/2023 12:28	EM
SW-7196	Chromium (VI)	A	0.249	J	mg/kg dry	1	0.143	5.00	BGA3843	02/01/2023 12:28	EM
SW-7471B	Mercury	A	<0.00991	U	mg/kg dry	1	0.00991	0.0198	BGA3912	01/31/2023 15:14	NAZ
EPA 200.8	Lead	A	2.17		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 14:50	TBB
EPA 200.8	Nickel	A	2.03		mg/kg dry	1	0.0572	0.0572	BGA3226	01/31/2023 15:54	TBB
EPA 200.8	Selenium	A	0.422		mg/kg dry	1	0.0572	0.114	BGA3226	01/31/2023 10:31	TBB
EPA 200.8	Silver	A	0.0105	J	mg/kg dry	1	0.00143	0.0285	BGA3226	01/30/2023 14:50	TBB
EPA 200.8	Thallium	A	0.0328		mg/kg dry	1	0.00143	0.0285	BGA3226	01/31/2023 10:31	TBB
EPA 200.8	Zinc	A	4.51		mg/kg dry	1	0.0572	0.114	BGA3226	01/30/2023 14:50	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0355	U	mg/kg dry	1	0.0355	0.0711	BGA3214	01/26/2023 15:50	GJG
EPA 350.2	Ammonia as N	A	8.01	J	mg/kg dry	1	7.15	14.3	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.43	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	69.7	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-2B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-28RE1	Date Collected:	01/20/2023 12:50
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.9U	ug/kg dry	1	13.9	27.8	BGA3368	02/28/2023 01:25	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-4-2B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-28RE1	Date Collected:	01/20/2023 12:50
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.26V, J	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Chrysene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.48V, J	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	14.2V	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Fluorene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Isophorone (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Naphthalene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.47U	ug/kg dry	1	3.47	6.94	BGA3368	02/28/2023 01:25	KRB
SW-8270	Pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.47	BGA3368	02/28/2023 01:25	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*48.0% S*	*60-140*					*02/28/2023 01:25*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*63.2%*	*60-140*					*02/28/2023 01:25*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*59.3% S*	*60-140*					*02/28/2023 01:25*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*65.7%*	*60-140*					*02/28/2023 01:25*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*53.5% S*	*60-140*					*02/28/2023 01:25*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*25.7% S*	*60-140*					*02/28/2023 01:25*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-30	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.62	U	ug/kg dry	1	1.62	3.24	BGA3094	02/09/2023 02:26	KRB
SW-8270	Benzidine	A	<1.62	U	ug/kg dry	1	1.62	3.24	BGA3094	02/09/2023 02:26	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*105%*		*60-140*					*02/09/2023 02:26*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*115%*		*60-140*					*02/09/2023 02:26*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*151%*	*S*	*60-140*					*02/09/2023 02:26*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*120%*		*60-140*					*02/09/2023 02:26*	
SW-8270	*Surrogate: Phenol-d5-surr*		*120%*		*60-140*					*02/09/2023 02:26*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*96.9%*		*60-140*					*02/09/2023 02:26*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	4,4'-DDE	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	4,4'-DDT	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Aldrin	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Chlordane (tech.)	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	delta-BHC	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Dieldrin	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endosulfan I	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endosulfan II	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endosulfan sulfate	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endrin	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endrin aldehyde	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Endrin ketone	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	gamma-Chlordane	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Heptachlor	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Heptachlor epoxide	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Methoxychlor	A	<0.405	U	ug/kg dry	10	0.405	1.35	BGA3044	02/02/2023 01:22	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.3	U	ug/kg dry	10	20.3	20.3	BGA3044	02/02/2023 01:22	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*96.0%*		*60-140*					*02/02/2023 01:22*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-5-3A-S (Continued)
Lab Sample ID: 23A1459-30
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 9:40
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*111%*	*60-140*					*02/02/2023 01:22*	
SW-8082	PCBs, Total	A	<1.35C+, U	ug/kg dry	1	1.35	2.70	BGA3182	01/28/2023 19:54	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*181% S*	*60-140*					*01/28/2023 19:54*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*63.6%*	*60-140*					*01/28/2023 19:54*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0268U	mg/kg dry	1	0.0268	0.0537	BGA3226	01/30/2023 14:53	TBB
EPA 200.8	Arsenic	A	0.867	mg/kg dry	1	0.00268	0.0268	BGA3226	01/30/2023 14:53	TBB
EPA 200.8	Beryllium	A	0.0412	mg/kg dry	1	0.000537	0.0107	BGA3226	01/30/2023 14:53	TBB
EPA 200.8	Cadmium	A	0.0319J	mg/kg dry	1	0.00268	0.0537	BGA3226	01/31/2023 10:33	TBB
EPA 200.8	Chromium	A	1.10	mg/kg dry	1	0.00804	0.161	BGA3226	01/31/2023 10:33	TBB
EPA 200.8	Copper	A	0.652V	mg/kg dry	1	0.0107	0.0537	BGA3226	01/31/2023 10:33	TBB
Calc	Chromium (III)		1.10J	mg/kg (dry wt) dry	1	0.142	5.16	[CALC]	02/01/2023 12:34	EM
SW-7196	Chromium (VI)	A	<0.134U	mg/kg dry	1	0.134	5.00	BGA3843	02/01/2023 12:34	EM
SW-7471B	Mercury	A	<0.00926U	mg/kg dry	1	0.00926	0.0185	BGA3912	01/31/2023 15:17	NAZ
EPA 200.8	Lead	A	1.06	mg/kg dry	1	0.00268	0.0268	BGA3226	01/30/2023 14:53	TBB
EPA 200.8	Nickel	A	0.918	mg/kg dry	1	0.0537	0.0537	BGA3226	01/31/2023 15:57	TBB
EPA 200.8	Selenium	A	0.320	mg/kg dry	1	0.0537	0.107	BGA3226	01/31/2023 10:33	TBB
EPA 200.8	Silver	A	0.00820J	mg/kg dry	1	0.00134	0.0268	BGA3226	01/30/2023 14:53	TBB
EPA 200.8	Thallium	A	0.0311	mg/kg dry	1	0.00134	0.0268	BGA3226	01/31/2023 10:33	TBB
EPA 200.8	Zinc	A	2.52	mg/kg dry	1	0.0537	0.107	BGA3226	01/30/2023 14:53	TBB
General Chemistry										
SW-9014	Total Cyanide	A	<0.0331U	mg/kg dry	1	0.0331	0.0662	BGA3214	01/26/2023 15:51	GJG
EPA 350.2	Ammonia as N	A	<6.71U	mg/kg dry	1	6.71	13.4	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.81H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	74.0V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-30RE1	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.0U	ug/kg dry	1	13.0	25.9	BGA3094	02/25/2023 06:07	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-30RE1	Date Collected:	01/18/2023 9:40
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.62B, U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Chrysene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.13V, J	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	6.45V	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Fluorene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Isophorone (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Naphthalene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.24U	ug/kg dry	1	3.24	6.49	BGA3094	02/25/2023 06:07	KRB
SW-8270	Pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.24	BGA3094	02/25/2023 06:07	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*68.5%*	*60-140*					*02/25/2023 06:07*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*76.3%*	*60-140*					*02/25/2023 06:07*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*77.8%*	*60-140*					*02/25/2023 06:07*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*70.9%*	*60-140*					*02/25/2023 06:07*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*80.7%*	*60-140*					*02/25/2023 06:07*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*69.9%*	*60-140*					*02/25/2023 06:07*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-31	Date Collected:	01/18/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/09/2023 03:00	KRB
SW-8270	Benzidine	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/09/2023 03:00	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*167%*	*S*	*60-140*					*02/09/2023 03:00*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*92.3%*		*60-140*					*02/09/2023 03:00*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*156%*	*S*	*60-140*					*02/09/2023 03:00*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*108%*		*60-140*					*02/09/2023 03:00*	
SW-8270	*Surrogate: Phenol-d5-surr*		*133%*		*60-140*					*02/09/2023 03:00*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*64.4%*		*60-140*					*02/09/2023 03:00*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	4,4'-DDE	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	4,4'-DDT	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Aldrin	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Chlordane (tech.)	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	delta-BHC	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Dieldrin	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endosulfan I	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endosulfan II	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endosulfan sulfate	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endrin	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endrin aldehyde	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Endrin ketone	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	gamma-Chlordane	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Heptachlor	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Heptachlor epoxide	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Methoxychlor	A	<0.412	U	ug/kg dry	10	0.412	1.37	BGA3044	02/02/2023 01:48	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.6	U	ug/kg dry	10	20.6	20.6	BGA3044	02/02/2023 01:48	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*57.8%*	*S*	*60-140*					*02/02/2023 01:48*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-5-3B-S (Continued)
Lab Sample ID: 23A1459-31
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 14:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*112%*		*60-140*					*02/02/2023 01:48*	
SW-8082	PCBs, Total	A	<1.37	C+, U	ug/kg dry	1	1.37	2.74	BGA3182	01/28/2023 20:21	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*265%*	*S*	*60-140*					*01/28/2023 20:21*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*59.2%*	*S*	*60-140*					*01/28/2023 20:21*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0277	U	mg/kg dry	1	0.0277	0.0554	BGA3226	01/30/2023 15:08	TBB
EPA 200.8	Arsenic	A	0.790		mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 15:08	TBB
EPA 200.8	Beryllium	A	0.0626		mg/kg dry	1	0.000554	0.0111	BGA3226	02/01/2023 10:25	TBB
EPA 200.8	Cadmium	A	0.0220	J	mg/kg dry	1	0.00277	0.0554	BGA3226	01/31/2023 10:41	TBB
EPA 200.8	Chromium	A	1.12		mg/kg dry	1	0.00830	0.166	BGA3226	01/31/2023 10:41	TBB
EPA 200.8	Copper	A	0.812	V	mg/kg dry	1	0.0111	0.0554	BGA3226	01/31/2023 10:41	TBB
Calc	Chromium (III)		0.612	J	mg/kg (dry wt) dry	1	0.143	5.17	[CALC]	02/01/2023 12:35	EM
SW-7196	Chromium (VI)	A	0.510	J	mg/kg dry	1	0.135	5.00	BGA3843	02/01/2023 12:35	EM
SW-7471B	Mercury	A	<0.00945	U	mg/kg dry	1	0.00945	0.0189	BGA3912	01/31/2023 15:27	NAZ
EPA 200.8	Lead	A	1.18		mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 15:08	TBB
EPA 200.8	Nickel	A	1.18		mg/kg dry	1	0.0554	0.0554	BGA3226	01/31/2023 16:04	TBB
EPA 200.8	Selenium	A	0.302		mg/kg dry	1	0.0554	0.111	BGA3226	01/31/2023 10:41	TBB
EPA 200.8	Silver	A	0.00697	J	mg/kg dry	1	0.00138	0.0277	BGA3226	01/30/2023 15:08	TBB
EPA 200.8	Thallium	A	0.0298		mg/kg dry	1	0.00138	0.0277	BGA3226	01/31/2023 10:41	TBB
EPA 200.8	Zinc	A	3.15		mg/kg dry	1	0.0554	0.111	BGA3226	01/30/2023 15:08	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0336	U	mg/kg dry	1	0.0336	0.0673	BGA3214	01/26/2023 15:52	GJG
EPA 350.2	Ammonia as N	A	9.91	J	mg/kg dry	1	6.81	13.6	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.92	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	72.9	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-31RE1	Date Collected:	01/18/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.1	U	ug/kg dry	1	13.1	26.2	BGA3094	02/25/2023 06:42	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.27	U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Acenaphthene (Rerun)	A	12.6		ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Acenaphthylene (Rerun)	A	4.35		ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Anthracene (Rerun)	A	23.1		ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	17.2		ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	2.94	J	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	3.46		ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	1.78	J	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.64	U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-31RE1	Date Collected:	01/18/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.36V, J	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Chrysene (Rerun)	A	7.95	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Diethyl phthalate (Rerun)	A	4.64V	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	7.08V	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Fluoranthene (Rerun)	A	3.80	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Fluorene (Rerun)	A	5.38	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	3.96	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Isophorone (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Naphthalene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.64U	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.27U	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	Phenanthrene (Rerun)	A	20.1	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	Phenol, Total (Rerun)	A	4.43J	ug/kg dry	1	3.27	6.54	BGA3094	02/25/2023 06:42	KRB
SW-8270	Pyrene (Rerun)	A	11.1	ug/kg dry	1	1.64	3.27	BGA3094	02/25/2023 06:42	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*154% S*	*60-140*					*02/25/2023 06:42*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*78.5%*	*60-140*					*02/25/2023 06:42*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*106%*	*60-140*					*02/25/2023 06:42*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*78.7%*	*60-140*					*02/25/2023 06:42*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*88.6%*	*60-140*					*02/25/2023 06:42*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*69.6%*	*60-140*					*02/25/2023 06:42*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-32	Date Collected:	01/19/2023 9:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/09/2023 03:35	KRB
SW-8270	Benzidine	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/09/2023 03:35	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*120%*	*60-140*					*02/09/2023 03:35*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*103%*	*60-140*					*02/09/2023 03:35*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*136%*	*60-140*					*02/09/2023 03:35*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*110%*	*60-140*					*02/09/2023 03:35*	
SW-8270	*Surrogate: Phenol-d5-surr*		*126%*	*60-140*					*02/09/2023 03:35*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*81.9%*	*60-140*					*02/09/2023 03:35*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	4,4'-DDE	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	4,4'-DDT	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Aldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Chlordane (tech.)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	delta-BHC	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Dieldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endosulfan I	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endosulfan II	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endosulfan sulfate	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endrin aldehyde	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Endrin ketone	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	gamma-Chlordane	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Heptachlor	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Heptachlor epoxide	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Methoxychlor	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 02:15	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.5U	ug/kg dry	10	20.5	20.5	BGA3044	02/02/2023 02:15	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*91.2%*	*60-140*					*02/02/2023 02:15*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-5-3C-S (Continued)
Lab Sample ID: 23A1459-32
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 9:20
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*109%*		*60-140*					*02/02/2023 02:15*	
SW-8082	PCBs, Total	A	<1.37	C+, U	ug/kg dry	1	1.37	2.73	BGA3182	01/28/2023 20:47	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*226%*	*S*	*60-140*					*01/28/2023 20:47*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*83.7%*		*60-140*					*01/28/2023 20:47*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0285	U	mg/kg dry	1	0.0285	0.0572	BGA3226	01/30/2023 15:10	TBB
EPA 200.8	Arsenic	A	0.744		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 15:10	TBB
EPA 200.8	Beryllium	A	0.0410		mg/kg dry	1	0.000572	0.0114	BGA3226	02/01/2023 10:27	TBB
EPA 200.8	Cadmium	A	0.0131	J	mg/kg dry	1	0.00285	0.0572	BGA3226	01/31/2023 10:43	TBB
EPA 200.8	Chromium	A	0.868		mg/kg dry	1	0.00856	0.171	BGA3226	01/31/2023 10:43	TBB
EPA 200.8	Copper	A	0.437	V	mg/kg dry	1	0.0114	0.0572	BGA3226	01/31/2023 10:43	TBB
Calc	Chromium (III)		0.868	J	mg/kg (dry wt) dry	1	0.141	5.17	[CALC]	02/01/2023 12:36	EM
SW-7196	Chromium (VI)	A	<0.133	U	mg/kg dry	1	0.133	5.00	BGA3843	02/01/2023 12:36	EM
SW-7471B	Mercury	A	<0.00913	U	mg/kg dry	1	0.00913	0.0183	BGA3912	01/31/2023 15:31	NAZ
EPA 200.8	Lead	A	0.866		mg/kg dry	1	0.00285	0.0285	BGA3226	01/30/2023 15:10	TBB
EPA 200.8	Nickel	A	0.768		mg/kg dry	1	0.0572	0.0572	BGA3226	01/31/2023 16:06	TBB
EPA 200.8	Selenium	A	0.286		mg/kg dry	1	0.0572	0.114	BGA3226	01/31/2023 10:43	TBB
EPA 200.8	Silver	A	0.00479	J	mg/kg dry	1	0.00143	0.0285	BGA3226	01/30/2023 15:10	TBB
EPA 200.8	Thallium	A	0.0241	J	mg/kg dry	1	0.00143	0.0285	BGA3226	01/31/2023 10:43	TBB
EPA 200.8	Zinc	A	2.68		mg/kg dry	1	0.0572	0.114	BGA3226	01/30/2023 15:10	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0341	U	mg/kg dry	1	0.0341	0.0683	BGA3214	01/26/2023 15:53	GJG
EPA 350.2	Ammonia as N	A	7.26	J	mg/kg dry	1	6.83	13.7	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.70	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	73.2	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-32RE1	Date Collected:	01/19/2023 9:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.5U	ug/kg dry	1	12.5	24.9	BGA3094	02/25/2023 07:17	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-5-3C-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-32RE1	Date Collected:	01/19/2023 9:20
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	1.60V, J	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Chrysene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Diethyl phthalate (Rerun)	A	1.80V, J	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	6.49V	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Fluorene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Isophorone (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Naphthalene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.23	BGA3094	02/25/2023 07:17	KRB
SW-8270	Pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3094	02/25/2023 07:17	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*91.4%*	*60-140*					*02/25/2023 07:17*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*73.5%*	*60-140*					*02/25/2023 07:17*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*81.1%*	*60-140*					*02/25/2023 07:17*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*69.0%*	*60-140*					*02/25/2023 07:17*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*72.4%*	*60-140*					*02/25/2023 07:17*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*73.2%*	*60-140*					*02/25/2023 07:17*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-34	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.54	U	ug/kg dry	1	1.54	3.08	BGA3094	02/09/2023 04:10	KRB
SW-8270	Benzidine	A	<1.54	U	ug/kg dry	1	1.54	3.08	BGA3094	02/09/2023 04:10	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*113%*		*60-140*					*02/09/2023 04:10*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*113%*		*60-140*					*02/09/2023 04:10*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*146%*	*S*	*60-140*					*02/09/2023 04:10*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*113%*		*60-140*					*02/09/2023 04:10*	
SW-8270	*Surrogate: Phenol-d5-surr*		*129%*		*60-140*					*02/09/2023 04:10*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.7%*		*60-140*					*02/09/2023 04:10*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	4,4'-DDE	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	4,4'-DDT	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Aldrin	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Chlordane (tech.)	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	delta-BHC	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Dieldrin	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endosulfan I	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endosulfan II	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endosulfan sulfate	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endrin	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endrin aldehyde	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Endrin ketone	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	gamma-Chlordane	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Heptachlor	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Heptachlor epoxide	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Methoxychlor	A	<0.396	U	ug/kg dry	10	0.396	1.32	BGA3044	02/02/2023 02:41	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.8	U	ug/kg dry	10	19.8	19.8	BGA3044	02/02/2023 02:41	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*106%*		*60-140*					*02/02/2023 02:41*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-3A-S (Continued)
Lab Sample ID: 23A1459-34
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 11:15
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*109%*		*60-140*					*02/02/2023 02:41*	
SW-8082	PCBs, Total	A	<1.32	C+, U	ug/kg dry	1	1.32	2.64	BGA3182	01/28/2023 21:14	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*221%*	*S*	*60-140*					*01/28/2023 21:14*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*97.1%*		*60-140*					*01/28/2023 21:14*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0273	U	mg/kg dry	1	0.0273	0.0548	BGA3226	01/30/2023 15:13	TBB
EPA 200.8	Arsenic	A	0.740		mg/kg dry	1	0.00273	0.0273	BGA3226	01/30/2023 15:13	TBB
EPA 200.8	Beryllium	A	0.0698		mg/kg dry	1	0.000548	0.0109	BGA3226	02/01/2023 10:30	TBB
EPA 200.8	Cadmium	A	0.0212	J	mg/kg dry	1	0.00273	0.0548	BGA3226	01/31/2023 10:53	TBB
EPA 200.8	Chromium	A	1.37		mg/kg dry	1	0.00820	0.164	BGA3226	01/31/2023 10:53	TBB
EPA 200.8	Copper	A	1.04	V	mg/kg dry	1	0.0109	0.0548	BGA3226	01/31/2023 10:53	TBB
Calc	Chromium (III)		1.04	J	mg/kg (dry wt) dry	1	0.138	5.16	[CALC]	02/01/2023 12:43	EM
SW-7196	Chromium (VI)	A	0.326	J	mg/kg dry	1	0.130	5.00	BGA3843	02/01/2023 12:43	EM
SW-7471B	Mercury	A	<0.00891	U	mg/kg dry	1	0.00891	0.0178	BGA3912	01/31/2023 15:34	NAZ
EPA 200.8	Lead	A	1.20		mg/kg dry	1	0.00273	0.0273	BGA3226	01/30/2023 15:13	TBB
EPA 200.8	Nickel	A	1.35		mg/kg dry	1	0.0548	0.0548	BGA3226	01/31/2023 16:16	TBB
EPA 200.8	Selenium	A	0.285		mg/kg dry	1	0.0548	0.109	BGA3226	02/01/2023 10:30	TBB
EPA 200.8	Silver	A	0.00459	J	mg/kg dry	1	0.00137	0.0273	BGA3226	01/30/2023 15:13	TBB
EPA 200.8	Thallium	A	0.0178	J	mg/kg dry	1	0.00137	0.0273	BGA3226	01/31/2023 10:53	TBB
EPA 200.8	Zinc	A	2.41		mg/kg dry	1	0.0548	0.109	BGA3226	01/30/2023 15:13	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0314	U	mg/kg dry	1	0.0314	0.0628	BGA3214	01/26/2023 15:55	GJG
EPA 350.2	Ammonia as N	A	6.99	J	mg/kg dry	1	6.57	13.1	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.48	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	75.8	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-34RE1	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.3U	ug/kg dry	1	12.3	24.7	BGA3094	02/25/2023 07:52	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Anthracene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-34RE1	Date Collected:	01/18/2023 11:15
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	1.66V, J	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Chrysene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.54B, U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.32V	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Fluorene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Isophorone (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Naphthalene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.08U	ug/kg dry	1	3.08	6.17	BGA3094	02/25/2023 07:52	KRB
SW-8270	Pyrene (Rerun)	A	<1.54U	ug/kg dry	1	1.54	3.08	BGA3094	02/25/2023 07:52	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*69.4%*	*60-140*					*02/25/2023 07:52*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*77.1%*	*60-140*					*02/25/2023 07:52*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*79.4%*	*60-140*					*02/25/2023 07:52*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*66.7%*	*60-140*					*02/25/2023 07:52*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*78.4%*	*60-140*					*02/25/2023 07:52*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*51.8% S*	*60-140*					*02/25/2023 07:52*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-3B-S
Lab Sample ID: 23A1459-35
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 15:45
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/09/2023 04:45	KRB
SW-8270	Benzidine	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/09/2023 04:45	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*95.5%*	*60-140*					*02/09/2023 04:45*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*98.7%*	*60-140*					*02/09/2023 04:45*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*134%*	*60-140*					*02/09/2023 04:45*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*95.8%*	*60-140*					*02/09/2023 04:45*	
SW-8270	*Surrogate: Phenol-d5-surr*		*113%*	*60-140*					*02/09/2023 04:45*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*62.6%*	*60-140*					*02/09/2023 04:45*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	4,4'-DDE	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	4,4'-DDT	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Aldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Chlordane (tech.)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	delta-BHC	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Dieldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endosulfan I	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endosulfan II	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endosulfan sulfate	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endrin aldehyde	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Endrin ketone	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	gamma-Chlordane	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Heptachlor	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Heptachlor epoxide	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Methoxychlor	A	<0.410U	ug/kg dry	10	0.410	1.37	BGA3044	02/02/2023 03:08	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.5U	ug/kg dry	10	20.5	20.5	BGA3044	02/02/2023 03:08	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*93.6%*	*60-140*					*02/02/2023 03:08*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-3B-S (Continued)
Lab Sample ID: 23A1459-35
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 15:45
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*112%*	*60-140*					*02/02/2023 03:08*	
SW-8082	PCBs, Total	A	<1.37C+, U	ug/kg dry	1	1.37	2.74	BGA3182	01/28/2023 21:41	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*203% S*	*60-140*					*01/28/2023 21:41*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*91.7%*	*60-140*					*01/28/2023 21:41*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0276U	mg/kg dry	1	0.0276	0.0553	BGA3226	01/30/2023 15:15	TBB
EPA 200.8	Arsenic	A	1.10	mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 15:15	TBB
EPA 200.8	Beryllium	A	0.127	mg/kg dry	1	0.000553	0.0110	BGA3226	02/01/2023 10:32	TBB
EPA 200.8	Cadmium	A	0.0900	mg/kg dry	1	0.00276	0.0553	BGA3226	01/31/2023 10:55	TBB
EPA 200.8	Chromium	A	2.18	mg/kg dry	1	0.00828	0.166	BGA3226	01/31/2023 10:55	TBB
EPA 200.8	Copper	A	2.56V	mg/kg dry	1	0.0110	0.0553	BGA3226	01/31/2023 10:55	TBB
Calc	Chromium (III)		0.948J	mg/kg (dry wt) dry	1	0.143	5.17	[CALC]	02/01/2023 12:32	EM
SW-7196	Chromium (VI)	A	1.23J	mg/kg dry	1	0.135	5.00	BGA3843	02/01/2023 12:32	EM
SW-7471B	Mercury	A	<0.00977U	mg/kg dry	1	0.00977	0.0195	BGA3912	01/31/2023 15:37	NAZ
EPA 200.8	Lead	A	2.94	mg/kg dry	1	0.00276	0.0276	BGA3226	01/30/2023 15:15	TBB
EPA 200.8	Nickel	A	2.24	mg/kg dry	1	0.0553	0.0553	BGA3226	01/31/2023 16:19	TBB
EPA 200.8	Selenium	A	0.422	mg/kg dry	1	0.0553	0.110	BGA3226	02/01/2023 10:32	TBB
EPA 200.8	Silver	A	0.0169J	mg/kg dry	1	0.00138	0.0276	BGA3226	01/30/2023 15:15	TBB
EPA 200.8	Thallium	A	0.0576	mg/kg dry	1	0.00138	0.0276	BGA3226	01/31/2023 10:55	TBB
EPA 200.8	Zinc	A	7.78	mg/kg dry	1	0.0553	0.110	BGA3226	01/30/2023 15:15	TBB
General Chemistry										
SW-9014	Total Cyanide	A	<0.0342U	mg/kg dry	1	0.0342	0.0684	BGA3214	01/26/2023 15:55	GJG
EPA 350.2	Ammonia as N	A	7.28J	mg/kg dry	1	6.84	13.7	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.47H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	73.1V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-35RE1	Date Collected:	01/18/2023 15:45
Sample Alias:		Collected by:	Gregg Pawlak

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.3U	ug/kg dry	1	13.3	26.5	BGA3094	02/25/2023 08:27	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Anthracene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3B-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-35RE1	Date Collected:	01/18/2023 15:45
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.66B, U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Chrysene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.66B, U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	5.64V	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Fluorene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Isophorone (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Naphthalene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.32U	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	Phenol, Total (Rerun)	A	3.61J	ug/kg dry	1	3.32	6.63	BGA3094	02/25/2023 08:27	KRB
SW-8270	Pyrene (Rerun)	A	<1.66U	ug/kg dry	1	1.66	3.32	BGA3094	02/25/2023 08:27	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*61.1%*	*60-140*					*02/25/2023 08:27*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*70.5%*	*60-140*					*02/25/2023 08:27*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*72.6%*	*60-140*					*02/25/2023 08:27*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*60.6%*	*60-140*					*02/25/2023 08:27*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*72.7%*	*60-140*					*02/25/2023 08:27*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*45.1% S*	*60-140*					*02/25/2023 08:27*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-36	Date Collected:	01/19/2023 11:10
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/09/2023 05:19	KRB
SW-8270	Benzidine	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/09/2023 05:19	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*108%*	*60-140*					*02/09/2023 05:19*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*107%*	*60-140*					*02/09/2023 05:19*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*133%*	*60-140*					*02/09/2023 05:19*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*115%*	*60-140*					*02/09/2023 05:19*	
SW-8270	*Surrogate: Phenol-d5-surr*		*119%*	*60-140*					*02/09/2023 05:19*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.7%*	*60-140*					*02/09/2023 05:19*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	4,4'-DDE	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	4,4'-DDT	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Aldrin	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Chlordane (tech.)	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	delta-BHC	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Dieldrin	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endosulfan I	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endosulfan II	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endosulfan sulfate	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endrin	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endrin aldehyde	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Endrin ketone	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	gamma-Chlordane	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Heptachlor	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Heptachlor epoxide	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Methoxychlor	A	<0.406U	ug/kg dry	10	0.406	1.35	BGA3044	02/02/2023 03:35	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.3U	ug/kg dry	10	20.3	20.3	BGA3044	02/02/2023 03:35	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*97.6%*	*60-140*					*02/02/2023 03:35*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-6-3C-S (Continued)
Lab Sample ID: 23A1459-36
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 11:10
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*		*60-140*					*02/02/2023 03:35*	
SW-8082	PCBs, Total	A	<1.35	C+, U	ug/kg dry	1	1.35	2.71	BGA3182	01/28/2023 22:08	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*215%*	*S*	*60-140*					*01/28/2023 22:08*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*109%*		*60-140*					*01/28/2023 22:08*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0274	U	mg/kg dry	1	0.0274	0.0550	BGA3226	01/30/2023 15:18	TBB
EPA 200.8	Arsenic	A	1.16		mg/kg dry	1	0.00274	0.0274	BGA3226	01/30/2023 15:18	TBB
EPA 200.8	Beryllium	A	0.121		mg/kg dry	1	0.000550	0.0110	BGA3226	02/01/2023 10:35	TBB
EPA 200.8	Cadmium	A	0.0227	J	mg/kg dry	1	0.00274	0.0550	BGA3226	01/31/2023 10:58	TBB
EPA 200.8	Chromium	A	2.79		mg/kg dry	1	0.00824	0.165	BGA3226	01/31/2023 10:58	TBB
EPA 200.8	Copper	A	1.60	V	mg/kg dry	1	0.0110	0.0550	BGA3226	01/31/2023 10:58	TBB
Calc	Chromium (III)		1.01	J	mg/kg (dry wt) dry	1	0.140	5.16	[CALC]	01/31/2023 17:17	EM
SW-7196	Chromium (VI)	A	1.78	J	mg/kg dry	1	0.132	5.00	BGA3845	01/31/2023 17:17	EM
SW-7471B	Mercury	A	<0.00932	U	mg/kg dry	1	0.00932	0.0186	BGA3912	01/31/2023 15:47	NAZ
EPA 200.8	Lead	A	2.15		mg/kg dry	1	0.00274	0.0274	BGA3226	01/30/2023 15:18	TBB
EPA 200.8	Nickel	A	1.81		mg/kg dry	1	0.0550	0.0550	BGA3226	01/31/2023 16:21	TBB
EPA 200.8	Selenium	A	0.466		mg/kg dry	1	0.0550	0.110	BGA3226	02/01/2023 10:35	TBB
EPA 200.8	Silver	A	0.00747	J	mg/kg dry	1	0.00137	0.0274	BGA3226	01/30/2023 15:18	TBB
EPA 200.8	Thallium	A	0.0302		mg/kg dry	1	0.00137	0.0274	BGA3226	01/31/2023 10:58	TBB
EPA 200.8	Zinc	A	5.56		mg/kg dry	1	0.0550	0.110	BGA3226	01/30/2023 15:18	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0322	U	mg/kg dry	1	0.0322	0.0645	BGA3582	01/27/2023 17:29	GJG
EPA 350.2	Ammonia as N	A	<6.76	U	mg/kg dry	1	6.76	13.5	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.58	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	73.8	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-36RE1	Date Collected:	01/19/2023 11:10
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.8U	ug/kg dry	1	12.8	25.6	BGA3094	02/25/2023 09:02	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.20U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Anthracene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.60U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-6-3C-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-36RE1	Date Collected:	01/19/2023 11:10
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.60	B, U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Chrysene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.60	B, U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.03	V, J	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Fluorene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Isophorone (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Naphthalene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.20	U	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	Phenol, Total (Rerun)	A	3.37	J	ug/kg dry	1	3.20	6.39	BGA3094	02/25/2023 09:02	KRB
SW-8270	Pyrene (Rerun)	A	<1.60	U	ug/kg dry	1	1.60	3.20	BGA3094	02/25/2023 09:02	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*71.0%*		*60-140*					*02/25/2023 09:02*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*72.4%*		*60-140*					*02/25/2023 09:02*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*75.8%*		*60-140*					*02/25/2023 09:02*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*67.3%*		*60-140*					*02/25/2023 09:02*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*76.1%*		*60-140*					*02/25/2023 09:02*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*50.9%*	*S*	*60-140*					*02/25/2023 09:02*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-38	Date Collected:	01/17/2023 14:12
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.59	U	ug/kg dry	1	1.59	3.18	BGA3094	02/09/2023 05:54	KRB
SW-8270	Benzidine	A	<1.59	U	ug/kg dry	1	1.59	3.18	BGA3094	02/09/2023 05:54	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*81.2%*		*60-140*					*02/09/2023 05:54*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*98.4%*		*60-140*					*02/09/2023 05:54*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*119%*		*60-140*					*02/09/2023 05:54*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*102%*		*60-140*					*02/09/2023 05:54*	
SW-8270	*Surrogate: Phenol-d5-surr*		*115%*		*60-140*					*02/09/2023 05:54*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*59.0%*	*S*	*60-140*					*02/09/2023 05:54*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	4,4'-DDE	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	4,4'-DDT	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Aldrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Chlordane (tech.)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	delta-BHC	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Dieldrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endosulfan I	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endosulfan II	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endosulfan sulfate	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endrin	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endrin aldehyde	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Endrin ketone	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	gamma-Chlordane	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Heptachlor	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Heptachlor epoxide	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Methoxychlor	A	<0.401	U	ug/kg dry	10	0.401	1.34	BGA3044	02/02/2023 04:01	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.0	U	ug/kg dry	10	20.0	20.0	BGA3044	02/02/2023 04:01	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*83.3%*		*60-140*					*02/02/2023 04:01*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4A-S (Continued)
Lab Sample ID: 23A1459-38
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 14:12
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*		*60-140*					*02/02/2023 04:01*	
SW-8082	PCBs, Total	A	<1.34	C+, U	ug/kg dry	1	1.34	2.67	BGA3182	01/28/2023 23:01	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*215%*	*S*	*60-140*					*01/28/2023 23:01*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*135%*		*60-140*					*01/28/2023 23:01*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0265	U	mg/kg dry	1	0.0265	0.0531	BGA3226	01/30/2023 15:20	TBB
EPA 200.8	Arsenic	A	2.53		mg/kg dry	1	0.00265	0.0265	BGA3226	01/30/2023 15:20	TBB
EPA 200.8	Beryllium	A	0.240		mg/kg dry	1	0.000531	0.0106	BGA3226	02/01/2023 10:37	TBB
EPA 200.8	Cadmium	A	0.0518	J	mg/kg dry	1	0.00265	0.0531	BGA3226	01/31/2023 11:00	TBB
EPA 200.8	Chromium	A	3.60		mg/kg dry	1	0.00796	0.159	BGA3226	01/31/2023 11:00	TBB
EPA 200.8	Copper	A	2.71	V	mg/kg dry	1	0.0106	0.0531	BGA3226	01/31/2023 11:00	TBB
Calc	Chromium (III)		2.19	J	mg/kg (dry wt) dry	1	0.140	5.16	[CALC]	01/31/2023 17:05	EM
SW-7196	Chromium (VI)	A	1.41	J	mg/kg dry	1	0.132	5.00	BGA3845	01/31/2023 17:05	EM
SW-7471B	Mercury	A	<0.00924	U	mg/kg dry	1	0.00924	0.0185	BGA3912	01/31/2023 15:51	NAZ
EPA 200.8	Lead	A	4.41		mg/kg dry	1	0.00265	0.0265	BGA3226	01/30/2023 15:20	TBB
EPA 200.8	Nickel	A	4.18		mg/kg dry	1	0.0531	0.0531	BGA3226	01/31/2023 16:23	TBB
EPA 200.8	Selenium	A	0.832		mg/kg dry	1	0.0531	0.106	BGA3226	02/01/2023 10:37	TBB
EPA 200.8	Silver	A	0.0163	J	mg/kg dry	1	0.00133	0.0265	BGA3226	01/30/2023 15:20	TBB
EPA 200.8	Thallium	A	0.0467		mg/kg dry	1	0.00133	0.0265	BGA3226	01/31/2023 11:00	TBB
EPA 200.8	Zinc	A	12.9		mg/kg dry	1	0.0531	0.106	BGA3226	01/30/2023 15:20	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0321	U	mg/kg dry	1	0.0321	0.0643	BGA3582	01/27/2023 17:30	GJG
EPA 350.2	Ammonia as N	A	124		mg/kg dry	1	6.66	13.3	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.47	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	74.8	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-38RE1	Date Collected:	01/17/2023 14:12
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.7U	ug/kg dry	1	12.7	25.5	BGA3094	02/25/2023 09:37	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Acenaphthene (Rerun)	A	21.3	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Acenaphthylene (Rerun)	A	3.66	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	12.8	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	7.37	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	8.96	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	3.22	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	4.27	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4A-S (Continued)
Lab Sample ID: 23A1459-38RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 14:12
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.59B, U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Chrysene (Rerun)	A	14.8	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.59B, U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.77V	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Fluorene (Rerun)	A	28.5	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	2.53J	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Isophorone (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Naphthalene (Rerun)	A	1.63J	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.59U	ug/kg dry	1	1.59	3.18	BGA3094	02/25/2023 09:37	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.18U	ug/kg dry	1	3.18	6.36	BGA3094	02/25/2023 09:37	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*58.7% S*	*60-140*					*02/25/2023 09:37*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*66.7%*	*60-140*					*02/25/2023 09:37*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*63.8%*	*60-140*					*02/25/2023 09:37*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*56.1% S*	*60-140*					*02/25/2023 09:37*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*71.0%*	*60-140*					*02/25/2023 09:37*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*39.9% S*	*60-140*					*02/25/2023 09:37*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-38RE2	Date Collected:	01/17/2023 14:12
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Anthracene (Rerun)	A	276		ug/kg dry	10	15.9	31.8	BGA3094	02/28/2023 10:51	KRB
SW-8270	Fluoranthene (Rerun)	A	78.9		ug/kg dry	3	4.77	9.55	BGA3094	02/27/2023 23:45	KRB
SW-8270	Phenanthrene (Rerun)	A	129		ug/kg dry	3	4.77	9.55	BGA3094	02/27/2023 23:45	KRB
SW-8270	Pyrene (Rerun)	A	59.1		ug/kg dry	3	4.77	9.55	BGA3094	02/27/2023 23:45	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*60.4%*		*60-140*					*02/27/2023 23:45*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*78.3%*		*60-140*					*02/27/2023 23:45*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*74.9%*		*60-140*					*02/27/2023 23:45*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*66.2%*		*60-140*					*02/27/2023 23:45*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*81.4%*		*60-140*					*02/27/2023 23:45*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*52.0%*	*S*	*60-140*					*02/27/2023 23:45*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-39	Date Collected:	01/18/2023 9:25
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<2.16	U	ug/kg dry	1	2.16	4.33	BGA3094	02/09/2023 06:29	KRB
SW-8270	Benzidine	A	<2.16	U	ug/kg dry	1	2.16	4.33	BGA3094	02/09/2023 06:29	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*73.7%*		*60-140*					*02/09/2023 06:29*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*96.5%*		*60-140*					*02/09/2023 06:29*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*102%*		*60-140*					*02/09/2023 06:29*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*91.7%*		*60-140*					*02/09/2023 06:29*	
SW-8270	*Surrogate: Phenol-d5-surr*		*110%*		*60-140*					*02/09/2023 06:29*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*55.8%*	*S*	*60-140*					*02/09/2023 06:29*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	4,4'-DDE	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	4,4'-DDT	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Aldrin	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Chlordane (tech.)	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	delta-BHC	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Dieldrin	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endosulfan I	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endosulfan II	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endosulfan sulfate	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endrin	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endrin aldehyde	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Endrin ketone	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	gamma-Chlordane	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Heptachlor	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Heptachlor epoxide	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Methoxychlor	A	<0.553	U	ug/kg dry	10	0.553	1.84	BGA3044	02/02/2023 04:28	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<27.7	U	ug/kg dry	10	27.7	27.7	BGA3044	02/02/2023 04:28	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*73.7%*		*60-140*					*02/02/2023 04:28*	

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Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-S (Continued)
Lab Sample ID: 23A1459-39
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 9:25
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*110%*		*60-140*					*02/02/2023 04:28*	
SW-8082	PCBs, Total	A	<1.84	C+, U	ug/kg dry	1	1.84	3.69	BGA3182	01/28/2023 23:28	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*222%*	*S*	*60-140*					*01/28/2023 23:28*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*118%*		*60-140*					*01/28/2023 23:28*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0375	U	mg/kg dry	1	0.0375	0.0752	BGA3226	01/30/2023 15:23	TBB
EPA 200.8	Arsenic	A	3.96		mg/kg dry	1	0.00375	0.0375	BGA3226	01/30/2023 15:23	TBB
EPA 200.8	Beryllium	A	0.521		mg/kg dry	1	0.000752	0.0150	BGA3226	02/01/2023 10:39	TBB
EPA 200.8	Cadmium	A	0.133		mg/kg dry	1	0.00375	0.0752	BGA3226	01/31/2023 11:02	TBB
EPA 200.8	Chromium	A	7.36		mg/kg dry	1	0.0113	0.225	BGA3226	01/31/2023 11:02	TBB
EPA 200.8	Copper	A	5.90	V	mg/kg dry	1	0.0150	0.0752	BGA3226	01/31/2023 11:02	TBB
Calc	Chromium (III)		6.55		mg/kg (dry wt) dry	1	0.194	5.23	[CALC]	01/31/2023 17:06	EM
SW-7196	Chromium (VI)	A	0.810	J	mg/kg dry	1	0.183	5.00	BGA3845	01/31/2023 17:06	EM
SW-7471B	Mercury	A	0.0296		mg/kg dry	1	0.0130	0.0259	BGA3912	01/31/2023 15:54	NAZ
EPA 200.8	Lead	A	9.37		mg/kg dry	5	0.0187	0.187	BGA3226	01/30/2023 15:25	TBB
EPA 200.8	Nickel	A	6.82		mg/kg dry	1	0.0752	0.0752	BGA3226	01/31/2023 16:26	TBB
EPA 200.8	Selenium	A	1.41		mg/kg dry	1	0.0752	0.150	BGA3226	02/01/2023 10:39	TBB
EPA 200.8	Silver	A	0.0394		mg/kg dry	1	0.00188	0.0375	BGA3226	01/30/2023 15:23	TBB
EPA 200.8	Thallium	A	0.0790		mg/kg dry	1	0.00188	0.0375	BGA3226	01/31/2023 11:02	TBB
EPA 200.8	Zinc	A	27.9		mg/kg dry	1	0.0752	0.150	BGA3226	01/30/2023 15:23	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0439	U	mg/kg dry	1	0.0439	0.0878	BGA3582	01/27/2023 17:31	GJG
EPA 350.2	Ammonia as N	A	261		mg/kg dry	1	9.17	18.3	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.43	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	54.2	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-S
Lab Sample ID: 23A1459-39RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 9:25
Collected by: Michael Madonna

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<17.3U	ug/kg dry	1	17.3	34.6	BGA3094	02/25/2023 10:12	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Acenaphthene (Rerun)	A	5.31	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Acenaphthylene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Anthracene (Rerun)	A	2.19J	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	2.17J	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	3.13J	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4B-S (Continued)
Lab Sample ID: 23A1459-39RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 9:25
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<2.16B, U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Chrysene (Rerun)	A	2.30J	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<2.16B, U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.12V, J	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Fluoranthene (Rerun)	A	10.3	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Fluorene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Hexachloroethane (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Isophorone (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Naphthalene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Nitrobenzene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<4.33U	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	Phenanthrene (Rerun)	A	<2.16U	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	Phenol, Total (Rerun)	A	4.77J	ug/kg dry	1	4.33	8.66	BGA3094	02/25/2023 10:12	KRB
SW-8270	Pyrene (Rerun)	A	9.39	ug/kg dry	1	2.16	4.33	BGA3094	02/25/2023 10:12	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*50.6% S*	*60-140*					*02/25/2023 10:12*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*66.3%*	*60-140*					*02/25/2023 10:12*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*59.5% S*	*60-140*					*02/25/2023 10:12*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*55.9% S*	*60-140*					*02/25/2023 10:12*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*69.3%*	*60-140*					*02/25/2023 10:12*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*42.0% S*	*60-140*					*02/25/2023 10:12*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-40	Date Collected:	01/16/2023 16:37
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.53	U	ug/kg dry	1	1.53	3.06	BGA3094	02/09/2023 07:03	KRB
SW-8270	Benzidine	A	<1.53	U	ug/kg dry	1	1.53	3.06	BGA3094	02/09/2023 07:03	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*86.5%*		*60-140*					*02/09/2023 07:03*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*124%*		*60-140*					*02/09/2023 07:03*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*140%*		*60-140*					*02/09/2023 07:03*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*131%*		*60-140*					*02/09/2023 07:03*	
SW-8270	*Surrogate: Phenol-d5-surr*		*132%*		*60-140*					*02/09/2023 07:03*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*43.0%*	*S*	*60-140*					*02/09/2023 07:03*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	4,4'-DDE	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	4,4'-DDT	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Aldrin	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Chlordane (tech.)	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	delta-BHC	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Dieldrin	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endosulfan I	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endosulfan II	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endosulfan sulfate	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endrin	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endrin aldehyde	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Endrin ketone	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	gamma-Chlordane	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Heptachlor	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Heptachlor epoxide	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Methoxychlor	A	<0.398	U	ug/kg dry	10	0.398	1.33	BGA3044	02/02/2023 04:54	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.9	U	ug/kg dry	10	19.9	19.9	BGA3044	02/02/2023 04:54	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*89.5%*		*60-140*					*02/02/2023 04:54*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4C-S (Continued)
Lab Sample ID: 23A1459-40
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*114%*	*60-140*					*02/02/2023 04:54*	
SW-8082	PCBs, Total	A	<1.33C+, U	ug/kg dry	1	1.33	2.66	BGA3182	01/28/2023 23:55	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*212% S*	*60-140*					*01/28/2023 23:55*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*106%*	*60-140*					*01/28/2023 23:55*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0277U	mg/kg dry	1	0.0277	0.0554	BGA3226	01/30/2023 15:35	TBB
EPA 200.8	Arsenic	A	2.13	mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 15:35	TBB
EPA 200.8	Beryllium	A	0.105	mg/kg dry	1	0.000554	0.0111	BGA3226	02/01/2023 10:42	TBB
EPA 200.8	Cadmium	A	0.00902J	mg/kg dry	1	0.00277	0.0554	BGA3226	01/31/2023 11:05	TBB
EPA 200.8	Chromium	A	1.29	mg/kg dry	1	0.00830	0.166	BGA3226	01/31/2023 11:05	TBB
EPA 200.8	Copper	A	1.11V	mg/kg dry	1	0.0111	0.0554	BGA3226	01/31/2023 11:05	TBB
Calc	Chromium (III)		1.08J	mg/kg (dry wt) dry	1	0.140	5.17	[CALC]	01/31/2023 17:07	EM
SW-7196	Chromium (VI)	A	0.209J	mg/kg dry	1	0.131	5.00	BGA3845	01/31/2023 17:07	EM
SW-7471B	Mercury	A	0.0158	mg/kg dry	1	0.00696	0.0139	BGA3912	01/31/2023 15:57	NAZ
EPA 200.8	Lead	A	1.42	mg/kg dry	1	0.00277	0.0277	BGA3226	01/30/2023 15:35	TBB
EPA 200.8	Nickel	A	1.26	mg/kg dry	1	0.0554	0.0554	BGA3226	01/31/2023 16:28	TBB
EPA 200.8	Selenium	A	0.303	mg/kg dry	1	0.0554	0.111	BGA3226	02/01/2023 10:42	TBB
EPA 200.8	Silver	A	0.00249J	mg/kg dry	1	0.00138	0.0277	BGA3226	01/30/2023 15:35	TBB
EPA 200.8	Thallium	A	0.0128J	mg/kg dry	1	0.00138	0.0277	BGA3226	01/31/2023 11:05	TBB
EPA 200.8	Zinc	A	3.27	mg/kg dry	1	0.0554	0.111	BGA3226	01/30/2023 15:35	TBB
General Chemistry										
SW-9014	Total Cyanide	A	<0.0319U	mg/kg dry	1	0.0319	0.0639	BGA3582	01/27/2023 17:32	GJG
EPA 350.2	Ammonia as N	A	14.1	mg/kg dry	1	6.61	13.2	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	7.88H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	75.3V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4C-S
Lab Sample ID: 23A1459-40RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.53C+, U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.2U	ug/kg dry	1	12.2	24.5	BGA3094	02/25/2023 11:22	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Anthracene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4C-S (Continued)
Lab Sample ID: 23A1459-40RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/16/2023 16:37
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.48V, J	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Chrysene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.53B, U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	6.86V	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Fluorene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Isophorone (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Naphthalene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.06U	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	Phenol, Total (Rerun)	A	4.72J	ug/kg dry	1	3.06	6.12	BGA3094	02/25/2023 11:22	KRB
SW-8270	Pyrene (Rerun)	A	<1.53U	ug/kg dry	1	1.53	3.06	BGA3094	02/25/2023 11:22	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*54.2% S*	*60-140*					*02/25/2023 11:22*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*80.2%*	*60-140*					*02/25/2023 11:22*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*76.2%*	*60-140*					*02/25/2023 11:22*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*75.2%*	*60-140*					*02/25/2023 11:22*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*87.2%*	*60-140*					*02/25/2023 11:22*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*30.6% S*	*60-140*					*02/25/2023 11:22*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-40RE2	Date Collected:	01/16/2023 16:37
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.53	U	ug/kg dry	1	1.53	3.06	BGA3094	02/27/2023 21:25	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*52.6%*	*S*	*60-140*					*02/27/2023 21:25*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*82.5%*		*60-140*					*02/27/2023 21:25*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*74.3%*		*60-140*					*02/27/2023 21:25*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*76.1%*		*60-140*					*02/27/2023 21:25*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*86.7%*		*60-140*					*02/27/2023 21:25*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*31.0%*	*S*	*60-140*					*02/27/2023 21:25*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4D-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-41	Date Collected:	01/17/2023 9:20
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/09/2023 07:38	KRB
SW-8270	Benzidine	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/09/2023 07:38	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*69.8%*	*60-140*					*02/09/2023 07:38*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*93.1%*	*60-140*					*02/09/2023 07:38*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*112%*	*60-140*					*02/09/2023 07:38*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*90.5%*	*60-140*					*02/09/2023 07:38*	
SW-8270	*Surrogate: Phenol-d5-surr*		*107%*	*60-140*					*02/09/2023 07:38*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.5%*	*60-140*					*02/09/2023 07:38*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	4,4'-DDE	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	4,4'-DDT	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Aldrin	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Chlordane (tech.)	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	delta-BHC	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Dieldrin	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endosulfan I	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endosulfan II	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endosulfan sulfate	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endrin	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endrin aldehyde	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Endrin ketone	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	gamma-Chlordane	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Heptachlor	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Heptachlor epoxide	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Methoxychlor	A	<0.350U	ug/kg dry	10	0.350	1.17	BGA3044	02/02/2023 05:21	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<17.5U	ug/kg dry	10	17.5	17.5	BGA3044	02/02/2023 05:21	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*94.1%*	*60-140*					*02/02/2023 05:21*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4D-S (Continued)
Lab Sample ID: 23A1459-41
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 9:20
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*109%*		*60-140*					*02/02/2023 05:21*	
SW-8082	PCBs, Total	A	<1.20	C+, U	ug/kg dry	1	1.20	2.40	BGA3182	01/29/2023 00:22	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*202%*	*S*	*60-140*					*01/29/2023 00:22*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*113%*		*60-140*					*01/29/2023 00:22*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0241	U	mg/kg dry	1	0.0241	0.0483	BGA3226	01/30/2023 15:38	TBB
EPA 200.8	Arsenic	A	0.657		mg/kg dry	1	0.00241	0.0241	BGA3226	01/30/2023 15:38	TBB
EPA 200.8	Beryllium	A	0.191		mg/kg dry	1	0.000483	0.00964	BGA3226	02/01/2023 10:52	TBB
EPA 200.8	Cadmium	A	0.0104	J	mg/kg dry	1	0.00241	0.0483	BGA3226	01/31/2023 11:07	TBB
EPA 200.8	Chromium	A	1.65		mg/kg dry	1	0.00724	0.145	BGA3226	01/31/2023 11:07	TBB
EPA 200.8	Copper	A	1.11	V	mg/kg dry	1	0.00964	0.0483	BGA3226	01/31/2023 11:07	TBB
Calc	Chromium (III)		1.42	J	mg/kg (dry wt) dry	1	0.124	5.14	[CALC]	01/31/2023 17:08	EM
SW-7196	Chromium (VI)	A	0.229	J	mg/kg dry	1	0.117	5.00	BGA3845	01/31/2023 17:08	EM
SW-7471B	Mercury	A	<0.00839	U	mg/kg dry	1	0.00839	0.0168	BGA3912	01/31/2023 16:01	NAZ
EPA 200.8	Lead	A	1.82		mg/kg dry	1	0.00241	0.0241	BGA3226	01/30/2023 15:38	TBB
EPA 200.8	Nickel	A	1.19		mg/kg dry	1	0.0483	0.0483	BGA3226	01/31/2023 16:31	TBB
EPA 200.8	Selenium	A	0.805		mg/kg dry	1	0.0483	0.0964	BGA3226	02/01/2023 10:52	TBB
EPA 200.8	Silver	A	0.00463	J	mg/kg dry	1	0.00121	0.0241	BGA3226	01/30/2023 15:38	TBB
EPA 200.8	Thallium	A	0.0277		mg/kg dry	1	0.00121	0.0241	BGA3226	01/31/2023 11:07	TBB
EPA 200.8	Zinc	A	4.27		mg/kg dry	1	0.0483	0.0964	BGA3226	01/30/2023 15:38	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0289	U	mg/kg dry	1	0.0289	0.0578	BGA3582	01/27/2023 17:32	GJG
EPA 350.2	Ammonia as N	A	50.3		mg/kg dry	1	5.98	12.0	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.54	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	83.2	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4D-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-41RE1	Date Collected:	01/17/2023 9:20
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.48C+, U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<11.8U	ug/kg dry	1	11.8	23.7	BGA3094	02/25/2023 11:57	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Acenaphthylene (Rerun)	A	1.86J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Anthracene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	2.23J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	2.85J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	3.44	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	2.97	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	1.60J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-7-4D-S (Continued)
Lab Sample ID: 23A1459-41RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/17/2023 9:20
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.48B, U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Chrysene (Rerun)	A	2.52J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.48B, U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	4.65V	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Fluoranthene (Rerun)	A	6.37	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Fluorene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	2.22J	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Isophorone (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Naphthalene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<2.96U	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.48U	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	Phenol, Total (Rerun)	A	3.39J	ug/kg dry	1	2.96	5.92	BGA3094	02/25/2023 11:57	KRB
SW-8270	Pyrene (Rerun)	A	5.39	ug/kg dry	1	1.48	2.96	BGA3094	02/25/2023 11:57	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*46.0% S*	*60-140*					*02/25/2023 11:57*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*63.2%*	*60-140*					*02/25/2023 11:57*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*59.5% S*	*60-140*					*02/25/2023 11:57*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*54.6% S*	*60-140*					*02/25/2023 11:57*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*66.9%*	*60-140*					*02/25/2023 11:57*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*51.3% S*	*60-140*					*02/25/2023 11:57*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-7-4D-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-41RE2	Date Collected:	01/17/2023 9:20
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.48	U	ug/kg dry	1	1.48	2.96	BGA3094	02/27/2023 22:00	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*40.2%*	*S*	*60-140*					*02/27/2023 22:00*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*62.1%*		*60-140*					*02/27/2023 22:00*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*58.7%*	*S*	*60-140*					*02/27/2023 22:00*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*54.5%*	*S*	*60-140*					*02/27/2023 22:00*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*68.6%*		*60-140*					*02/27/2023 22:00*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*52.2%*	*S*	*60-140*					*02/27/2023 22:00*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-43	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/09/2023 08:13	KRB
SW-8270	Benzidine	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/09/2023 08:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*85.4%*	*60-140*					*02/09/2023 08:13*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*106%*	*60-140*					*02/09/2023 08:13*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*133%*	*60-140*					*02/09/2023 08:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*108%*	*60-140*					*02/09/2023 08:13*	
SW-8270	*Surrogate: Phenol-d5-surr*		*117%*	*60-140*					*02/09/2023 08:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*77.1%*	*60-140*					*02/09/2023 08:13*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	4,4'-DDE	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	4,4'-DDT	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Aldrin	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Chlordane (tech.)	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	delta-BHC	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Dieldrin	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endosulfan I	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endosulfan II	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endosulfan sulfate	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endrin	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endrin aldehyde	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Endrin ketone	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	gamma-Chlordane	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Heptachlor	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Heptachlor epoxide	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Methoxychlor	A	<0.345U	ug/kg dry	10	0.345	1.15	BGA3044	02/02/2023 05:47	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<17.3U	ug/kg dry	10	17.3	17.3	BGA3044	02/02/2023 05:47	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*95.5%*	*60-140*					*02/02/2023 05:47*	

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Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5A-S (Continued)
Lab Sample ID: 23A1459-43
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/18/2023 14:10
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*112%*		*60-140*					*02/02/2023 05:47*	
SW-8082	PCBs, Total	A	<1.17	U	ug/kg dry	1	1.17	2.34	BGA3182	01/29/2023 00:49	CRO
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*219%*	*S*	*60-140*					*01/29/2023 00:49*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*107%*		*60-140*					*01/29/2023 00:49*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0242	U	mg/kg dry	1	0.0242	0.0485	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Arsenic	A	0.295		mg/kg dry	1	0.00242	0.0242	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Beryllium	A	0.217		mg/kg dry	1	0.000485	0.00967	BGA3233	02/01/2023 11:04	TBB
EPA 200.8	Cadmium	A	0.00315	J	mg/kg dry	1	0.00242	0.0485	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Chromium	A	2.32	V	mg/kg dry	1	0.00726	0.145	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Copper	A	0.962	V	mg/kg dry	1	0.00967	0.0485	BGA3233	02/01/2023 13:42	TBB
Calc	Chromium (III)		2.13	J	mg/kg (dry wt) dry	1	0.121	5.15	[CALC]	01/31/2023 17:08	EM
SW-7196	Chromium (VI)	A	0.187	J	mg/kg dry	1	0.114	5.00	BGA3845	01/31/2023 17:08	EM
SW-7471B	Mercury	A	0.0141	J	mg/kg dry	1	0.00994	0.0199	BGB0014	02/01/2023 15:40	AKR
EPA 200.8	Lead	A	2.27		mg/kg dry	1	0.00242	0.0242	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Nickel	A	1.64		mg/kg dry	1	0.0485	0.0485	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Selenium	A	0.377		mg/kg dry	1	0.0485	0.0967	BGA3233	02/01/2023 11:04	TBB
EPA 200.8	Silver	A	<0.00121	U	mg/kg dry	1	0.00121	0.0242	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Thallium	A	0.0223	J	mg/kg dry	1	0.00121	0.0242	BGA3233	01/31/2023 16:48	TBB
EPA 200.8	Zinc	A	3.41		mg/kg dry	1	0.0485	0.0967	BGA3233	02/01/2023 11:04	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0290	U	mg/kg dry	1	0.0290	0.0579	BGA3582	01/27/2023 17:33	GJG
EPA 350.2	Ammonia as N	A	6.53	J	mg/kg dry	1	5.83	11.7	BGB0685	02/07/2023 09:38	GIW
SW-9045C	pH	A	8.19	H	pH Units @ 25 °C	1		0.100	BGA2930	01/23/2023 14:09	AKA
SM 2540 G	% Solids	A	85.5	V	%	1	0.100	0.100	BGA2916	01/24/2023 10:55	JRU

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-43RE1	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.46C+, U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<11.7U	ug/kg dry	1	11.7	23.4	BGA3094	02/25/2023 12:32	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Anthracene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5A-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-43RE1	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.02V, J	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Chrysene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.46B, U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	2.18V, J	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Fluorene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Isophorone (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Naphthalene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<2.92U	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	Phenol, Total (Rerun)	A	3.84J	ug/kg dry	1	2.92	5.84	BGA3094	02/25/2023 12:32	KRB
SW-8270	Pyrene (Rerun)	A	<1.46U	ug/kg dry	1	1.46	2.92	BGA3094	02/25/2023 12:32	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*53.6% S*	*60-140*					*02/25/2023 12:32*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*72.2%*	*60-140*					*02/25/2023 12:32*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*73.7%*	*60-140*					*02/25/2023 12:32*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*64.6%*	*60-140*					*02/25/2023 12:32*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*76.5%*	*60-140*					*02/25/2023 12:32*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*53.8% S*	*60-140*					*02/25/2023 12:32*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5A-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-43RE2	Date Collected:	01/18/2023 14:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.46	U	ug/kg dry	1	1.46	2.92	BGA3094	02/27/2023 22:35	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*48.6%*	*S*	*60-140*					*02/27/2023 22:35*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*71.3%*		*60-140*					*02/27/2023 22:35*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*74.4%*		*60-140*					*02/27/2023 22:35*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*64.6%*		*60-140*					*02/27/2023 22:35*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*73.7%*		*60-140*					*02/27/2023 22:35*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*55.8%*	*S*	*60-140*					*02/27/2023 22:35*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-44	Date Collected:	01/19/2023 8:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/14/2023 01:31	KRB
SW-8270	Benzidine	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/14/2023 01:31	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*88.3%*	*60-140*					*02/14/2023 01:31*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*125%*	*60-140*					*02/14/2023 01:31*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*163% S*	*60-140*					*02/14/2023 01:31*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*133%*	*60-140*					*02/14/2023 01:31*	
SW-8270	*Surrogate: Phenol-d5-surr*		*162% S*	*60-140*					*02/14/2023 01:31*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*69.6%*	*60-140*					*02/14/2023 01:31*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	4,4'-DDE	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	4,4'-DDT	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Aldrin	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.348C+, U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Chlordane (tech.)	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	delta-BHC	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Dieldrin	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endosulfan I	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endosulfan II	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endosulfan sulfate	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endrin	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endrin aldehyde	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Endrin ketone	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	gamma-Chlordane	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Heptachlor	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Heptachlor epoxide	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Methoxychlor	A	<0.348U	ug/kg dry	10	0.348	1.16	BGA3603	02/04/2023 00:19	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<17.4C+, U	ug/kg dry	10	17.4	17.4	BGA3603	02/04/2023 00:19	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*102%*	*60-140*					*02/04/2023 00:19*	

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Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-S (Continued)
Lab Sample ID: 23A1459-44
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 8:15
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*		*60-140*					*02/04/2023 00:19*	
SW-8082	PCBs, Total	A	<1.15	U	ug/kg dry	1	1.15	2.30	BGA3651	02/11/2023 19:14	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*134%*		*60-140*					*02/11/2023 19:14*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*95.5%*		*60-140*					*02/11/2023 19:14*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0246	U	mg/kg dry	1	0.0246	0.0493	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Arsenic	A	1.23		mg/kg dry	1	0.00246	0.0246	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Beryllium	A	0.145		mg/kg dry	1	0.000493	0.00982	BGA3233	02/01/2023 11:11	TBB
EPA 200.8	Cadmium	A	0.0214	J	mg/kg dry	1	0.00246	0.0493	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Chromium	A	2.24	V	mg/kg dry	1	0.00738	0.148	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Copper	A	1.28	V	mg/kg dry	1	0.00982	0.0493	BGA3233	02/01/2023 13:50	TBB
Calc	Chromium (III)		1.86	J	mg/kg (dry wt) dry	1	0.122	5.15	[CALC]	01/31/2023 17:09	EM
SW-7196	Chromium (VI)	A	0.379	J	mg/kg dry	1	0.115	5.00	BGA3845	01/31/2023 17:09	EM
SW-7471B	Mercury	A	0.0139	J	mg/kg dry	1	0.0100	0.0200	BGB0014	02/01/2023 15:50	AKR
EPA 200.8	Lead	A	2.62		mg/kg dry	1	0.00246	0.0246	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Nickel	A	2.22		mg/kg dry	1	0.0493	0.0493	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Selenium	A	0.699		mg/kg dry	1	0.0493	0.0982	BGA3233	02/01/2023 11:11	TBB
EPA 200.8	Silver	A	0.00403	J	mg/kg dry	1	0.00123	0.0246	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Thallium	A	0.0212	J	mg/kg dry	1	0.00123	0.0246	BGA3233	01/31/2023 16:55	TBB
EPA 200.8	Zinc	A	4.49		mg/kg dry	1	0.0493	0.0982	BGA3233	02/01/2023 11:11	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0294	U	mg/kg dry	1	0.0294	0.0588	BGA3582	01/27/2023 17:34	GJG
EPA 350.2	Ammonia as N	A	6.65	J	mg/kg dry	1	5.93	11.9	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.05	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	84.2	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-44RE1	Date Collected:	01/19/2023 8:15
Sample Alias:		Collected by:	Michael Madonna

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<2.78C+, U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.39C+, U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<11.1U	ug/kg dry	1	11.1	22.3	BGA3368	02/28/2023 02:35	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Anthracene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5B-S (Continued)
Lab Sample ID: 23A1459-44RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 8:15
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.12V, J	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Chrysene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Diethyl phthalate (Rerun)	A	1.95V, J	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	11.0V	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Fluorene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Isophorone (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Naphthalene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<2.78U	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	Phenol, Total (Rerun)	A	3.68J	ug/kg dry	1	2.78	5.57	BGA3368	02/28/2023 02:35	KRB
SW-8270	Pyrene (Rerun)	A	<1.39U	ug/kg dry	1	1.39	2.78	BGA3368	02/28/2023 02:35	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*45.7% S*	*60-140*					*02/28/2023 02:35*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*71.0%*	*60-140*					*02/28/2023 02:35*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*74.4%*	*60-140*					*02/28/2023 02:35*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*80.7%*	*60-140*					*02/28/2023 02:35*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*61.3%*	*60-140*					*02/28/2023 02:35*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*44.1% S*	*60-140*					*02/28/2023 02:35*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5B-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-44RE2	Date Collected:	01/19/2023 8:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.39	U	ug/kg dry	1	1.39	2.78	BGA3368	03/07/2023 03:23	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*54.6%*	*S*	*60-140*					*03/07/2023 03:23*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*77.7%*		*60-140*					*03/07/2023 03:23*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*76.8%*		*60-140*					*03/07/2023 03:23*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*76.7%*		*60-140*					*03/07/2023 03:23*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*71.0%*		*60-140*					*03/07/2023 03:23*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*52.5%*	*S*	*60-140*					*03/07/2023 03:23*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5C-S
Lab Sample ID: 23A1459-45
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/20/2023 9:15
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/14/2023 02:06	KRB
SW-8270	Benzidine	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/14/2023 02:06	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*100%*	*60-140*					*02/14/2023 02:06*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*126%*	*60-140*					*02/14/2023 02:06*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*166% S*	*60-140*					*02/14/2023 02:06*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*140%*	*60-140*					*02/14/2023 02:06*	
SW-8270	*Surrogate: Phenol-d5-surr*		*149% S*	*60-140*					*02/14/2023 02:06*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.3%*	*60-140*					*02/14/2023 02:06*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	4,4'-DDE	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	4,4'-DDT	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Aldrin	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.377C+, U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Chlordane (tech.)	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	delta-BHC	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Dieldrin	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endosulfan I	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endosulfan II	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endosulfan sulfate	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endrin	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endrin aldehyde	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Endrin ketone	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	gamma-Chlordane	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Heptachlor	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Heptachlor epoxide	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Methoxychlor	A	<0.377U	ug/kg dry	10	0.377	1.26	BGA3603	02/04/2023 00:46	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<18.9C+, U	ug/kg dry	10	18.9	18.9	BGA3603	02/04/2023 00:46	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*117%*	*60-140*					*02/04/2023 00:46*	

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Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5C-S (Continued)
Lab Sample ID: 23A1459-45
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/20/2023 9:15
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*111%*		*60-140*					*02/04/2023 00:46*	
SW-8082	PCBs, Total	A	<1.26	U	ug/kg dry	1	1.26	2.52	BGA3651	02/11/2023 19:41	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*129%*		*60-140*					*02/11/2023 19:41*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*103%*		*60-140*					*02/11/2023 19:41*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0279	U	mg/kg dry	1	0.0279	0.0559	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Arsenic	A	6.20		mg/kg dry	5	0.0139	0.139	BGA3233	02/01/2023 11:23	TBB
EPA 200.8	Beryllium	A	0.130		mg/kg dry	1	0.000559	0.0111	BGA3233	02/01/2023 11:13	TBB
EPA 200.8	Cadmium	A	0.0353	J	mg/kg dry	1	0.00279	0.0559	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Chromium	A	1.52	V	mg/kg dry	1	0.00837	0.167	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Copper	A	1.45	V	mg/kg dry	1	0.0111	0.0559	BGA3233	02/01/2023 13:52	TBB
Calc	Chromium (III)		1.19	J	mg/kg (dry wt) dry	1	0.138	5.17	[CALC]	01/31/2023 17:11	EM
SW-7196	Chromium (VI)	A	0.326	J	mg/kg dry	1	0.130	5.00	BGA3845	01/31/2023 17:11	EM
SW-7471B	Mercury	A	<0.00995	U	mg/kg dry	1	0.00995	0.0199	BGB0014	02/01/2023 15:54	AKR
EPA 200.8	Lead	A	2.33		mg/kg dry	1	0.00279	0.0279	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Nickel	A	1.74		mg/kg dry	1	0.0559	0.0559	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Selenium	A	0.449		mg/kg dry	1	0.0559	0.111	BGA3233	02/01/2023 11:13	TBB
EPA 200.8	Silver	A	<0.00140	U	mg/kg dry	1	0.00140	0.0279	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Thallium	A	0.0240	J	mg/kg dry	1	0.00140	0.0279	BGA3233	01/31/2023 16:57	TBB
EPA 200.8	Zinc	A	4.83		mg/kg dry	1	0.0559	0.111	BGA3233	02/01/2023 11:13	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0331	U	mg/kg dry	1	0.0331	0.0661	BGA3582	01/27/2023 17:36	GJG
EPA 350.2	Ammonia as N	A	<6.71	U	mg/kg dry	1	6.71	13.4	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.91	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	74.1	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-45RE1	Date Collected:	01/20/2023 9:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.25C+, U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.62C+, U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	1.66J	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.0U	ug/kg dry	1	13.0	26.0	BGA3368	02/28/2023 03:10	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Acenaphthene (Rerun)	A	2.24J	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5C-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-45RE1	Date Collected:	01/20/2023 9:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	3.37V	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Chrysene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.43V, J	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	13.1V	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Fluorene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Isophorone (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Naphthalene (Rerun)	A	5.83	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	Phenanthrene (Rerun)	A	3.79	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.25U	ug/kg dry	1	3.25	6.49	BGA3368	02/28/2023 03:10	KRB
SW-8270	Pyrene (Rerun)	A	<1.62U	ug/kg dry	1	1.62	3.25	BGA3368	02/28/2023 03:10	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*55.6% S*	*60-140*					*02/28/2023 03:10*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*79.8%*	*60-140*					*02/28/2023 03:10*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*77.9%*	*60-140*					*02/28/2023 03:10*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*76.4%*	*60-140*					*02/28/2023 03:10*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*63.6%*	*60-140*					*02/28/2023 03:10*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*45.0% S*	*60-140*					*02/28/2023 03:10*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5C-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-45RE2	Date Collected:	01/20/2023 9:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.62	U	ug/kg dry	1	1.62	3.25	BGA3368	03/07/2023 03:58	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*65.9%*		*60-140*					*03/07/2023 03:58*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*86.4%*		*60-140*					*03/07/2023 03:58*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*87.2%*		*60-140*					*03/07/2023 03:58*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*84.1%*		*60-140*					*03/07/2023 03:58*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*89.6%*		*60-140*					*03/07/2023 03:58*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*51.8%*	*S*	*60-140*					*03/07/2023 03:58*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5D-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-46	Date Collected:	01/27/2023 14:05
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/09/2023 21:13	KRB
SW-8270	Benzidine	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/09/2023 21:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*46.4% S*	*60-140*					*02/09/2023 21:13*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*63.5%*	*60-140*					*02/09/2023 21:13*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*74.3%*	*60-140*					*02/09/2023 21:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*62.8%*	*60-140*					*02/09/2023 21:13*	
SW-8270	*Surrogate: Phenol-d5-surr*		*67.9%*	*60-140*					*02/09/2023 21:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*40.6% S*	*60-140*					*02/09/2023 21:13*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	4,4'-DDE	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	4,4'-DDT	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Aldrin	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Chlordane (tech.)	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	delta-BHC	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Dieldrin	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endosulfan I	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endosulfan II	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endosulfan sulfate	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endrin	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endrin aldehyde	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Endrin ketone	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	gamma-Chlordane	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Heptachlor	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Heptachlor epoxide	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Methoxychlor	A	<0.418U	ug/kg dry	10	0.418	1.39	BGB0044	02/08/2023 02:09	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.9C+, U	ug/kg dry	10	20.9	20.9	BGB0044	02/08/2023 02:09	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*85.1%*	*60-140*					*02/08/2023 02:09*	

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID: HI-DMMU-8-5D-S (Continued)
Lab Sample ID: 23A1459-46
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 14:05
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*104%*	*60-140*					*02/08/2023 02:09*	
SW-8082	PCBs, Total	A	<1.39C+, U	ug/kg dry	1	1.39	2.79	BGB1177	02/25/2023 03:29	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*114%*	*60-140*					*02/25/2023 03:29*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*143% S*	*60-140*					*02/25/2023 03:29*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0286U	mg/kg dry	1	0.0286	0.0572	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Arsenic	A	1.71	mg/kg dry	1	0.00286	0.0286	BGB0820	02/27/2023 10:23	TBB
EPA 200.8	Beryllium	A	0.224	mg/kg dry	5	0.00286	0.0571	BGB0820	02/27/2023 15:45	TBB
EPA 200.8	Cadmium	A	0.0336J	mg/kg dry	1	0.00286	0.0572	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Chromium	A	4.16	mg/kg dry	1	0.00857	0.171	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Copper	A	4.44V	mg/kg dry	1	0.0114	0.0572	BGB0820	02/08/2023 10:49	TBB
Calc	Chromium (III)		4.16J	mg/kg (dry wt) dry	1	0.147	5.17	[CALC]	02/24/2023 14:38	GJG
SW-7196	Chromium (VI)	A	<0.138U	mg/kg dry	1	0.138	5.00	BGB3245	02/24/2023 14:38	GJG
SW-7471B	Mercury	A	<0.00987U	mg/kg dry	1	0.00987	0.0197	BGB1025	02/08/2023 16:24	AKR
EPA 200.8	Lead	A	2.94	mg/kg dry	1	0.00286	0.0286	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Nickel	A	5.00	mg/kg dry	1	0.0572	0.0572	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Selenium	A	0.626	mg/kg dry	1	0.0572	0.114	BGB0820	02/08/2023 10:49	TBB
EPA 200.8	Silver	A	0.00800J	mg/kg dry	1	0.00143	0.0286	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Thallium	A	0.0397	mg/kg dry	1	0.00143	0.0286	BGB0820	02/07/2023 13:50	JLK
EPA 200.8	Zinc	A	10.2	mg/kg dry	1	0.0572	0.114	BGB0820	02/07/2023 13:50	JLK
General Chemistry										
SW-9014	Total Cyanide	A	<0.0349U	mg/kg dry	1	0.0349	0.0697	BGB0157	02/02/2023 17:53	GJG
EPA 350.2	Ammonia as N	A	15.9	mg/kg dry	1	6.93	13.9	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.75H	pH Units @ 25 °C	1		0.100	BGA3958	01/31/2023 12:52	AKA
SM 2540 G	% Solids	A	71.7H, V	%	1	0.100	0.100	BGA3978	02/01/2023 12:06	JRU

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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5D-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-46RE1	Date Collected:	01/27/2023 14:05
Sample Alias:		Collected by:	Michael Madonna

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.9U	ug/kg dry	1	13.9	27.9	BGB0288	02/27/2023 19:05	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB

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11555 Clay Road	Project Number:	**Reported:**
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Sample Results
(Continued)

Client Sample ID:	HI-DMMU-8-5D-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-46RE1	Date Collected:	01/27/2023 14:05
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Chrysene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	<1.74B, U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Fluorene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Isophorone (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Naphthalene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.74C+, U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.49U	ug/kg dry	1	3.49	6.97	BGB0288	02/27/2023 19:05	KRB
SW-8270	Pyrene (Rerun)	A	<1.74U	ug/kg dry	1	1.74	3.49	BGB0288	02/27/2023 19:05	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*30.0% S*	*60-140*					*02/27/2023 19:05*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*43.3% S*	*60-140*					*02/27/2023 19:05*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*36.5% S*	*60-140*					*02/27/2023 19:05*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*39.6% S*	*60-140*					*02/27/2023 19:05*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*46.0% S*	*60-140*					*02/27/2023 19:05*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*26.0% S*	*60-140*					*02/27/2023 19:05*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: REF-S
Lab Sample ID: 23A1459-47
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 9:20
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/09/2023 21:48	KRB
SW-8270	Benzidine	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/09/2023 21:48	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*74.4%*		*60-140*					*02/09/2023 21:48*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*79.5%*		*60-140*					*02/09/2023 21:48*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*110%*		*60-140*					*02/09/2023 21:48*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*85.4%*		*60-140*					*02/09/2023 21:48*	
SW-8270	*Surrogate: Phenol-d5-surr*		*92.2%*		*60-140*					*02/09/2023 21:48*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*51.2%*	*S*	*60-140*					*02/09/2023 21:48*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	4,4'-DDE	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	4,4'-DDT	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Aldrin	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Chlordane (tech.)	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	delta-BHC	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Dieldrin	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endosulfan I	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endosulfan II	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endosulfan sulfate	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endrin	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endrin aldehyde	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Endrin ketone	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	gamma-Chlordane	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Heptachlor	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Heptachlor epoxide	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Methoxychlor	A	<0.434	U	ug/kg dry	10	0.434	1.45	BGB0044	02/08/2023 01:42	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<21.7	C+, U	ug/kg dry	10	21.7	21.7	BGB0044	02/08/2023 01:42	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*78.5%*		*60-140*					*02/08/2023 01:42*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: REF-S (Continued)
Lab Sample ID: 23A1459-47
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 9:20
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*108%*	*60-140*					*02/08/2023 01:42*	
SW-8082	PCBs, Total	A	<1.45C+, U	ug/kg dry	1	1.45	2.90	BGB1177	02/25/2023 03:54	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*146% S*	*60-140*					*02/25/2023 03:54*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*130%*	*60-140*					*02/25/2023 03:54*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0297U	mg/kg dry	1	0.0297	0.0596	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Arsenic	A	1.71	mg/kg dry	1	0.00297	0.0297	BGB0820	02/27/2023 10:30	TBB
EPA 200.8	Beryllium	A	0.176	mg/kg dry	5	0.00298	0.0594	BGB0820	02/27/2023 15:52	TBB
EPA 200.8	Cadmium	A	0.0152J	mg/kg dry	1	0.00297	0.0596	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Chromium	A	2.91	mg/kg dry	1	0.00893	0.179	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Copper	A	1.68V	mg/kg dry	1	0.0119	0.0596	BGB0820	02/08/2023 11:03	TBB
Calc	Chromium (III)		2.32J	mg/kg (dry wt) dry	1	0.153	5.18	[CALC]	02/24/2023 14:39	GJG
SW-7196	Chromium (VI)	A	0.587J	mg/kg dry	1	0.144	5.00	BGB3245	02/24/2023 14:39	GJG
SW-7471B	Mercury	A	0.0121J	mg/kg dry	1	0.00991	0.0198	BGB1025	02/08/2023 16:28	AKR
EPA 200.8	Lead	A	2.73	mg/kg dry	1	0.00297	0.0297	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Nickel	A	3.03	mg/kg dry	1	0.0596	0.0596	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Selenium	A	0.458	mg/kg dry	1	0.0596	0.119	BGB0820	02/08/2023 11:03	TBB
EPA 200.8	Silver	A	0.00851J	mg/kg dry	1	0.00149	0.0297	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Thallium	A	0.0295J	mg/kg dry	1	0.00149	0.0297	BGB0820	02/07/2023 14:00	JLK
EPA 200.8	Zinc	A	11.3	mg/kg dry	1	0.0596	0.119	BGB0820	02/07/2023 14:00	JLK
General Chemistry										
SW-9014	Total Cyanide	A	<0.0362U	mg/kg dry	1	0.0362	0.0724	BGB0157	02/02/2023 17:57	GJG
EPA 350.2	Ammonia as N	A	13.4J	mg/kg dry	1	7.23	14.5	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.53H	pH Units @ 25 °C	1		0.100	BGA3958	01/31/2023 12:52	AKA
SM 2540 G	% Solids	A	69.0H, V	%	1	0.100	0.100	BGA3978	02/01/2023 12:06	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	REF-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-47RE1	Date Collected:	01/27/2023 9:20
Sample Alias:		Collected by:	Michael Madonna

Semivolatile Organic Compounds by GCMS

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.5	U	ug/kg dry	1	14.5	29.0	BGB0288	02/27/2023 19:40	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Anthracene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: REF-S (Continued)
Lab Sample ID: 23A1459-47RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 9:20
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Chrysene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.54	V, J	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Fluorene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Isophorone (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Naphthalene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.81	C+, U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	Phenol, Total (Rerun)	A	<3.62	U	ug/kg dry	1	3.62	7.24	BGB0288	02/27/2023 19:40	KRB
SW-8270	Pyrene (Rerun)	A	<1.81	U	ug/kg dry	1	1.81	3.62	BGB0288	02/27/2023 19:40	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*43.8%*	*S*	*60-140*					*02/27/2023 19:40*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*55.9%*	*S*	*60-140*					*02/27/2023 19:40*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*50.2%*	*S*	*60-140*					*02/27/2023 19:40*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*50.8%*	*S*	*60-140*					*02/27/2023 19:40*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*58.4%*	*S*	*60-140*					*02/27/2023 19:40*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*29.2%*	*S*	*60-140*					*02/27/2023 19:40*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-48	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	3,3'-Dichlorobenzidine	A	<1.56	CQ, U	ug/kg dry	1	1.56	3.12	BGA3368	02/14/2023 02:41	KRB
SW-8270	Benzidine	A	<1.56	CQ, U	ug/kg dry	1	1.56	3.12	BGA3368	02/14/2023 02:41	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*161%*	*CQ, S*	*60-140*					*02/14/2023 02:41*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*138%*	*CQ*	*60-140*					*02/14/2023 02:41*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*200%*	*CQ, S*	*60-140*					*02/14/2023 02:41*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*206%*	*CQ, S*	*60-140*					*02/14/2023 02:41*	
SW-8270	*Surrogate: Phenol-d5-surr*		*192%*	*CQ, S*	*60-140*					*02/14/2023 02:41*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*115%*	*CQ*	*60-140*					*02/14/2023 02:41*	
Organics by GC											
SW-8081	4,4'-DDD	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	4,4'-DDE	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	4,4'-DDT	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Aldrin	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.395	C+, U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Chlordane (tech.)	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	delta-BHC	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Dieldrin	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endosulfan I	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endosulfan II	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endosulfan sulfate	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endrin	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endrin aldehyde	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Endrin ketone	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	gamma-Chlordane	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Heptachlor	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Heptachlor epoxide	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Methoxychlor	A	<0.395	U	ug/kg dry	10	0.395	1.32	BGA3603	02/04/2023 01:13	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.8	C+, U	ug/kg dry	10	19.8	19.8	BGA3603	02/04/2023 01:13	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*80.7%*		*60-140*					*02/04/2023 01:13*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DUP-S (Continued)
Lab Sample ID: 23A1459-48
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/19/2023 14:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*101%*		*60-140*					*02/04/2023 01:13*	
SW-8082	PCBs, Total	A	<1.25	U	ug/kg dry	1	1.25	2.50	BGA3651	02/11/2023 20:07	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*121%*		*60-140*					*02/11/2023 20:07*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*97.3%*		*60-140*					*02/11/2023 20:07*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0279	U	mg/kg dry	1	0.0279	0.0560	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Arsenic	A	0.269		mg/kg dry	1	0.00279	0.0279	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Beryllium	A	0.0189		mg/kg dry	1	0.000560	0.0112	BGA3233	02/01/2023 11:26	TBB
EPA 200.8	Cadmium	A	0.0108	J	mg/kg dry	1	0.00279	0.0560	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Chromium	A	0.402	V	mg/kg dry	1	0.00838	0.168	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Copper	A	0.326	V	mg/kg dry	1	0.0112	0.0560	BGA3233	02/01/2023 13:54	TBB
Calc	Chromium (III)		0.402	J	mg/kg (dry wt) dry	1	0.140	5.17	[CALC]	01/31/2023 17:19	EM
SW-7196	Chromium (VI)	A	<0.132	U	mg/kg dry	1	0.132	5.00	BGA3845	01/31/2023 17:19	EM
SW-7471B	Mercury	A	<0.00994	U	mg/kg dry	1	0.00994	0.0199	BGB0014	02/01/2023 15:57	AKR
EPA 200.8	Lead	A	0.438		mg/kg dry	1	0.00279	0.0279	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Nickel	A	0.418		mg/kg dry	1	0.0560	0.0560	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Selenium	A	0.0829	J	mg/kg dry	1	0.0560	0.112	BGA3233	02/01/2023 11:26	TBB
EPA 200.8	Silver	A	0.00229	J	mg/kg dry	1	0.00140	0.0279	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Thallium	A	0.00916	J	mg/kg dry	1	0.00140	0.0279	BGA3233	01/31/2023 17:00	TBB
EPA 200.8	Zinc	A	0.955		mg/kg dry	1	0.0560	0.112	BGA3233	02/01/2023 11:26	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0330	U	mg/kg dry	1	0.0330	0.0660	BGA3582	01/27/2023 17:36	GJG
EPA 350.2	Ammonia as N	A	<6.71	U	mg/kg dry	1	6.71	13.4	BGB0953	02/08/2023 09:15	GIW
SW-9045C	pH	A	8.83	H	pH Units @ 25 °C	1		0.100	BGA3071	01/24/2023 13:11	AKA
SM 2540 G	% Solids	A	74.3	V	%	1	0.100	0.100	BGA3093	01/25/2023 11:53	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-48RE1	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	8.75	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.12C+, U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.56C+, U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	18.5	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.5U	ug/kg dry	1	12.5	25.0	BGA3368	02/28/2023 03:45	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.12U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Acenaphthene (Rerun)	A	3.71	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Acenaphthylene (Rerun)	A	5.87	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Anthracene (Rerun)	A	3.65	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.56U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-48RE1	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	2.15	V, J	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Chrysene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Diethyl phthalate (Rerun)	A	2.86	V, J	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	13.6	V	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Fluoranthene (Rerun)	A	2.52	J	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Fluorene (Rerun)	A	11.1		ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Isophorone (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Naphthalene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.12	U	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	Phenanthrene (Rerun)	A	4.39		ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	Phenol, Total (Rerun)	A	4.50	J	ug/kg dry	1	3.12	6.24	BGA3368	02/28/2023 03:45	KRB
SW-8270	Pyrene (Rerun)	A	3.22		ug/kg dry	1	1.56	3.12	BGA3368	02/28/2023 03:45	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*78.2%*		*60-140*					*02/28/2023 03:45*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*83.2%*		*60-140*					*02/28/2023 03:45*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*66.5%*		*60-140*					*02/28/2023 03:45*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*126%*		*60-140*					*02/28/2023 03:45*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*85.1%*		*60-140*					*02/28/2023 03:45*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*70.1%*		*60-140*					*02/28/2023 03:45*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-48RE2	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.56	U	ug/kg dry	1	1.56	3.12	BGA3368	03/07/2023 04:33	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*84.5%*		*60-140*					*03/07/2023 04:33*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*118%*		*60-140*					*03/07/2023 04:33*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*97.0%*		*60-140*					*03/07/2023 04:33*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*91.8%*		*60-140*					*03/07/2023 04:33*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*99.3%*		*60-140*					*03/07/2023 04:33*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*101%*		*60-140*					*03/07/2023 04:33*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-W
Lab Sample ID: 23A1459-62
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 13:10
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/08/2023 02:42	KRB
SW-8270	Benzidine	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/08/2023 02:42	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*99.1%*	*54.6-148*					*02/08/2023 02:42*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*117%*	*55-152*					*02/08/2023 02:42*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*151% S*	*52.4-136*					*02/08/2023 02:42*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*122%*	*52-162*					*02/08/2023 02:42*	
SW-8270	*Surrogate: Phenol-d5-surr*		*117%*	*58.7-152*					*02/08/2023 02:42*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*83.4%*	*51.9-147*					*02/08/2023 02:42*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BGA3839	02/07/2023 00:03	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGA3839	02/07/2023 00:03	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*113%*	*60-140*					*02/07/2023 00:03*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-W (Continued)
Lab Sample ID: 23A1459-62
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 13:10
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*75.9%*		*60-140*					*02/07/2023 00:03*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BGB0277	02/11/2023 09:57	cdg
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*102%*		*60-140*					*02/11/2023 09:57*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*56.4%*	*S*	*60-140*					*02/11/2023 09:57*	
Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BGA3813	01/30/2023 15:36	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 15:27	TBB
Metals, Dissolved											
EPA 200.8	Antimony	A	<1.00	U	ug/L	5	1.00	5.00	BGB0721	02/22/2023 11:46	TBB
EPA 200.8	Arsenic	A	1.56	J	ug/L	5	0.500	2.50	BGB0721	02/22/2023 11:46	TBB
EPA 200.8	Beryllium	A	<0.0500	U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 15:59	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BGB0721	02/22/2023 11:46	TBB
EPA 200.8	Chromium	A	<0.400	U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 17:31	TBB
EPA 200.8	Copper	A	<1.00	U	ug/L	5	1.00	5.00	BGB0721	02/14/2023 17:31	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 14:49	SAB
SM 3500-Cr B	Chromium (VI)	A	9.69		ug/L	1	1.50	3.00	BGB2104	02/15/2023 14:49	SAB
EPA 200.8	Lead	A	<0.500	U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:44	JLK
EPA 200.8	Nickel	A	<0.250	U	ug/L	5	0.250	5.00	BGB0721	02/14/2023 17:31	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	03/01/2023 10:08	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:44	JLK
EPA 200.8	Zinc	A	1.11	J	ug/L	5	1.00	10.0	BGB0721	02/14/2023 17:31	TBB
General Chemistry											
EPA 350.1	Ammonia as N	A	0.621		mg/L	1	0.0200	0.0500	BGB0480	02/03/2023 13:13	DLK
SM 2520 B	Salinity	N	30.4		Salinity units	1	1.00	1.00	BGB1516	02/10/2023 13:10	AKA
SM 2540 D	Residue-nonfilterable (TSS)	A	6.95		mg/L	1	1.00	1.00	BGA3833	01/31/2023 12:49	BP / JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-W
Lab Sample ID: 23A1459-62RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 13:10
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.10U	ug/L	1	1.10	2.22	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.552U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.552U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.44C+, U	ug/L	1	4.44	4.44	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.552U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.552C+, U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.552U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.552U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.44U	ug/L	1	4.44	4.44	BGA3953	02/13/2023 23:11	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Anthracene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.277U	ug/L	1	0.277	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.277U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-W (Continued)
Lab Sample ID: 23A1459-62RE1
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 01/27/2023 13:10
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Chrysene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.770	V	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.277	B, U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.12	V	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Fluorene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.277	C+, U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Isophorone (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Naphthalene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.277	U	ug/L	1	0.277	2.22	BGA3953	02/13/2023 23:11	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.552	U	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	Phenol, Total (Rerun)	A	0.872	J	ug/L	1	0.552	1.11	BGA3953	02/13/2023 23:11	KRB
SW-8270	Pyrene (Rerun)	A	<0.277	U	ug/L	1	0.277	0.554	BGA3953	02/13/2023 23:11	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*96.5%*		*54.6-148*					*02/13/2023 23:11*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*121%*		*55-152*					*02/13/2023 23:11*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*90.3%*		*52.4-136*					*02/13/2023 23:11*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*89.2%*		*52-162*					*02/13/2023 23:11*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*126%*		*58.7-152*					*02/13/2023 23:11*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	ODMDS-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	23A1459-62RE1	Date Collected:	01/27/2023 13:10
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*76.6%*		*51.9-147*					*02/13/2023 23:11*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DUP-E
Lab Sample ID: 23A1459-64
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/19/2023 14:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/11/2023 06:13	KRB
SW-8270	Benzidine	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/11/2023 06:13	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*89.4%*	*54.6-148*					*02/11/2023 06:13*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*80.1%*	*55-152*					*02/11/2023 06:13*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*110%*	*52.4-136*					*02/11/2023 06:13*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*98.9%*	*52-162*					*02/11/2023 06:13*	
SW-8270	*Surrogate: Phenol-d5-surr*		*89.6%*	*58.7-152*					*02/11/2023 06:13*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*86.9%*	*51.9-147*					*02/11/2023 06:13*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	4,4'-DDE	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	4,4'-DDT	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Aldrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00599C+, U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Chlordane (tech.)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	delta-BHC	A	<0.00599B2, U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Dieldrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endosulfan I	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endosulfan II	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endosulfan sulfate	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endrin	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endrin aldehyde	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Endrin ketone	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	gamma-Chlordane	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Heptachlor	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Heptachlor epoxide	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Methoxychlor	A	<0.00599U	ug/L	1	0.00599	0.00599	BGB0543	02/09/2023 04:33	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BGB0543	02/09/2023 04:33	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*114%*	*60-140*					*02/09/2023 04:33*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: HI-DUP-E (Continued)
Lab Sample ID: 23A1459-64
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 01/19/2023 14:00
Collected by: Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)										
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*79.0%*	*60-140*					*02/09/2023 04:33*	
SW-8082	PCBs, Total	A	<0.00599U	ug/L	1	0.00599	0.120	BGB1127	02/17/2023 11:26	cro
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*141% S*	*60-140*					*02/17/2023 11:26*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*72.9%*	*60-140*					*02/17/2023 11:26*	
Elutriate Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BGB0721	02/14/2023 17:34	TBB
EPA 200.8	Arsenic	A	5.18	ug/L	5	0.500	2.50	BGB0721	02/22/2023 11:49	TBB
EPA 200.8	Beryllium	A	<0.0500B2, U	ug/L	5	0.0500	1.00	BGB0721	02/28/2023 16:01	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BGB0721	02/14/2023 17:34	TBB
EPA 200.8	Chromium	A	<0.400B2, U	ug/L	5	0.400	15.0	BGB0721	02/14/2023 17:34	TBB
EPA 200.8	Copper	A	<1.00B, B2, U	ug/L	5	1.00	5.00	BGB0721	02/14/2023 17:34	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	02/15/2023 15:02	SAB
SM 3500-Cr B	Chromium (VI)	A	0.0126V2	mg/L	1	0.00150	0.00300	BGB2104	02/15/2023 15:02	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BGB0721	02/08/2023 16:46	JLK
EPA 200.8	Nickel	A	0.849V2, J	ug/L	5	0.250	5.00	BGB0721	02/14/2023 17:34	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/14/2023 17:34	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BGB0721	02/08/2023 16:46	JLK
EPA 200.8	Zinc	A	3.20V2, J	ug/L	5	1.00	10.0	BGB0721	02/14/2023 17:34	TBB
Elutriate Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BGB0678	02/06/2023 17:07	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	10.0	BGB1605	02/22/2023 15:29	TBB
Elutriate General Chemistry										
SM 2540 D	Residue-nonfilterable (TSS)	A	6.60V2	mg/L	1	1.00	1.00	BGB0805	02/07/2023 13:44	BP

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-E	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-64RE1	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,4,5 & 2,4,6 -Trichlorophenol (Rerun)	N	<1.11U	ug/L	1	1.11	2.24	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.557U	ug/L	1	0.557	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.557U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.47U	ug/L	1	4.47	4.47	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.557U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.557U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.557U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.557U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.47U	ug/L	1	4.47	4.47	BGB0925	02/15/2023 05:41	KRB
SW-8270	Acenaphthene (Rerun)	A	0.744	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	benzo(b&k)fluoranthene (Rerun)	A	<0.559U	ug/L	1	0.559	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-64RE1	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Chrysene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Diethyl phthalate (Rerun)	A	1.08V, V2	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.279B, B2, U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	1.68V, V2	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Fluorene (Rerun)	A	2.06	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.279C+, U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Isophorone (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Naphthalene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.279U	ug/L	1	0.279	2.24	BGB0925	02/15/2023 05:41	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.279C+, U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.557C+, U	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	Phenol, Total (Rerun)	A	1.01V2	ug/L	1	0.557	1.12	BGB0925	02/15/2023 05:41	KRB
SW-8270	Pyrene (Rerun)	A	<0.279U	ug/L	1	0.279	0.559	BGB0925	02/15/2023 05:41	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*93.2%*	*54.6-148*					*02/15/2023 05:41*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*108%*	*55-152*					*02/15/2023 05:41*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*93.1%*	*52.4-136*					*02/15/2023 05:41*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*77.5%*	*52-162*					*02/15/2023 05:41*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*126%*	*58.7-152*					*02/15/2023 05:41*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	HI-DUP-E (Continued)	Sample Matrix:	Elutriate
Lab Sample ID:	23A1459-64RE1	Date Collected:	01/19/2023 14:00
Sample Alias:		Collected by:	Gregg Pawlak

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*84.0%*		*51.9-147*					*02/15/2023 05:41*	
Elutriate General Chemistry											
EPA 350.1	Ammonia as N (Rerun)	A	0.586		mg/L	5	0.100	0.250	BGB0807	02/07/2023 10:13	DLK

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	ODMDS-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-66	Date Collected:	01/27/2023 12:30
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	3,3'-Dichlorobenzidine	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/08/2023 07:19	KRB
SW-8270	Benzidine	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/08/2023 07:19	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*78.2%*	*60-140*					*02/08/2023 07:19*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*90.1%*	*60-140*					*02/08/2023 07:19*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*136%*	*60-140*					*02/08/2023 07:19*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*98.5%*	*60-140*					*02/08/2023 07:19*	
SW-8270	*Surrogate: Phenol-d5-surr*		*97.1%*	*60-140*					*02/08/2023 07:19*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*80.0%*	*60-140*					*02/08/2023 07:19*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	4,4'-DDE	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	4,4'-DDT	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Aldrin	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.395C+, U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Chlordane (tech.)	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	delta-BHC	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Dieldrin	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endosulfan I	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endosulfan II	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endosulfan sulfate	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endrin	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endrin aldehyde	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Endrin ketone	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	gamma-Chlordane	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Heptachlor	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Heptachlor epoxide	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Methoxychlor	A	<0.395U	ug/kg dry	10	0.395	1.32	BGB0477	02/10/2023 10:45	ALA
SW-8081	Toxaphene (Chlorinated Camphene)	A	<19.7U	ug/kg dry	10	19.7	19.7	BGB0477	02/10/2023 10:45	ALA
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*81.0%*	*60-140*					*02/10/2023 10:45*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-S (Continued)
Lab Sample ID: 23A1459-66
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 12:30
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*97.2%*		*60-140*					*02/10/2023 10:45*	
SW-8082	PCBs, Total	A	<1.31	C+, U	ug/kg dry	1	1.31	2.62	BGB1177	02/25/2023 05:32	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*126%*		*60-140*					*02/25/2023 05:32*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*128%*		*60-140*					*02/25/2023 05:32*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0270	U	mg/kg dry	1	0.0270	0.0542	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Arsenic	A	1.39		mg/kg dry	5	0.0135	0.135	BGB0820	02/27/2023 10:48	TBB
EPA 200.8	Beryllium	A	0.0655		mg/kg dry	5	0.00271	0.0541	BGB0820	02/27/2023 16:07	TBB
EPA 200.8	Cadmium	A	0.00909	J	mg/kg dry	1	0.00270	0.0542	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Chromium	A	1.27		mg/kg dry	1	0.00812	0.162	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Copper	A	0.435	V	mg/kg dry	1	0.0108	0.0542	BGB0820	02/08/2023 11:31	TBB
Calc	Chromium (III)		1.13	J	mg/kg (dry wt) dry	1	0.137	5.16	[CALC]	02/24/2023 14:20	GJG
SW-7196	Chromium (VI)	A	0.144	J	mg/kg dry	1	0.129	5.00	BGB3245	02/24/2023 14:20	GJG
SW-7471B	Mercury	A	<0.00999	U	mg/kg dry	1	0.00999	0.0200	BGB1025	02/08/2023 16:21	AKR
EPA 200.8	Lead	A	1.70		mg/kg dry	1	0.00270	0.0270	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Nickel	A	1.17		mg/kg dry	1	0.0542	0.0542	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Selenium	A	0.363		mg/kg dry	1	0.0542	0.108	BGB0820	02/08/2023 11:31	TBB
EPA 200.8	Silver	A	0.00411	J	mg/kg dry	1	0.00135	0.0270	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Thallium	A	0.0218	J	mg/kg dry	1	0.00135	0.0270	BGB0820	02/07/2023 14:28	JLK
EPA 200.8	Zinc	A	5.47		mg/kg dry	1	0.0542	0.108	BGB0820	02/07/2023 14:28	JLK
General Chemistry											
SW-9014	Total Cyanide	A	<0.0331	U	mg/kg dry	1	0.0331	0.0662	BGB0157	02/02/2023 18:01	GJG
EPA 350.2	Ammonia as N	A	<6.60	U	mg/kg dry	1	6.60	13.2	BGB1156	02/09/2023 09:45	GIW
SW-9045C	pH	A	8.41	H	pH Units @ 25 °C	1		0.100	BGB0847	02/07/2023 10:02	AKA
SM 2540 G	% Solids	A	75.6	H, V	%	1	0.100	0.100	BGB0296	02/03/2023 12:46	JRU

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-S
Lab Sample ID: 23A1459-66RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 12:30
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	2-Chlorophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<12.4U	ug/kg dry	1	12.4	24.9	BGB0424	02/17/2023 19:59	krb
SW-8270	2-Nitrophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	4-Nitrophenol (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Acenaphthene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Acenaphthylene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Anthracene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID: ODMDS-S (Continued)
Lab Sample ID: 23A1459-66RE1
Sample Alias:

Sample Matrix: Sediment
Date Collected: 01/27/2023 12:30
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<1.55B, U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Chrysene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Diethyl phthalate (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Dimethyl phthalate (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Di-n-butyl phthalate (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Fluoranthene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Fluorene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Hexachlorobenzene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Hexachloroethane (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Isophorone (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Naphthalene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Nitrobenzene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.55C+, U	ug/kg dry	1	1.55	31.1	BGB0424	02/17/2023 19:59	krb
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Pentachlorophenol (Rerun)	A	<3.11U	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	Phenanthrene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	Phenol, Total (Rerun)	A	11.3V	ug/kg dry	1	3.11	6.22	BGB0424	02/17/2023 19:59	krb
SW-8270	Pyrene (Rerun)	A	<1.55U	ug/kg dry	1	1.55	3.11	BGB0424	02/17/2023 19:59	krb
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*62.1%*	*60-140*					*02/17/2023 19:59*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*68.9%*	*60-140*					*02/17/2023 19:59*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*60.0%*	*60-140*					*02/17/2023 19:59*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*78.6%*	*60-140*					*02/17/2023 19:59*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*71.2%*	*60-140*					*02/17/2023 19:59*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*50.1% S*	*60-140*					*02/17/2023 19:59*	

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Sample Results
(Continued)

Client Sample ID:	ODMDS-S	Sample Matrix:	Sediment
Lab Sample ID:	23A1459-66RE2	Date Collected:	01/27/2023 12:30
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.55	U	ug/kg dry	1	1.55	3.11	BGB0424	02/27/2023 17:51	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*58.9%*	*S*	*60-140*					*02/27/2023 17:51*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*71.3%*		*60-140*					*02/27/2023 17:51*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerun*		*72.6%*		*60-140*					*02/27/2023 17:51*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*75.6%*		*60-140*					*02/27/2023 17:51*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*62.8%*		*60-140*					*02/27/2023 17:51*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.8%*		*60-140*					*02/27/2023 17:51*	

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Quality Control

Semivolatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570										
Blank (BGA3094-BLK1)				Prepared: 1/24/2023 Analyzed: 2/8/2023						
3,3'-Dichlorobenzidine	<2.45	U	2.45	ug/kg wet						
Benzidine	<2.45	U	2.45	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*14.0*	*ug/kg wet*	*19.6*		*71.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*39.0*	*ug/kg wet*	*39.2*		*99.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*43.8*	*ug/kg wet*	*39.2*		*112*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.5*	*ug/kg wet*	*19.6*		*99.5*	*60-140*		
Surrogate: Phenol-d5-surr			*40.9*	*ug/kg wet*	*39.2*		*105*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.9*	*ug/kg wet*	*19.6*		*86.1*	*60-140*		
Blank (BGA3094-BLK2)				Prepared: 1/24/2023 Analyzed: 2/24/2023						
1,2,4-Trichlorobenzene	<2.45	U	2.45	ug/kg wet						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.45	U	2.45	ug/kg wet						
1,2-Diphenylhydrazine	<2.45	U	2.45	ug/kg wet						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.45	U	2.45	ug/kg wet						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.45	U	2.45	ug/kg wet						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<2.45	U	2.45	ug/kg wet						
2,4,6-Trichlorophenol	<4.90	U	4.90	ug/kg wet						
2,4-Dichlorophenol	<4.90	U	4.90	ug/kg wet						
2,4-Dimethylphenol	<4.90	U	4.90	ug/kg wet						
2,4-Dinitrophenol	<4.90	U	4.90	ug/kg wet						
2,4-Dinitrotoluene (2,4-DNT)	<2.45	U	2.45	ug/kg wet						
2,6-Dinitrotoluene (2,6-DNT)	<2.45	U	2.45	ug/kg wet						
2-Chloronaphthalene	<2.45	U	2.45	ug/kg wet						
2-Chlorophenol	<4.90	U	4.90	ug/kg wet						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<19.6	U	19.6	ug/kg wet						
2-Nitrophenol	<4.90	U	4.90	ug/kg wet						
4-Bromophenyl phenyl ether (BDE-3)	<2.45	U	2.45	ug/kg wet						
4-Chloro-3-methylphenol	<4.90	U	4.90	ug/kg wet						
4-Chlorophenyl phenylether	<2.45	U	2.45	ug/kg wet						
4-Nitrophenol	<2.45	U	2.45	ug/kg wet						
Acenaphthene	<2.45	U	2.45	ug/kg wet						
Acenaphthylene	<2.45	U	2.45	ug/kg wet						
Anthracene	<2.45	U	2.45	ug/kg wet						
Benzo(a)anthracene	<2.45	U	2.45	ug/kg wet						
Benzo(a)pyrene	<2.45	U	2.45	ug/kg wet						
Benzo(b)fluoranthene	<2.45	U	2.45	ug/kg wet						
Benzo(g,h,i)perylene	<2.45	U	2.45	ug/kg wet						
Benzo(k)fluoranthene	<2.45	U	2.45	ug/kg wet						
bis(2-Chloroethoxy)methane	<2.45	U	2.45	ug/kg wet						
bis(2-Chloroethyl) ether	<2.45	U	2.45	ug/kg wet						
Bis(2-ethylhexyl)phthalate	1.33	J	2.45	ug/kg wet						

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
Blank (BGA3094-BLK2)				Prepared: 1/24/2023 Analyzed: 2/24/2023						
Butyl benzyl phthalate	<2.45	U	2.45	ug/kg wet						
Chrysene	<2.45	U	2.45	ug/kg wet						
Dibenzo(a,h)anthracene	<2.45	U	2.45	ug/kg wet						
Diethyl phthalate	1.52	J	2.45	ug/kg wet						
Dimethyl phthalate	<2.45	U	2.45	ug/kg wet						
Di-n-butyl phthalate	2.03	J	2.45	ug/kg wet						
Di-n-octyl phthalate	<2.45	U	2.45	ug/kg wet						
Fluoranthene	<2.45	U	2.45	ug/kg wet						
Fluorene	<2.45	U	2.45	ug/kg wet						
Hexachlorobenzene	<2.45	U	2.45	ug/kg wet						
Hexachlorobutadiene	<2.45	U	2.45	ug/kg wet						
Hexachlorocyclopentadiene	<2.45	U	2.45	ug/kg wet						
Hexachloroethane	<2.45	U	2.45	ug/kg wet						
Indeno(1,2,3-cd) pyrene	<2.45	U	2.45	ug/kg wet						
Isophorone	<2.45	U	2.45	ug/kg wet						
Naphthalene	<2.45	U	2.45	ug/kg wet						
Nitrobenzene	<2.45	U	2.45	ug/kg wet						
n-Nitrosodimethylamine	<2.45	U	2.45	ug/kg wet						
n-Nitrosodi-n-propylamine	<2.45	U	2.45	ug/kg wet						
n-Nitrosodiphenylamine	<2.45	U	2.45	ug/kg wet						
Pentachlorophenol	<4.90	U	4.90	ug/kg wet						
Phenanthrene	<2.45	U	2.45	ug/kg wet						
Phenol, Total	<4.90	U	4.90	ug/kg wet						
Pyrene	<2.45	U	2.45	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*13.2*	*ug/kg wet*	*19.6*		*67.5*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*30.4*	*ug/kg wet*	*39.2*		*77.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*30.8*	*ug/kg wet*	*39.2*		*78.7*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*14.4*	*ug/kg wet*	*19.6*		*73.4*	*60-140*		
Surrogate: Phenol-d5-surr			*30.0*	*ug/kg wet*	*39.2*		*76.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.4*	*ug/kg wet*	*19.6*		*78.4*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
BS BENZ (BGA3094-BS1)					Prepared: 1/24/2023 Analyzed: 2/8/2023					
3,3'-Dichlorobenzidine	11.1	J1	2.37	ug/kg wet	19.0		58.4	60-140		
Benzidine	3.80	J1	2.37	ug/kg wet	19.0		20.0	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*16.3*	*ug/kg wet*	*19.0*		*85.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*40.6*	*ug/kg wet*	*38.0*		*107*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*39.4*	*ug/kg wet*	*38.0*		*104*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.6*	*ug/kg wet*	*19.0*		*103*	*60-140*		
Surrogate: Phenol-d5-surr			*35.9*	*ug/kg wet*	*38.0*		*94.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.3*	*ug/kg wet*	*19.0*		*102*	*60-140*		
BS SV (BGA3094-BS2)					Prepared: 1/24/2023 Analyzed: 2/25/2023					
1,2,4-Trichlorobenzene	13.0		2.33	ug/kg wet	18.6		70.0	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.2		2.33	ug/kg wet	18.6		65.7	60-140		
1,2-Diphenylhydrazine	16.5		2.33	ug/kg wet	18.6		88.4	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.6		2.33	ug/kg wet	18.6		62.2	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.0		2.33	ug/kg wet	18.6		64.4	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	14.9		2.33	ug/kg wet	18.6		79.9	60-140		
2,4,6-Trichlorophenol	33.1		4.66	ug/kg wet	37.3		88.7	60-140		
2,4-Dichlorophenol	34.2		4.66	ug/kg wet	37.3		91.7	60-140		
2,4-Dimethylphenol	33.7		4.66	ug/kg wet	37.3		90.5	60-140		
2,4-Dinitrophenol	16.8		4.66	ug/kg wet	93.2		18.1	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	16.0		2.33	ug/kg wet	18.6		85.9	60-140		
2,6-Dinitrotoluene (2,6-DNT)	17.0		2.33	ug/kg wet	18.6		91.0	60-140		
2-Chloronaphthalene	15.9		2.33	ug/kg wet	18.6		85.4	60-140		
2-Chlorophenol	31.7		4.66	ug/kg wet	37.3		85.0	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	21.8	J1	18.6	ug/kg wet	37.3		58.5	60-140		
2-Nitrophenol	33.4		4.66	ug/kg wet	37.3		89.5	60-140		
4-Bromophenyl phenyl ether (BDE-3)	16.6		2.33	ug/kg wet	18.6		89.2	60-140		
4-Chloro-3-methylphenol	33.5		4.66	ug/kg wet	37.3		89.9	60-140		
4-Chlorophenyl phenylether	16.6		2.33	ug/kg wet	18.6		88.9	60-140		
4-Nitrophenol	83.5		2.33	ug/kg wet	93.2		89.6	60-140		
Acenaphthene	16.0		2.33	ug/kg wet	18.6		85.6	60-140		
Acenaphthylene	19.4		2.33	ug/kg wet	18.6		104	60-140		
Anthracene	17.4		2.33	ug/kg wet	18.6		93.2	60-140		
Benzo(a)anthracene	16.0		2.33	ug/kg wet	18.6		85.9	60-140		
Benzo(a)pyrene	16.3		2.33	ug/kg wet	18.6		87.5	60-140		
Benzo(b)fluoranthene	15.2		2.33	ug/kg wet	18.6		81.8	60-140		
Benzo(g,h,i)perylene	16.0		2.33	ug/kg wet	18.6		85.7	60-140		
Benzo(k)fluoranthene	16.1		2.33	ug/kg wet	18.6		86.3	60-140		
bis(2-Chloroethoxy)methane	16.5		2.33	ug/kg wet	18.6		88.3	60-140		
bis(2-Chloroethyl) ether	16.5		2.33	ug/kg wet	18.6		88.7	60-140		
Bis(2-ethylhexyl)phthalate	17.0		2.33	ug/kg wet	18.6		91.2	60-140		
Butyl benzyl phthalate	16.3		2.33	ug/kg wet	18.6		87.4	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
BS SV (BGA3094-BS2)				Prepared: 1/24/2023 Analyzed: 2/25/2023						
Chrysene	15.7		2.33	ug/kg wet	18.6		84.2	60-140		
Dibenzo(a,h)anthracene	15.5		2.33	ug/kg wet	18.6		83.1	60-140		
Diethyl phthalate	18.3		2.33	ug/kg wet	18.6		98.4	60-140		
Dimethyl phthalate	17.5		2.33	ug/kg wet	18.6		93.7	60-140		
Di-n-butyl phthalate	18.9		2.33	ug/kg wet	18.6		101	60-140		
Di-n-octyl phthalate	17.0		2.33	ug/kg wet	18.6		91.2	60-140		
Fluoranthene	16.2		2.33	ug/kg wet	18.6		87.0	60-140		
Fluorene	16.5		2.33	ug/kg wet	18.6		88.4	60-140		
Hexachlorobenzene	16.2		2.33	ug/kg wet	18.6		86.7	60-140		
Hexachlorobutadiene	9.97	J1	2.33	ug/kg wet	18.6		53.5	60-140		
Hexachlorocyclopentadiene	11.8		2.33	ug/kg wet	18.6		63.4	60-140		
Hexachloroethane	10.6	J1	2.33	ug/kg wet	18.6		56.6	60-140		
Indeno(1,2,3-cd) pyrene	15.7		2.33	ug/kg wet	18.6		84.1	60-140		
Isophorone	13.7		2.33	ug/kg wet	18.6		73.7	60-140		
Naphthalene	14.6		2.33	ug/kg wet	18.6		78.6	60-140		
Nitrobenzene	17.2		2.33	ug/kg wet	18.6		92.5	60-140		
n-Nitrosodimethylamine	77.1		2.33	ug/kg wet	93.2		82.7	60-140		
n-Nitrosodi-n-propylamine	16.3		2.33	ug/kg wet	18.6		87.6	60-140		
n-Nitrosodiphenylamine	13.4		2.33	ug/kg wet	18.6		71.6	60-140		
Pentachlorophenol	31.9		4.66	ug/kg wet	37.3		85.6	60-140		
Phenanthrene	16.9		2.33	ug/kg wet	18.6		90.9	60-140		
Phenol, Total	32.4		4.66	ug/kg wet	37.3		86.9	60-140		
Pyrene	16.0		2.33	ug/kg wet	18.6		85.7	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*14.2*	*ug/kg wet*	*18.6*		*76.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.9*	*ug/kg wet*	*37.3*		*93.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*35.6*	*ug/kg wet*	*37.3*		*95.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.2*	*ug/kg wet*	*18.6*		*92.4*	*60-140*		
Surrogate: Phenol-d5-surr			*34.6*	*ug/kg wet*	*37.3*		*92.8*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.7*	*ug/kg wet*	*18.6*		*89.7*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
BSD BENZ (BGA3094-BSD1)				Prepared: 1/24/2023 Analyzed: 2/8/2023						
3,3'-Dichlorobenzidine	11.1	J1	2.38	ug/kg wet	19.0		58.1	60-140	0.224	40
Benzidine	3.54	J1	2.38	ug/kg wet	19.0		18.6	60-140	7.25	40
Surrogate: 2-Fluorobiphenyl-surr			*17.5*	*ug/kg wet*	*19.0*		*92.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*44.4*	*ug/kg wet*	*38.1*		*117*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*47.0*	*ug/kg wet*	*38.1*		*124*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*23.2*	*ug/kg wet*	*19.0*		*122*	*60-140*		
Surrogate: Phenol-d5-surr			*45.3*	*ug/kg wet*	*38.1*		*119*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*20.7*	*ug/kg wet*	*19.0*		*109*	*60-140*		
BSD SV (BGA3094-BSD2)				Prepared: 1/24/2023 Analyzed: 2/25/2023						
1,2,4-Trichlorobenzene	13.9		2.30	ug/kg wet	18.4		75.6	60-140	6.61	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.6		2.30	ug/kg wet	18.4		68.3	60-140	2.85	40
1,2-Diphenylhydrazine	17.6		2.30	ug/kg wet	18.4		95.5	60-140	6.55	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.0		2.30	ug/kg wet	18.4		65.0	60-140	3.23	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.2		2.30	ug/kg wet	18.4		66.3	60-140	1.85	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	16.1		2.30	ug/kg wet	18.4		87.5	60-140	7.96	40
2,4,6-Trichlorophenol	35.2		4.61	ug/kg wet	36.9		95.5	60-140	6.22	40
2,4-Dichlorophenol	35.5		4.61	ug/kg wet	36.9		96.3	60-140	3.86	40
2,4-Dimethylphenol	37.0		4.61	ug/kg wet	36.9		100	60-140	9.35	40
2,4-Dinitrophenol	23.5		4.61	ug/kg wet	92.2		25.5	10-50.4	32.9	40
2,4-Dinitrotoluene (2,4-DNT)	17.2		2.30	ug/kg wet	18.4		93.3	60-140	7.22	40
2,6-Dinitrotoluene (2,6-DNT)	18.2		2.30	ug/kg wet	18.4		98.7	60-140	6.99	40
2-Chloronaphthalene	16.4		2.30	ug/kg wet	18.4		89.0	60-140	3.07	40
2-Chlorophenol	34.6		4.61	ug/kg wet	36.9		93.9	60-140	8.92	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	26.5		18.4	ug/kg wet	36.9		72.0	60-140	19.6	40
2-Nitrophenol	34.7		4.61	ug/kg wet	36.9		94.0	60-140	3.86	40
4-Bromophenyl phenyl ether (BDE-3)	17.5		2.30	ug/kg wet	18.4		95.0	60-140	5.19	40
4-Chloro-3-methylphenol	35.2		4.61	ug/kg wet	36.9		95.6	60-140	4.98	40
4-Chlorophenyl phenylether	17.3		2.30	ug/kg wet	18.4		94.0	60-140	4.40	40
4-Nitrophenol	95.1		2.30	ug/kg wet	92.2		103	60-140	13.0	40
Acenaphthene	16.6		2.30	ug/kg wet	18.4		90.2	60-140	4.13	40
Acenaphthylene	20.1		2.30	ug/kg wet	18.4		109	60-140	3.41	40
Anthracene	18.1		2.30	ug/kg wet	18.4		98.1	60-140	4.08	40
Benzo(a)anthracene	17.4		2.30	ug/kg wet	18.4		94.4	60-140	8.33	40
Benzo(a)pyrene	17.6		2.30	ug/kg wet	18.4		95.7	60-140	7.78	40
Benzo(b)fluoranthene	15.7		2.30	ug/kg wet	18.4		85.4	60-140	3.19	40
Benzo(g,h,i)perylene	17.6		2.30	ug/kg wet	18.4		95.4	60-140	9.60	40
Benzo(k)fluoranthene	16.8		2.30	ug/kg wet	18.4		91.1	60-140	4.31	40
bis(2-Chloroethoxy)methane	17.3		2.30	ug/kg wet	18.4		93.7	60-140	4.79	40
bis(2-Chloroethyl) ether	17.4		2.30	ug/kg wet	18.4		94.6	60-140	5.40	40
Bis(2-ethylhexyl)phthalate	18.9		2.30	ug/kg wet	18.4		103	60-140	10.7	40
Butyl benzyl phthalate	17.4		2.30	ug/kg wet	18.4		94.4	60-140	6.62	40

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
BSD SV (BGA3094-BSD2)				Prepared: 1/24/2023 Analyzed: 2/25/2023						
Chrysene	16.6		2.30	ug/kg wet	18.4		90.2	60-140	5.80	40
Dibenzo(a,h)anthracene	17.2		2.30	ug/kg wet	18.4		93.6	60-140	10.8	40
Diethyl phthalate	18.6		2.30	ug/kg wet	18.4		101	60-140	1.34	40
Dimethyl phthalate	18.3		2.30	ug/kg wet	18.4		99.3	60-140	4.77	40
Di-n-butyl phthalate	20.1		2.30	ug/kg wet	18.4		109	60-140	6.07	40
Di-n-octyl phthalate	17.9		2.30	ug/kg wet	18.4		97.2	60-140	5.27	40
Fluoranthene	17.2		2.30	ug/kg wet	18.4		93.4	60-140	6.02	40
Fluorene	17.1		2.30	ug/kg wet	18.4		93.0	60-140	3.89	40
Hexachlorobenzene	16.9		2.30	ug/kg wet	18.4		91.7	60-140	4.45	40
Hexachlorobutadiene	10.6	J1	2.30	ug/kg wet	18.4		57.4	60-140	5.90	40
Hexachlorocyclopentadiene	14.3		2.30	ug/kg wet	18.4		77.3	60-140	18.7	40
Hexachloroethane	10.8	J1	2.30	ug/kg wet	18.4		58.5	60-140	2.13	40
Indeno(1,2,3-cd) pyrene	17.4		2.30	ug/kg wet	18.4		94.6	60-140	10.6	40
Isophorone	14.6		2.30	ug/kg wet	18.4		79.2	60-140	5.98	40
Naphthalene	15.3		2.30	ug/kg wet	18.4		82.9	60-140	4.32	40
Nitrobenzene	17.8		2.30	ug/kg wet	18.4		96.8	60-140	3.41	40
n-Nitrosodimethylamine	74.1		2.30	ug/kg wet	92.2		80.4	60-140	3.85	40
n-Nitrosodi-n-propylamine	17.1		2.30	ug/kg wet	18.4		92.6	60-140	4.37	40
n-Nitrosodiphenylamine	12.4		2.30	ug/kg wet	18.4		67.2	60-140	7.44	40
Pentachlorophenol	35.2		4.61	ug/kg wet	36.9		95.5	60-140	9.80	40
Phenanthrene	17.8		2.30	ug/kg wet	18.4		96.6	60-140	4.89	40
Phenol, Total	35.4		4.61	ug/kg wet	36.9		96.1	60-140	8.87	40
Pyrene	16.9		2.30	ug/kg wet	18.4		91.9	60-140	5.86	40
Surrogate: 2-Fluorobiphenyl-surr			*14.6*	*ug/kg wet*	*18.4*		*79.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*37.4*	*ug/kg wet*	*36.9*		*101*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*37.8*	*ug/kg wet*	*36.9*		*103*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.8*	*ug/kg wet*	*18.4*		*96.4*	*60-140*		
Surrogate: Phenol-d5-surr			*36.9*	*ug/kg wet*	*36.9*		*100*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.7*	*ug/kg wet*	*18.4*		*96.0*	*60-140*		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
MDL BENZ (BGA3094-MRL1)					Prepared: 1/24/2023 Analyzed: 2/8/2023					
3,3'-Dichlorobenzidine	<2.31	U	2.31	ug/kg wet	1.85					
Benzidine	<2.31	U	2.31	ug/kg wet	1.85					
Surrogate: 2-Fluorobiphenyl-surr			*14.4*	*ug/kg wet*	*18.5*		*77.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.5*	*ug/kg wet*	*37.0*		*93.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.2*	*ug/kg wet*	*37.0*		*103*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.7*	*ug/kg wet*	*18.5*		*95.8*	*60-140*		
Surrogate: Phenol-d5-surr			*39.1*	*ug/kg wet*	*37.0*		*106*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.5*	*ug/kg wet*	*18.5*		*106*	*60-140*		
MDL SV (BGA3094-MRL2)					Prepared: 1/24/2023 Analyzed: 2/24/2023					
1,2,4-Trichlorobenzene	1.51	J	2.48	ug/kg wet	1.98		76.2			
1,2-Dichlorobenzene (o-Dichlorobenzene)	1.30	J	2.48	ug/kg wet	1.98		65.8			
1,2-Diphenylhydrazine	2.11	J	2.48	ug/kg wet	1.98		106			
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.48	U	2.48	ug/kg wet	1.98					
1,4-Dichlorobenzene (p-Dichlorobenzene)	1.26	J	2.48	ug/kg wet	1.98		63.4			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.77	J	2.48	ug/kg wet	1.98		89.4			
2,4,6-Trichlorophenol	4.07	J	4.96	ug/kg wet	3.96		103			
2,4-Dichlorophenol	3.89	J	4.96	ug/kg wet	3.96		98.1			
2,4-Dimethylphenol	3.80	J	4.96	ug/kg wet	3.96		95.9			
2,4-Dinitrophenol	6.79		4.96	ug/kg wet	9.91		68.5	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.82	J	2.48	ug/kg wet	1.98		91.9			
2,6-Dinitrotoluene (2,6-DNT)	1.95	J	2.48	ug/kg wet	1.98		98.4			
2-Chloronaphthalene	1.70	J	2.48	ug/kg wet	1.98		85.7			
2-Chlorophenol	3.55	J	4.96	ug/kg wet	3.96		89.4			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<19.8	U	19.8	ug/kg wet	3.96					
2-Nitrophenol	3.93	J	4.96	ug/kg wet	3.96		99.2			
4-Bromophenyl phenyl ether (BDE-3)	1.81	J	2.48	ug/kg wet	1.98		91.1			
4-Chloro-3-methylphenol	3.86	J	4.96	ug/kg wet	3.96		97.4			
4-Chlorophenyl phenylether	1.73	J	2.48	ug/kg wet	1.98		87.3			
4-Nitrophenol	10.6		2.48	ug/kg wet	9.91		107	50-150		
Acenaphthene	1.69	J	2.48	ug/kg wet	1.98		85.3			
Acenaphthylene	2.13	J	2.48	ug/kg wet	1.98		108			
Anthracene	1.79	J	2.48	ug/kg wet	1.98		90.4			
Benzo(a)anthracene	1.69	J	2.48	ug/kg wet	1.98		85.0			
Benzo(a)pyrene	1.77	J	2.48	ug/kg wet	1.98		89.2			
Benzo(b)fluoranthene	1.81	J	2.48	ug/kg wet	1.98		91.1			
Benzo(g,h,i)perylene	1.72	J	2.48	ug/kg wet	1.98		86.6			
Benzo(k)fluoranthene	1.78	J	2.48	ug/kg wet	1.98		89.8			
bis(2-Chloroethoxy)methane	1.72	J	2.48	ug/kg wet	1.98		86.6			
bis(2-Chloroethyl) ether	1.76	J	2.48	ug/kg wet	1.98		89.0			
Bis(2-ethylhexyl)phthalate	3.31		2.48	ug/kg wet	1.98		167			

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
MDL SV (BGA3094-MRL2)					Prepared: 1/24/2023 Analyzed: 2/24/2023					
Butyl benzyl phthalate	1.78	J	2.48	ug/kg wet	1.98		89.9			
Chrysene	1.78	J	2.48	ug/kg wet	1.98		89.7			
Dibenzo(a,h)anthracene	1.61	J	2.48	ug/kg wet	1.98		81.4			
Diethyl phthalate	3.59		2.48	ug/kg wet	1.98		181			
Dimethyl phthalate	2.07	J	2.48	ug/kg wet	1.98		104			
Di-n-butyl phthalate	4.75		2.48	ug/kg wet	1.98		240			
Di-n-octyl phthalate	1.74	J	2.48	ug/kg wet	1.98		87.8			
Fluoranthene	1.73	J	2.48	ug/kg wet	1.98		87.1			
Fluorene	1.89	J	2.48	ug/kg wet	1.98		95.2			
Hexachlorobenzene	1.70	J	2.48	ug/kg wet	1.98		86.0			
Hexachlorobutadiene	<2.48	U	2.48	ug/kg wet	1.98					
Hexachlorocyclopentadiene	<2.48	J1, U	2.48	ug/kg wet	1.98					
Hexachloroethane	<2.48	U	2.48	ug/kg wet	1.98					
Indeno(1,2,3-cd) pyrene	1.61	J	2.48	ug/kg wet	1.98		81.0			
Isophorone	1.70	J	2.48	ug/kg wet	1.98		85.6			
Naphthalene	1.61	J	2.48	ug/kg wet	1.98		81.3			
Nitrobenzene	1.79	J	2.48	ug/kg wet	1.98		90.4			
n-Nitrosodimethylamine	7.72		2.48	ug/kg wet	9.91		77.9	50-150		
n-Nitrosodi-n-propylamine	1.93	J	2.48	ug/kg wet	1.98		97.4			
n-Nitrosodiphenylamine	1.84	J	2.48	ug/kg wet	1.98		92.9			
Pentachlorophenol	3.18	J	4.96	ug/kg wet	3.96		80.2			
Phenanthrene	1.78	J	2.48	ug/kg wet	1.98		89.7			
Phenol, Total	5.11		4.96	ug/kg wet	3.96		129			
Pyrene	1.72	J	2.48	ug/kg wet	1.98		86.8			
Surrogate: 2-Fluorobiphenyl-surr			*15.0*	*ug/kg wet*	*19.8*		*75.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.6*	*ug/kg wet*	*39.6*		*92.3*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.4*	*ug/kg wet*	*39.6*		*97.0*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.9*	*ug/kg wet*	*19.8*		*85.5*	*60-140*		
Surrogate: Phenol-d5-surr			*36.4*	*ug/kg wet*	*39.6*		*91.9*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*18.7*	*ug/kg wet*	*19.8*		*94.6*	*60-140*		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
23A1459-16 MS (BGA3094-MS1)	**Source: 23A1459-16RE1**		Prepared: 1/24/2023 Analyzed: 2/25/2023							
1,2,4-Trichlorobenzene	22.3		3.16	ug/kg dry	25.3	<3.16	88.3	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	18.2		3.16	ug/kg dry	25.3	<3.16	72.1	60-140		
1,2-Diphenylhydrazine	25.3		3.16	ug/kg dry	25.3	<3.16	100	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	17.8		3.16	ug/kg dry	25.3	<3.16	70.6	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	18.0		3.16	ug/kg dry	25.3	<3.16	71.3	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	21.7		3.16	ug/kg dry	25.3	<3.16	85.8	60-140		
2,4,6-Trichlorophenol	51.3		6.32	ug/kg dry	50.6	<6.32	102	60-140		
2,4-Dichlorophenol	53.0		6.32	ug/kg dry	50.6	<6.32	105	60-140		
2,4-Dimethylphenol	50.3		6.32	ug/kg dry	50.6	<6.32	99.5	60-140		
2,4-Dinitrophenol	18.8		6.32	ug/kg dry	126	<6.32	14.9	10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	23.7		3.16	ug/kg dry	25.3	<3.16	93.7	60-140		
2,6-Dinitrotoluene (2,6-DNT)	26.5		3.16	ug/kg dry	25.3	<3.16	105	60-140		
2-Chloronaphthalene	25.8		3.16	ug/kg dry	25.3	<3.16	102	60-140		
2-Chlorophenol	48.9		6.32	ug/kg dry	50.6	<6.32	96.7	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	26.3	J1	25.3	ug/kg dry	50.6	<25.3	52.0	60-140		
2-Nitrophenol	43.6		6.32	ug/kg dry	50.6	<6.32	86.3	60-140		
4-Bromophenyl phenyl ether (BDE-3)	25.2		3.16	ug/kg dry	25.3	<3.16	99.8	60-140		
4-Chloro-3-methylphenol	51.6		6.32	ug/kg dry	50.6	<6.32	102	60-140		
4-Chlorophenyl phenylether	25.6		3.16	ug/kg dry	25.3	<3.16	101	60-140		
4-Nitrophenol	130		3.16	ug/kg dry	126	<3.16	103	60-140		
Acenaphthene	25.6		3.16	ug/kg dry	25.3	<3.16	101	60-140		
Acenaphthylene	31.2		3.16	ug/kg dry	25.3	<3.16	124	60-140		
Anthracene	26.2		3.16	ug/kg dry	25.3	<3.16	104	60-140		
Benzo(a)anthracene	27.4		3.16	ug/kg dry	25.3	<3.16	108	60-140		
Benzo(a)pyrene	24.6		3.16	ug/kg dry	25.3	<3.16	97.3	60-140		
Benzo(b)fluoranthene	25.9		3.16	ug/kg dry	25.3	<3.16	103	60-140		
Benzo(g,h,i)perylene	23.0		3.16	ug/kg dry	25.3	<3.16	91.0	60-140		
Benzo(k)fluoranthene	24.8		3.16	ug/kg dry	25.3	<3.16	98.1	60-140		
bis(2-Chloroethoxy)methane	22.8		3.16	ug/kg dry	25.3	<3.16	90.2	60-140		
bis(2-Chloroethyl) ether	22.7		3.16	ug/kg dry	25.3	<3.16	89.7	60-140		
Bis(2-ethylhexyl)phthalate	23.2		3.16	ug/kg dry	25.3	2.32	82.4	60-140		
Butyl benzyl phthalate	22.2		3.16	ug/kg dry	25.3	<3.16	87.8	60-140		
Chrysene	26.5		3.16	ug/kg dry	25.3	<3.16	105	60-140		
Dibenzo(a,h)anthracene	22.1		3.16	ug/kg dry	25.3	<3.16	87.4	60-140		
Diethyl phthalate	26.9		3.16	ug/kg dry	25.3	2.75	95.7	60-140		
Dimethyl phthalate	26.0		3.16	ug/kg dry	25.3	<3.16	103	60-140		
Di-n-butyl phthalate	28.6		3.16	ug/kg dry	25.3	5.75	90.6	60-140		
Di-n-octyl phthalate	22.1		3.16	ug/kg dry	25.3	<3.16	87.2	60-140		
Fluoranthene	28.2		3.16	ug/kg dry	25.3	5.04	91.8	60-140		
Fluorene	24.8		3.16	ug/kg dry	25.3	<3.16	98.0	60-140		
Hexachlorobenzene	23.8		3.16	ug/kg dry	25.3	<3.16	94.1	60-140		
Hexachlorobutadiene	17.8		3.16	ug/kg dry	25.3	<3.16	70.3	60-140		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
23A1459-16 MS (BGA3094-MS1)		**Source: 23A1459-16RE1**		Prepared: 1/24/2023 Analyzed: 2/25/2023						
Hexachlorocyclopentadiene	6.48	J1	3.16	ug/kg dry	25.3	<3.16	25.7	60-140		
Hexachloroethane	16.7		3.16	ug/kg dry	25.3	<3.16	66.0	60-140		
Indeno(1,2,3-cd) pyrene	22.8		3.16	ug/kg dry	25.3	<3.16	90.2	60-140		
Isophorone	21.1		3.16	ug/kg dry	25.3	<3.16	83.4	60-140		
Naphthalene	20.4		3.16	ug/kg dry	25.3	<3.16	80.7	60-140		
Nitrobenzene	21.8		3.16	ug/kg dry	25.3	<3.16	86.4	60-140		
n-Nitrosodimethylamine	43.8	J1	3.16	ug/kg dry	126	<3.16	34.7	60-140		
n-Nitrosodi-n-propylamine	24.2		3.16	ug/kg dry	25.3	<3.16	95.6	60-140		
n-Nitrosodiphenylamine	18.4		3.16	ug/kg dry	25.3	<3.16	72.8	60-140		
Pentachlorophenol	47.9		6.32	ug/kg dry	50.6	<6.32	94.7	60-140		
Phenanthrene	24.9		3.16	ug/kg dry	25.3	<3.16	98.3	60-140		
Phenol, Total	45.9		6.32	ug/kg dry	50.6	<6.32	90.7	60-140		
Pyrene	28.0		3.16	ug/kg dry	25.3	3.75	95.8	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*23.8*	*ug/kg dry*	*25.3*		*94.2*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*45.9*	*ug/kg dry*	*50.6*		*90.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*52.7*	*ug/kg dry*	*50.6*		*104*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*21.6*	*ug/kg dry*	*25.3*		*85.6*	*60-140*		
Surrogate: Phenol-d5-surr			*47.7*	*ug/kg dry*	*50.6*		*94.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*22.1*	*ug/kg dry*	*25.3*		*87.3*	*60-140*		
23A1459-16 MSD (BGA3094-MSD1)		**Source: 23A1459-16RE1**		Prepared: 1/24/2023 Analyzed: 2/25/2023						
1,2,4-Trichlorobenzene	24.2		3.22	ug/kg dry	25.8	<3.22	93.8	60-140	7.98	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	20.3		3.22	ug/kg dry	25.8	<3.22	78.9	60-140	10.8	40
1,2-Diphenylhydrazine	28.6		3.22	ug/kg dry	25.8	<3.22	111	60-140	12.0	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	20.1		3.22	ug/kg dry	25.8	<3.22	78.1	60-140	12.0	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	20.0		3.22	ug/kg dry	25.8	<3.22	77.8	60-140	10.5	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	23.5		3.22	ug/kg dry	25.8	<3.22	91.2	60-140	7.99	40
2,4,6-Trichlorophenol	58.3		6.44	ug/kg dry	51.5	<6.44	113	60-140	12.7	40
2,4-Dichlorophenol	59.1		6.44	ug/kg dry	51.5	<6.44	115	60-140	10.9	40
2,4-Dimethylphenol	53.0		6.44	ug/kg dry	51.5	<6.44	103	60-140	5.32	40
2,4-Dinitrophenol	20.2		6.44	ug/kg dry	129	<6.44	15.7	10-51.3	7.13	40
2,4-Dinitrotoluene (2,4-DNT)	26.5		3.22	ug/kg dry	25.8	<3.22	103	60-140	11.2	40
2,6-Dinitrotoluene (2,6-DNT)	29.5		3.22	ug/kg dry	25.8	<3.22	115	60-140	10.7	40
2-Chloronaphthalene	28.7		3.22	ug/kg dry	25.8	<3.22	111	60-140	10.5	40
2-Chlorophenol	51.7		6.44	ug/kg dry	51.5	<6.44	100	60-140	5.52	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	29.3	J1	25.8	ug/kg dry	51.5	<25.8	56.9	60-140	11.0	40
2-Nitrophenol	48.9		6.44	ug/kg dry	51.5	<6.44	94.9	60-140	11.4	40
4-Bromophenyl phenyl ether (BDE-3)	27.9		3.22	ug/kg dry	25.8	<3.22	108	60-140	10.0	40
4-Chloro-3-methylphenol	57.0		6.44	ug/kg dry	51.5	<6.44	111	60-140	9.84	40
4-Chlorophenyl phenylether	28.4		3.22	ug/kg dry	25.8	<3.22	110	60-140	10.3	40
4-Nitrophenol	145		3.22	ug/kg dry	129	<3.22	113	60-140	11.3	40
Acenaphthene	28.1		3.22	ug/kg dry	25.8	<3.22	109	60-140	9.23	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3094 - SW-3570 (Continued)										
23A1459-16 MSD (BGA3094-MSD1)	**Source: 23A1459-16RE1**		Prepared: 1/24/2023 Analyzed: 2/25/2023							
Acenaphthylene	33.2		3.22	ug/kg dry	25.8	<3.22	129	60-140	6.28	40
Anthracene	28.6		3.22	ug/kg dry	25.8	<3.22	111	60-140	8.81	40
Benzo(a)anthracene	25.1		3.22	ug/kg dry	25.8	<3.22	97.4	60-140	8.67	40
Benzo(a)pyrene	23.8		3.22	ug/kg dry	25.8	<3.22	92.4	60-140	3.28	40
Benzo(b)fluoranthene	21.2		3.22	ug/kg dry	25.8	<3.22	82.2	60-140	20.2	40
Benzo(g,h,i)perylene	23.5		3.22	ug/kg dry	25.8	<3.22	91.2	60-140	2.10	40
Benzo(k)fluoranthene	23.0		3.22	ug/kg dry	25.8	<3.22	89.3	60-140	7.59	40
bis(2-Chloroethoxy)methane	24.5		3.22	ug/kg dry	25.8	<3.22	95.2	60-140	7.30	40
bis(2-Chloroethyl) ether	24.2		3.22	ug/kg dry	25.8	<3.22	94.1	60-140	6.67	40
Bis(2-ethylhexyl)phthalate	25.2		3.22	ug/kg dry	25.8	2.32	88.6	60-140	8.27	40
Butyl benzyl phthalate	24.7		3.22	ug/kg dry	25.8	<3.22	96.0	60-140	10.8	40
Chrysene	23.4		3.22	ug/kg dry	25.8	<3.22	90.8	60-140	12.5	40
Dibenzo(a,h)anthracene	23.7		3.22	ug/kg dry	25.8	<3.22	92.0	60-140	7.07	40
Diethyl phthalate	30.7		3.22	ug/kg dry	25.8	2.75	108	60-140	12.9	40
Dimethyl phthalate	28.5		3.22	ug/kg dry	25.8	<3.22	111	60-140	9.14	40
Di-n-butyl phthalate	31.4		3.22	ug/kg dry	25.8	5.75	99.6	60-140	9.24	40
Di-n-octyl phthalate	23.9		3.22	ug/kg dry	25.8	<3.22	92.9	60-140	8.22	40
Fluoranthene	28.4		3.22	ug/kg dry	25.8	5.04	90.6	60-140	0.448	40
Fluorene	27.4		3.22	ug/kg dry	25.8	<3.22	107	60-140	10.2	40
Hexachlorobenzene	26.4		3.22	ug/kg dry	25.8	<3.22	102	60-140	10.4	40
Hexachlorobutadiene	20.5		3.22	ug/kg dry	25.8	<3.22	79.7	60-140	14.4	40
Hexachlorocyclopentadiene	10.5	J1	3.22	ug/kg dry	25.8	<3.22	40.9	60-140	47.7	40
Hexachloroethane	19.8		3.22	ug/kg dry	25.8	<3.22	76.9	60-140	17.1	40
Indeno(1,2,3-cd) pyrene	23.6		3.22	ug/kg dry	25.8	<3.22	91.8	60-140	3.58	40
Isophorone	22.7		3.22	ug/kg dry	25.8	<3.22	88.1	60-140	7.32	40
Naphthalene	22.4		3.22	ug/kg dry	25.8	<3.22	87.0	60-140	9.40	40
Nitrobenzene	23.8		3.22	ug/kg dry	25.8	<3.22	92.3	60-140	8.50	40
n-Nitrosodimethylamine	56.2	J1	3.22	ug/kg dry	129	<3.22	43.6	60-140	24.7	40
n-Nitrosodi-n-propylamine	25.8		3.22	ug/kg dry	25.8	<3.22	100	60-140	6.35	40
n-Nitrosodiphenylamine	17.1		3.22	ug/kg dry	25.8	<3.22	66.3	60-140	7.45	40
Pentachlorophenol	53.9		6.44	ug/kg dry	51.5	<6.44	105	60-140	11.8	40
Phenanthrene	27.6		3.22	ug/kg dry	25.8	<3.22	107	60-140	10.3	40
Phenol, Total	50.1		6.44	ug/kg dry	51.5	<6.44	97.3	60-140	8.85	40
Pyrene	26.7		3.22	ug/kg dry	25.8	3.75	88.9	60-140	4.79	40
Surrogate: 2-Fluorobiphenyl-surr			*28.2*	*ug/kg dry*	*25.8*		*109*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*52.3*	*ug/kg dry*	*51.5*		*101*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*59.0*	*ug/kg dry*	*51.5*		*114*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*23.9*	*ug/kg dry*	*25.8*		*92.8*	*60-140*		
Surrogate: Phenol-d5-surr			*51.7*	*ug/kg dry*	*51.5*		*100*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*24.5*	*ug/kg dry*	*25.8*		*95.1*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570										
Blank (BGA3368-BLK1)				Prepared: 1/26/2023 Analyzed: 2/13/2023						
3,3'-Dichlorobenzidine	<2.42	U	2.42	ug/kg wet						
Benzidine	<2.42	U	2.42	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*20.1*	*ug/kg wet*	*19.4*		*104*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*41.8*	*ug/kg wet*	*38.8*		*108*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*35.2*	*ug/kg wet*	*38.8*		*90.7*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*21.8*	*ug/kg wet*	*19.4*		*112*	*60-140*		
Surrogate: Phenol-d5-surr			*39.8*	*ug/kg wet*	*38.8*		*103*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*21.1*	*ug/kg wet*	*19.4*		*109*	*60-140*		
Blank (BGA3368-BLK2)				Prepared: 1/26/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	<2.42	U	2.42	ug/kg wet						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.42	U	2.42	ug/kg wet						
1,2-Diphenylhydrazine	<2.42	U	2.42	ug/kg wet						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.42	U	2.42	ug/kg wet						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.42	U	2.42	ug/kg wet						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<2.42	U	2.42	ug/kg wet						
2,4,6-Trichlorophenol	<4.85	U	4.85	ug/kg wet						
2,4-Dichlorophenol	<4.85	U	4.85	ug/kg wet						
2,4-Dimethylphenol	<4.85	U	4.85	ug/kg wet						
2,4-Dinitrophenol	<4.85	U	4.85	ug/kg wet						
2,4-Dinitrotoluene (2,4-DNT)	<2.42	U	2.42	ug/kg wet						
2,6-Dinitrotoluene (2,6-DNT)	<2.42	U	2.42	ug/kg wet						
2-Chloronaphthalene	<2.42	U	2.42	ug/kg wet						
2-Chlorophenol	<4.85	U	4.85	ug/kg wet						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<19.4	U	19.4	ug/kg wet						
2-Nitrophenol	<4.85	U	4.85	ug/kg wet						
4-Bromophenyl phenyl ether (BDE-3)	<2.42	U	2.42	ug/kg wet						
4-Chloro-3-methylphenol	<4.85	U	4.85	ug/kg wet						
4-Chlorophenyl phenylether	<2.42	U	2.42	ug/kg wet						
4-Nitrophenol	<2.42	U	2.42	ug/kg wet						
Acenaphthene	<2.42	U	2.42	ug/kg wet						
Acenaphthylene	<2.42	U	2.42	ug/kg wet						
Anthracene	<2.42	U	2.42	ug/kg wet						
Benzo(a)anthracene	<2.42	U	2.42	ug/kg wet						
Benzo(a)pyrene	<2.42	U	2.42	ug/kg wet						
benzo(b&k)fluoranthene	<2.42	U	2.42	ug/kg wet						
Benzo(g,h,i)perylene	<2.42	U	2.42	ug/kg wet						
bis(2-Chloroethoxy)methane	<2.42	U	2.42	ug/kg wet						
bis(2-Chloroethyl) ether	<2.42	U	2.42	ug/kg wet						
Bis(2-ethylhexyl)phthalate	1.56	J	2.42	ug/kg wet						
Butyl benzyl phthalate	<2.42	U	2.42	ug/kg wet						

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
Blank (BGA3368-BLK2)				Prepared: 1/26/2023 Analyzed: 2/27/2023						
Chrysene	<2.42	U	2.42	ug/kg wet						
Dibenzo(a,h)anthracene	<2.42	U	2.42	ug/kg wet						
Diethyl phthalate	2.53		2.42	ug/kg wet						
Dimethyl phthalate	<2.42	U	2.42	ug/kg wet						
Di-n-butyl phthalate	12.0		2.42	ug/kg wet						
Di-n-octyl phthalate	<2.42	U	2.42	ug/kg wet						
Fluoranthene	<2.42	U	2.42	ug/kg wet						
Fluorene	<2.42	U	2.42	ug/kg wet						
Hexachlorobenzene	<2.42	U	2.42	ug/kg wet						
Hexachlorobutadiene	<2.42	U	2.42	ug/kg wet						
Hexachlorocyclopentadiene	<2.42	U	2.42	ug/kg wet						
Hexachloroethane	<2.42	U	2.42	ug/kg wet						
Indeno(1,2,3-cd) pyrene	<2.42	U	2.42	ug/kg wet						
Isophorone	<2.42	U	2.42	ug/kg wet						
Naphthalene	<2.42	U	2.42	ug/kg wet						
Nitrobenzene	<2.42	U	2.42	ug/kg wet						
n-Nitrosodimethylamine	<2.42	U	2.42	ug/kg wet						
n-Nitrosodi-n-propylamine	<2.42	U	2.42	ug/kg wet						
n-Nitrosodiphenylamine	<2.42	U	2.42	ug/kg wet						
Pentachlorophenol	<4.85	U	4.85	ug/kg wet						
Phenanthrene	<2.42	U	2.42	ug/kg wet						
Phenol, Total	<4.85	U	4.85	ug/kg wet						
Pyrene	<2.42	U	2.42	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*11.9*	*ug/kg wet*	*19.4*		*61.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*26.4*	*ug/kg wet*	*38.8*		*68.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*31.6*	*ug/kg wet*	*38.8*		*81.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*14.7*	*ug/kg wet*	*19.4*		*76.0*	*60-140*		
Surrogate: Phenol-d5-surr			*27.0*	*ug/kg wet*	*38.8*		*69.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*14.3*	*ug/kg wet*	*19.4*		*73.8*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
BS BENZ (BGA3368-BS1)					Prepared: 1/26/2023 Analyzed: 2/13/2023					
3,3'-Dichlorobenzidine	16.4		2.46	ug/kg wet	19.7		83.5	60-140		
Benzidine	2.58	J1	2.46	ug/kg wet	19.7		13.1	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*23.2*	*ug/kg wet*	*19.7*		*118*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*47.1*	*ug/kg wet*	*39.4*		*120*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*55.0*	*ug/kg wet*	*39.4*		*140*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*23.4*	*ug/kg wet*	*19.7*		*119*	*60-140*		
Surrogate: Phenol-d5-surr			*37.3*	*ug/kg wet*	*39.4*		*94.8*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*23.5*	*ug/kg wet*	*19.7*		*119*	*60-140*		
BS SV (BGA3368-BS2)					Prepared: 1/26/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	14.0		2.46	ug/kg wet	19.7		71.0	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.8		2.46	ug/kg wet	19.7		65.1	60-140		
1,2-Diphenylhydrazine	17.8		2.46	ug/kg wet	19.7		90.2	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.9		2.46	ug/kg wet	19.7		65.4	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	14.1		2.46	ug/kg wet	19.7		71.5	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	17.3		2.46	ug/kg wet	19.7		87.9	60-140		
2,4,6-Trichlorophenol	34.0		4.92	ug/kg wet	39.4		86.5	60-140		
2,4-Dichlorophenol	34.1		4.92	ug/kg wet	39.4		86.6	60-140		
2,4-Dimethylphenol	34.6		4.92	ug/kg wet	39.4		87.9	60-140		
2,4-Dinitrophenol	16.3		4.92	ug/kg wet	98.4		16.5	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	15.5		2.46	ug/kg wet	19.7		78.5	60-140		
2,6-Dinitrotoluene (2,6-DNT)	17.6		2.46	ug/kg wet	19.7		89.2	60-140		
2-Chloronaphthalene	16.3		2.46	ug/kg wet	19.7		82.8	60-140		
2-Chlorophenol	35.8		4.92	ug/kg wet	39.4		91.0	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	17.7	J1, J	19.7	ug/kg wet	39.4		44.9	60-140		
2-Nitrophenol	31.8		4.92	ug/kg wet	39.4		80.7	60-140		
4-Bromophenyl phenyl ether (BDE-3)	17.3		2.46	ug/kg wet	19.7		87.8	60-140		
4-Chloro-3-methylphenol	35.6		4.92	ug/kg wet	39.4		90.4	60-140		
4-Chlorophenyl phenylether	16.4		2.46	ug/kg wet	19.7		83.2	60-140		
4-Nitrophenol	86.1		2.46	ug/kg wet	98.4		87.5	60-140		
Acenaphthene	16.1		2.46	ug/kg wet	19.7		82.0	60-140		
Acenaphthylene	18.4		2.46	ug/kg wet	19.7		93.7	60-140		
Anthracene	16.6		2.46	ug/kg wet	19.7		84.6	60-140		
Benzo(a)anthracene	16.8		2.46	ug/kg wet	19.7		85.4	60-140		
Benzo(a)pyrene	17.4		2.46	ug/kg wet	19.7		88.4	60-140		
benzo(b&k)fluoranthene	34.4		2.46	ug/kg wet	39.4		87.3	60-140		
Benzo(g,h,i)perylene	16.2		2.46	ug/kg wet	19.7		82.2	60-140		
bis(2-Chloroethoxy)methane	16.3		2.46	ug/kg wet	19.7		82.7	60-140		
bis(2-Chloroethyl) ether	18.0		2.46	ug/kg wet	19.7		91.5	60-140		
Bis(2-ethylhexyl)phthalate	20.2		2.46	ug/kg wet	19.7		103	60-140		
Butyl benzyl phthalate	17.9		2.46	ug/kg wet	19.7		90.7	60-140		
Chrysene	16.4		2.46	ug/kg wet	19.7		83.4	60-140		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
BS SV (BGA3368-BS2)					Prepared: 1/26/2023 Analyzed: 2/27/2023					
Dibenzo(a,h)anthracene	17.2		2.46	ug/kg wet	19.7		87.4	60-140		
Diethyl phthalate	20.6		2.46	ug/kg wet	19.7		105	60-140		
Dimethyl phthalate	17.6		2.46	ug/kg wet	19.7		89.3	60-140		
Di-n-butyl phthalate	30.2	J1	2.46	ug/kg wet	19.7		153	60-140		
Di-n-octyl phthalate	15.2		2.46	ug/kg wet	19.7		77.2	60-140		
Fluoranthene	16.2		2.46	ug/kg wet	19.7		82.4	60-140		
Fluorene	16.7		2.46	ug/kg wet	19.7		84.7	60-140		
Hexachlorobenzene	18.9		2.46	ug/kg wet	19.7		96.1	60-140		
Hexachlorobutadiene	12.6		2.46	ug/kg wet	19.7		63.8	60-140		
Hexachlorocyclopentadiene	12.7		2.46	ug/kg wet	19.7		64.4	60-140		
Hexachloroethane	9.98	J1	2.46	ug/kg wet	19.7		50.7	60-140		
Indeno(1,2,3-cd) pyrene	16.4		2.46	ug/kg wet	19.7		83.2	60-140		
Isophorone	15.5		2.46	ug/kg wet	19.7		78.7	60-140		
Naphthalene	15.8		2.46	ug/kg wet	19.7		80.5	60-140		
Nitrobenzene	17.4		2.46	ug/kg wet	19.7		88.4	60-140		
n-Nitrosodimethylamine	74.2		2.46	ug/kg wet	98.4		75.4	60-140		
n-Nitrosodi-n-propylamine	18.8		2.46	ug/kg wet	19.7		95.3	60-140		
n-Nitrosodiphenylamine	16.3		2.46	ug/kg wet	19.7		82.9	60-140		
Pentachlorophenol	33.4		4.92	ug/kg wet	39.4		84.7	60-140		
Phenanthrene	16.8		2.46	ug/kg wet	19.7		85.5	60-140		
Phenol, Total	36.1		4.92	ug/kg wet	39.4		91.8	60-140		
Pyrene	15.5		2.46	ug/kg wet	19.7		78.7	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*13.8*	*ug/kg wet*	*19.7*		*70.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.9*	*ug/kg wet*	*39.4*		*93.7*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.5*	*ug/kg wet*	*39.4*		*85.1*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.1*	*ug/kg wet*	*19.7*		*91.9*	*60-140*		
Surrogate: Phenol-d5-surr			*38.0*	*ug/kg wet*	*39.4*		*96.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.2*	*ug/kg wet*	*19.7*		*77.3*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
BSD BENZ (BGA3368-BSD1)				Prepared: 1/26/2023 Analyzed: 2/13/2023						
3,3'-Dichlorobenzidine	18.1		2.48	ug/kg wet	19.8		91.2	60-140	9.59	40
Benzidine	3.02	J1	2.48	ug/kg wet	19.8		15.2	60-140	15.7	40
Surrogate: 2-Fluorobiphenyl-surr			*21.1*	*ug/kg wet*	*19.8*		*106*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*33.4*	*ug/kg wet*	*39.7*		*84.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*54.4*	*ug/kg wet*	*39.7*		*137*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*20.2*	*ug/kg wet*	*19.8*		*102*	*60-140*		
Surrogate: Phenol-d5-surr			*32.8*	*ug/kg wet*	*39.7*		*82.8*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*23.3*	*ug/kg wet*	*19.8*		*118*	*60-140*		
BSD SV (BGA3368-BSD2)				Prepared: 1/26/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	13.3		2.34	ug/kg wet	18.7		70.8	60-140	5.12	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	11.1	J1	2.34	ug/kg wet	18.7		59.3	60-140	14.1	40
1,2-Diphenylhydrazine	17.8		2.34	ug/kg wet	18.7		94.9	60-140	0.165	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.2	J1	2.34	ug/kg wet	18.7		59.8	60-140	13.8	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	11.4		2.34	ug/kg wet	18.7		61.0	60-140	20.7	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.3		2.34	ug/kg wet	18.7		81.4	60-140	12.6	40
2,4,6-Trichlorophenol	33.1		4.69	ug/kg wet	37.5		88.4	60-140	2.70	40
2,4-Dichlorophenol	31.7		4.69	ug/kg wet	37.5		84.4	60-140	7.38	40
2,4-Dimethylphenol	30.8		4.69	ug/kg wet	37.5		82.2	60-140	11.6	40
2,4-Dinitrophenol	23.0		4.69	ug/kg wet	93.7		24.5	10-50.4	34.0	40
2,4-Dinitrotoluene (2,4-DNT)	15.8		2.34	ug/kg wet	18.7		84.5	60-140	2.48	40
2,6-Dinitrotoluene (2,6-DNT)	15.8		2.34	ug/kg wet	18.7		84.3	60-140	10.6	40
2-Chloronaphthalene	14.6		2.34	ug/kg wet	18.7		77.8	60-140	11.1	40
2-Chlorophenol	28.7		4.69	ug/kg wet	37.5		76.6	60-140	22.0	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	22.5		18.7	ug/kg wet	37.5		60.1	60-140	24.2	40
2-Nitrophenol	29.3		4.69	ug/kg wet	37.5		78.1	60-140	8.22	40
4-Bromophenyl phenyl ether (BDE-3)	14.7		2.34	ug/kg wet	18.7		78.2	60-140	16.5	40
4-Chloro-3-methylphenol	33.3		4.69	ug/kg wet	37.5		88.8	60-140	6.68	40
4-Chlorophenyl phenylether	15.4		2.34	ug/kg wet	18.7		82.1	60-140	6.25	40
4-Nitrophenol	78.8		2.34	ug/kg wet	93.7		84.1	60-140	8.79	40
Acenaphthene	15.1		2.34	ug/kg wet	18.7		80.4	60-140	6.86	40
Acenaphthylene	17.4		2.34	ug/kg wet	18.7		92.7	60-140	5.94	40
Anthracene	15.5		2.34	ug/kg wet	18.7		82.5	60-140	7.39	40
Benzo(a)anthracene	15.9		2.34	ug/kg wet	18.7		85.0	60-140	5.40	40
Benzo(a)pyrene	16.5		2.34	ug/kg wet	18.7		88.2	60-140	5.11	40
benzo(b&k)fluoranthene	27.2		2.34	ug/kg wet	37.5		72.4	60-140	23.4	40
Benzo(g,h,i)perylene	14.5		2.34	ug/kg wet	18.7		77.2	60-140	11.2	40
bis(2-Chloroethoxy)methane	14.1		2.34	ug/kg wet	18.7		75.4	60-140	14.2	40
bis(2-Chloroethyl) ether	20.1		2.34	ug/kg wet	18.7		107	60-140	11.1	40
Bis(2-ethylhexyl)phthalate	20.0		2.34	ug/kg wet	18.7		107	60-140	1.13	40
Butyl benzyl phthalate	17.4		2.34	ug/kg wet	18.7		92.7	60-140	2.69	40
Chrysene	15.4		2.34	ug/kg wet	18.7		82.2	60-140	6.32	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
BSD SV (BGA3368-BSD2)					Prepared: 1/26/2023 Analyzed: 2/27/2023					
Dibenzo(a,h)anthracene	15.7		2.34	ug/kg wet	18.7		83.7	60-140	9.26	40
Diethyl phthalate	20.3		2.34	ug/kg wet	18.7		108	60-140	1.72	40
Dimethyl phthalate	17.0		2.34	ug/kg wet	18.7		90.5	60-140	3.47	40
Di-n-butyl phthalate	29.6	J1	2.34	ug/kg wet	18.7		158	60-140	1.98	40
Di-n-octyl phthalate	15.6		2.34	ug/kg wet	18.7		83.2	60-140	2.61	40
Fluoranthene	14.0		2.34	ug/kg wet	18.7		74.8	60-140	14.6	40
Fluorene	15.7		2.34	ug/kg wet	18.7		83.6	60-140	6.18	40
Hexachlorobenzene	15.8		2.34	ug/kg wet	18.7		84.5	60-140	17.7	40
Hexachlorobutadiene	10.3	J1	2.34	ug/kg wet	18.7		54.7	60-140	20.2	40
Hexachlorocyclopentadiene	10.5	J1	2.34	ug/kg wet	18.7		56.2	60-140	18.4	40
Hexachloroethane	9.28	J1	2.34	ug/kg wet	18.7		49.5	60-140	7.25	40
Indeno(1,2,3-cd) pyrene	14.5		2.34	ug/kg wet	18.7		77.2	60-140	12.4	40
Isophorone	13.6		2.34	ug/kg wet	18.7		72.5	60-140	13.1	40
Naphthalene	13.7		2.34	ug/kg wet	18.7		73.1	60-140	14.5	40
Nitrobenzene	15.6		2.34	ug/kg wet	18.7		83.1	60-140	11.0	40
n-Nitrosodimethylamine	60.8		2.34	ug/kg wet	93.7		64.9	60-140	19.8	40
n-Nitrosodi-n-propylamine	15.9		2.34	ug/kg wet	18.7		84.7	60-140	16.6	40
n-Nitrosodiphenylamine	16.6		2.34	ug/kg wet	18.7		88.7	60-140	1.84	40
Pentachlorophenol	27.4		4.69	ug/kg wet	37.5		73.1	60-140	19.6	40
Phenanthrene	15.7		2.34	ug/kg wet	18.7		83.9	60-140	6.78	40
Phenol, Total	34.5		4.69	ug/kg wet	37.5		92.0	60-140	4.70	40
Pyrene	13.7		2.34	ug/kg wet	18.7		73.2	60-140	12.2	40
Surrogate: 2-Fluorobiphenyl-surr			*12.3*	*ug/kg wet*	*18.7*		*65.6*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*29.0*	*ug/kg wet*	*37.5*		*77.3*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*28.3*	*ug/kg wet*	*37.5*		*75.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.9*	*ug/kg wet*	*18.7*		*90.0*	*60-140*		
Surrogate: Phenol-d5-surr			*32.9*	*ug/kg wet*	*37.5*		*87.9*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*12.6*	*ug/kg wet*	*18.7*		*67.1*	*60-140*		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
MDL BENZ (BGA3368-MRL1)					Prepared: 1/26/2023 Analyzed: 2/13/2023					
3,3'-Dichlorobenzidine	<2.38	U	2.38	ug/kg wet	1.90					
Benzidine	<2.38	U	2.38	ug/kg wet	1.90					
Surrogate: 2-Fluorobiphenyl-surr			*21.3*	*ug/kg wet*	*19.0*		*112*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*42.8*	*ug/kg wet*	*38.0*		*113*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*47.1*	*ug/kg wet*	*38.0*		*124*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*22.5*	*ug/kg wet*	*19.0*		*119*	*60-140*		
Surrogate: Phenol-d5-surr			*39.4*	*ug/kg wet*	*38.0*		*104*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*21.8*	*ug/kg wet*	*19.0*		*114*	*60-140*		
MDL SV (BGA3368-MRL2)					Prepared: 1/26/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	1.56	J	2.36	ug/kg wet	1.89		82.6			
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.36	U	2.36	ug/kg wet	1.89					
1,2-Diphenylhydrazine	2.17	J	2.36	ug/kg wet	1.89		115			
1,3-Dichlorobenzene (m-Dichlorobenzene)	1.19	J	2.36	ug/kg wet	1.89		62.9			
1,4-Dichlorobenzene (p-Dichlorobenzene)	1.42	J	2.36	ug/kg wet	1.89		75.3			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.85	J	2.36	ug/kg wet	1.89		97.9			
2,4,6-Trichlorophenol	4.28	J	4.71	ug/kg wet	3.77		113			
2,4-Dichlorophenol	3.70	J	4.71	ug/kg wet	3.77		98.1			
2,4-Dimethylphenol	3.35	J	4.71	ug/kg wet	3.77		88.9			
2,4-Dinitrophenol	7.00		4.71	ug/kg wet	9.43		74.3	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.51	J	2.36	ug/kg wet	1.89		79.9			
2,6-Dinitrotoluene (2,6-DNT)	2.19	J	2.36	ug/kg wet	1.89		116			
2-Chloronaphthalene	1.59	J	2.36	ug/kg wet	1.89		84.1			
2-Chlorophenol	3.75	J	4.71	ug/kg wet	3.77		99.6			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<18.9	U	18.9	ug/kg wet	3.77					
2-Nitrophenol	3.64	J	4.71	ug/kg wet	3.77		96.5			
4-Bromophenyl phenyl ether (BDE-3)	1.60	J	2.36	ug/kg wet	1.89		84.7			
4-Chloro-3-methylphenol	4.61	J	4.71	ug/kg wet	3.77		122			
4-Chlorophenyl phenylether	1.62	J	2.36	ug/kg wet	1.89		85.8			
4-Nitrophenol	10.4		2.36	ug/kg wet	9.43		110	50-150		
Acenaphthene	1.73	J	2.36	ug/kg wet	1.89		92.0			
Acenaphthylene	2.06	J	2.36	ug/kg wet	1.89		109			
Anthracene	1.70	J	2.36	ug/kg wet	1.89		90.4			
Benzo(a)anthracene	1.68	J	2.36	ug/kg wet	1.89		88.9			
Benzo(a)pyrene	1.65	J	2.36	ug/kg wet	1.89		87.5			
benzo(b&k)fluoranthene	2.63		2.36	ug/kg wet	3.77		69.8	50-150		
Benzo(g,h,i)perylene	1.50	J	2.36	ug/kg wet	1.89		79.8			
bis(2-Chloroethoxy)methane	1.86	J	2.36	ug/kg wet	1.89		98.5			
bis(2-Chloroethyl) ether	1.36	J	2.36	ug/kg wet	1.89		72.3			
Bis(2-ethylhexyl)phthalate	3.33		2.36	ug/kg wet	1.89		177			
Butyl benzyl phthalate	1.51	J	2.36	ug/kg wet	1.89		80.1			

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
MDL SV (BGA3368-MRL2)					Prepared: 1/26/2023 Analyzed: 2/27/2023					
Chrysene	1.63	J	2.36	ug/kg wet	1.89		86.3			
Dibenzo(a,h)anthracene	1.46	J	2.36	ug/kg wet	1.89		77.3			
Diethyl phthalate	4.23		2.36	ug/kg wet	1.89		225			
Dimethyl phthalate	1.82	J	2.36	ug/kg wet	1.89		96.5			
Di-n-butyl phthalate	12.5		2.36	ug/kg wet	1.89		666			
Di-n-octyl phthalate	1.55	J	2.36	ug/kg wet	1.89		82.2			
Fluoranthene	1.71	J	2.36	ug/kg wet	1.89		90.8			
Fluorene	1.56	J	2.36	ug/kg wet	1.89		82.6			
Hexachlorobenzene	1.84	J	2.36	ug/kg wet	1.89		97.4			
Hexachlorobutadiene	<2.36	U	2.36	ug/kg wet	1.89					
Hexachlorocyclopentadiene	<2.36	J1, U	2.36	ug/kg wet	1.89					
Hexachloroethane	<2.36	U	2.36	ug/kg wet	1.89					
Indeno(1,2,3-cd) pyrene	1.65	J	2.36	ug/kg wet	1.89		87.3			
Isophorone	1.67	J	2.36	ug/kg wet	1.89		88.8			
Naphthalene	1.58	J	2.36	ug/kg wet	1.89		83.9			
Nitrobenzene	1.67	J	2.36	ug/kg wet	1.89		88.7			
n-Nitrosodimethylamine	<2.36	J1, U	2.36	ug/kg wet	9.43			50-150		
n-Nitrosodi-n-propylamine	2.79		2.36	ug/kg wet	1.89		148			
n-Nitrosodiphenylamine	1.48	J	2.36	ug/kg wet	1.89		78.6			
Pentachlorophenol	2.65	J	4.71	ug/kg wet	3.77		70.2			
Phenanthrene	1.60	J	2.36	ug/kg wet	1.89		84.7			
Phenol, Total	8.91		4.71	ug/kg wet	3.77		236			
Pyrene	1.32	J	2.36	ug/kg wet	1.89		70.2			
Surrogate: 2-Fluorobiphenyl-surr			*14.7*	*ug/kg wet*	*18.9*		*78.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*30.0*	*ug/kg wet*	*37.7*		*79.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*34.1*	*ug/kg wet*	*37.7*		*90.6*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*15.4*	*ug/kg wet*	*18.9*		*81.8*	*60-140*		
Surrogate: Phenol-d5-surr			*35.6*	*ug/kg wet*	*37.7*		*94.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.1*	*ug/kg wet*	*18.9*		*80.0*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
23A1459-24 MS (BGA3368-MS1)		**Source: 23A1459-24RE1**		Prepared: 1/26/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	17.0	J	33.9	ug/kg dry	27.1	<33.9	62.7	60-140		
1,2-Diphenylhydrazine	<33.9	CQ, J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	19.9	J	33.9	ug/kg dry	27.1	<33.9	73.6	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	21.9	J	33.9	ug/kg dry	27.1	<33.9	80.8	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
2,4,6-Trichlorophenol	<67.8	J1, U	67.8	ug/kg dry	54.2	<67.8		60-140		
2,4-Dichlorophenol	<67.8	J1, U	67.8	ug/kg dry	54.2	<67.8		60-140		
2,4-Dimethylphenol	<67.8	J1, U	67.8	ug/kg dry	54.2	<67.8		60-140		
2,4-Dinitrophenol	<67.8	J1, U	67.8	ug/kg dry	136	<67.8		10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
2,6-Dinitrotoluene (2,6-DNT)	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
2-Chloronaphthalene	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
2-Chlorophenol	35.2	J	67.8	ug/kg dry	54.2	<67.8	65.0	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<271	J1, U	271	ug/kg dry	54.2	<271		60-140		
2-Nitrophenol	<67.8	J1, U	67.8	ug/kg dry	54.2	<67.8		60-140		
4-Bromophenyl phenyl ether (BDE-3)	<33.9	CQ, J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
4-Chloro-3-methylphenol	<67.8	J1, U	67.8	ug/kg dry	54.2	<67.8		60-140		
4-Chlorophenyl phenylether	<33.9	CQ, J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
4-Nitrophenol	<33.9	CQ, J1, U	33.9	ug/kg dry	136	<33.9		60-140		
Acenaphthene	421	J1	33.9	ug/kg dry	27.1	355	246	60-140		
Acenaphthylene	370		33.9	ug/kg dry	27.1	333	134	60-140		
Anthracene	<33.9	CQ, J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Benzo(a)anthracene	91.0	CQ	33.9	ug/kg dry	27.1	52.9	140	60-140		
Benzo(a)pyrene	52.6	CQ, J1	33.9	ug/kg dry	27.1	<33.9	194	60-140		
benzo(b&k)fluoranthene	<33.9	CQ, J1, U	33.9	ug/kg dry	54.2	<33.9		60-140		
Benzo(g,h,i)perylene	113	J1, CQ	33.9	ug/kg dry	27.1	65.2	175	60-140		
bis(2-Chloroethoxy)methane	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
bis(2-Chloroethyl) ether	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Bis(2-ethylhexyl)phthalate	76.0	CQ, J1	33.9	ug/kg dry	27.1	21.3	202	60-140		
Butyl benzyl phthalate	55.1	CQ, J1	33.9	ug/kg dry	27.1	<33.9	203	60-140		
Chrysene	85.5	CQ, J1	33.9	ug/kg dry	27.1	71.5	51.7	60-140		
Dibenzo(a,h)anthracene	52.8	CQ, J1	33.9	ug/kg dry	27.1	<33.9	195	60-140		
Diethyl phthalate	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Dimethyl phthalate	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Di-n-butyl phthalate	311	CQ	33.9	ug/kg dry	27.1	293	66.7	60-140		
Di-n-octyl phthalate	39.0	CQ, J1	33.9	ug/kg dry	27.1	<33.9	144	60-140		
Fluoranthene	187	CQ, J1	33.9	ug/kg dry	27.1	181	21.2	60-140		
Fluorene	1750	CQ, J1, L	33.9	ug/kg dry	27.1	1840	NR	60-140		
Hexachlorobenzene	18.8	CQ, J	33.9	ug/kg dry	27.1	<33.9	69.3	60-140		
Hexachlorobutadiene	18.1	J	33.9	ug/kg dry	27.1	<33.9	66.8	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
23A1459-24 MS (BGA3368-MS1)		**Source: 23A1459-24RE1**		Prepared: 1/26/2023 Analyzed: 2/27/2023						
Hexachlorocyclopentadiene	16.9	CQ, J1, J	33.9	ug/kg dry	27.1	<33.9		60-140		
Hexachloroethane	26.9	J	33.9	ug/kg dry	27.1	<33.9	99.4	60-140		
Indeno(1,2,3-cd) pyrene	80.2	CQ	33.9	ug/kg dry	27.1	44.3	132	60-140		
Isophorone	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Naphthalene	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Nitrobenzene	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
n-Nitrosodimethylamine	<33.9	J1, U	33.9	ug/kg dry	136	<33.9		60-140		
n-Nitrosodi-n-propylamine	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
n-Nitrosodiphenylamine	<33.9	J1, U	33.9	ug/kg dry	27.1	<33.9		60-140		
Pentachlorophenol	52.7	CQ, J	67.8	ug/kg dry	54.2	<67.8	97.1	60-140		
Phenanthrene	1320	CQ, J1	33.9	ug/kg dry	27.1	1380	NR	60-140		
Phenol, Total	183	J1	67.8	ug/kg dry	54.2	<67.8	337	60-140		
Pyrene	256	CQ	33.9	ug/kg dry	27.1	232	89.9	60-140		
Surrogate: 2-Fluorobiphenyl-surr		*S*	*164*	*ug/kg dry*	*27.1*		*603*	*60-140*		
Surrogate: 2-Fluorophenol-surr		*S*	*32.0*	*ug/kg dry*	*54.2*		*59.1*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*CQ*	*34.6*	*ug/kg dry*	*54.2*		*63.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*324*	*ug/kg dry*	*27.1*		*NR*	*60-140*		
Surrogate: Phenol-d5-surr		*S*	*80.8*	*ug/kg dry*	*54.2*		*149*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*CQ*	*25.0*	*ug/kg dry*	*27.1*		*92.2*	*60-140*		
Matrix Spike (BGA3368-MS2)		**Source: 23A1459-24RE3**		Prepared: 1/26/2023 Analyzed: 3/16/2023						
Fluorene	1420	J1	84.7	ug/kg dry	27.1	1470	NR	60-140		
Surrogate: 2-Fluorobiphenyl-surr		*S*	*42.9*	*ug/kg dry*	*27.1*		*158*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*255*	*ug/kg dry*	*27.1*		*940*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.7*	*ug/kg dry*	*27.1*		*72.8*	*60-140*		
23A1459-24 MSD (BGA3368-MSD1)		**Source: 23A1459-24RE1**		Prepared: 1/26/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
1,2-Dichlorobenzene (o-Dichlorobenzene)	18.4	J	33.2	ug/kg dry	26.5	<33.2	69.4	60-140	7.90	40
1,2-Diphenylhydrazine	<33.2	CQ, J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
1,3-Dichlorobenzene (m-Dichlorobenzene)	23.7	J	33.2	ug/kg dry	26.5	<33.2	89.5	60-140	17.4	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	24.0	J	33.2	ug/kg dry	26.5	<33.2	90.4	60-140	9.14	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
2,4,6-Trichlorophenol	<66.3	J1, U	66.3	ug/kg dry	53.1	<66.3		60-140		40
2,4-Dichlorophenol	<66.3	J1, U	66.3	ug/kg dry	53.1	<66.3		60-140		40
2,4-Dimethylphenol	<66.3	J1, U	66.3	ug/kg dry	53.1	<66.3		60-140		40
2,4-Dinitrophenol	<66.3	J1, U	66.3	ug/kg dry	133	<66.3		10-51.3		40
2,4-Dinitrotoluene (2,4-DNT)	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
2,6-Dinitrotoluene (2,6-DNT)	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
2-Chloronaphthalene	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
2-Chlorophenol	35.3	J	66.3	ug/kg dry	53.1	<66.3	66.6	60-140	0.316	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
23A1459-24 MSD (BGA3368-MSD1)	**Source: 23A1459-24RE1**			Prepared: 1/26/2023 Analyzed: 2/27/2023						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<265	J1, U	265	ug/kg dry	53.1	<265		60-140		40
2-Nitrophenol	<66.3	J1, U	66.3	ug/kg dry	53.1	<66.3		60-140		40
4-Bromophenyl phenyl ether (BDE-3)	<33.2	CQ, J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
4-Chloro-3-methylphenol	<66.3	J1, U	66.3	ug/kg dry	53.1	<66.3		60-140		40
4-Chlorophenyl phenylether	<33.2	CQ, J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
4-Nitrophenol	<33.2	CQ, J1, U	33.2	ug/kg dry	133	<33.2		60-140		40
Acenaphthene	386		33.2	ug/kg dry	26.5	355	117	60-140	8.84	40
Acenaphthylene	348	J1	33.2	ug/kg dry	26.5	333	56.2	60-140	6.00	40
Anthracene	<33.2	CQ, J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Benzo(a)anthracene	97.0	CQ, J1	33.2	ug/kg dry	26.5	52.9	166	60-140	6.42	40
Benzo(a)pyrene	53.7	CQ, J1	33.2	ug/kg dry	26.5	<33.2	202	60-140	2.18	40
benzo(b&k)fluoranthene	<33.2	CQ, J1, U	33.2	ug/kg dry	53.1	<33.2		60-140		40
Benzo(g,h,i)perylene	114	CQ, J1	33.2	ug/kg dry	26.5	65.2	185	60-140	1.36	40
bis(2-Chloroethoxy)methane	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
bis(2-Chloroethyl) ether	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Bis(2-ethylhexyl)phthalate	64.8	CQ, J1	33.2	ug/kg dry	26.5	21.3	164	60-140	16.0	40
Butyl benzyl phthalate	41.0	CQ, J1	33.2	ug/kg dry	26.5	<33.2	155	60-140	29.3	40
Chrysene	96.6	CQ	33.2	ug/kg dry	26.5	71.5	94.5	60-140	12.2	40
Dibenzo(a,h)anthracene	61.7	CQ, J1	33.2	ug/kg dry	26.5	<33.2	233	60-140	15.5	40
Diethyl phthalate	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Dimethyl phthalate	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Di-n-butyl phthalate	321	CQ	33.2	ug/kg dry	26.5	293	105	60-140	3.09	40
Di-n-octyl phthalate	39.6	CQ, J1	33.2	ug/kg dry	26.5	<33.2	149	60-140	1.71	40
Fluoranthene	207	CQ	33.2	ug/kg dry	26.5	181	96.1	60-140	10.0	40
Fluorene	1790	CQ, J1, L	33.2	ug/kg dry	26.5	1840	NR	60-140	2.33	40
Hexachlorobenzene	<33.2	CQ, J1, U	33.2	ug/kg dry	26.5	<33.2		60-140	200	40
Hexachlorobutadiene	20.3	J	33.2	ug/kg dry	26.5	<33.2	76.4	60-140	11.3	40
Hexachlorocyclopentadiene	32.1	CQ, J1, J	33.2	ug/kg dry	26.5	<33.2	121	60-140	62.0	40
Hexachloroethane	26.1	J	33.2	ug/kg dry	26.5	<33.2	98.2	60-140	3.38	40
Indeno(1,2,3-cd) pyrene	73.4	CQ	33.2	ug/kg dry	26.5	44.3	110	60-140	8.79	40
Isophorone	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Naphthalene	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Nitrobenzene	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
n-Nitrosodimethylamine	<33.2	J1, U	33.2	ug/kg dry	133	<33.2		60-140		40
n-Nitrosodi-n-propylamine	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
n-Nitrosodiphenylamine	<33.2	J1, U	33.2	ug/kg dry	26.5	<33.2		60-140		40
Pentachlorophenol	46.2	CQ, J	66.3	ug/kg dry	53.1	<66.3	87.0	60-140	13.1	40
Phenanthrene	1310	J1, CQ	33.2	ug/kg dry	26.5	1380	NR	60-140	0.637	40
Phenol, Total	129	J1	66.3	ug/kg dry	53.1	<66.3	243	60-140	34.6	40
Pyrene	264	CQ	33.2	ug/kg dry	26.5	232	124	60-140	3.26	40
Surrogate: 2-Fluorobiphenyl-surr		*S*	*142*	*ug/kg dry*	*26.5*		*535*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*44.9*	*ug/kg dry*	*53.1*		*84.5*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*CQ, S*	*27.4*	*ug/kg dry*	*53.1*		*51.6*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*338*	*ug/kg dry*	*26.5*		*NR*	*60-140*		
Surrogate: Phenol-d5-surr			*67.1*	*ug/kg dry*	*53.1*		*126*	*60-140*		

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TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3368 - SW-3570 (Continued)										
23A1459-24 MSD (BGA3368-MSD1)			**Source: 23A1459-24RE1**		Prepared: 1/26/2023 Analyzed: 2/27/2023					
Surrogate: p-Terphenyl-d14-surr		*CQ*	*30.0*	*ug/kg dry*	*26.5*		*113*	*60-140*		
Matrix Spike Dup (BGA3368-MSD2)			**Source: 23A1459-24RE3**		Prepared: 1/26/2023 Analyzed: 3/16/2023					
Fluorene	1220	J1	82.9	ug/kg dry	26.5	1470	NR	60-140	15.1	40
Surrogate: 2-Fluorobiphenyl-surr			*32.8*	*ug/kg dry*	*26.5*		*124*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*211*	*ug/kg dry*	*26.5*		*796*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.0*	*ug/kg dry*	*26.5*		*60.4*	*60-140*		
Batch: BGA3953 - SW-3511										
Blank (BGA3953-BLK1)					Prepared: 1/31/2023 Analyzed: 2/7/2023					
3,3'-Dichlorobenzidine	<0.560	U	0.560	ug/L						
Benzidine	<0.560	U	0.560	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.40*	*ug/L*	*9.95*		*94.4*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.8*	*ug/L*	*19.9*		*105*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*25.7*	*ug/L*	*19.9*		*129*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.8*	*ug/L*	*9.95*		*108*	*52-162*		
Surrogate: Phenol-d5-surr			*21.6*	*ug/L*	*19.9*		*109*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.36*	*ug/L*	*9.95*		*94.0*	*51.9-147*		
Blank (BGA3953-BLK2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
1,2,4-Trichlorobenzene	<0.560	U	0.560	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.560	U	0.560	ug/L						
1,2-Diphenylhydrazine	<0.560	U	0.560	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.560	U	0.560	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.560	U	0.560	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<0.560	U	0.560	ug/L						
2,4-Dichlorophenol	<0.560	U	0.560	ug/L						
2,4-Dimethylphenol	<1.12	U	1.12	ug/L						
2,4-Dinitrophenol	<4.48	U	4.48	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<0.560	U	0.560	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<0.560	U	0.560	ug/L						
2-Chloronaphthalene	<0.560	U	0.560	ug/L						
2-Chlorophenol	<1.12	U	1.12	ug/L						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<1.12	U	1.12	ug/L						
2-Nitrophenol	<1.12	U	1.12	ug/L						
4-Bromophenyl phenyl ether (BDE-3)	<0.560	U	0.560	ug/L						
4-Chloro-3-methylphenol	<1.12	U	1.12	ug/L						
4-Chlorophenyl phenylether	<0.560	U	0.560	ug/L						
4-Nitrophenol	<4.48	U	4.48	ug/L						
Acenaphthene	<0.560	U	0.560	ug/L						

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
Blank (BGA3953-BLK2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
Acenaphthylene	<0.560	U	0.560	ug/L						
Anthracene	<0.560	U	0.560	ug/L						
Benzo(a)anthracene	<0.560	U	0.560	ug/L						
Benzo(a)pyrene	<0.560	U	0.560	ug/L						
benzo(b&k)fluoranthene	<0.560	U	0.560	ug/L						
Benzo(g,h,i)perylene	<0.560	U	0.560	ug/L						
bis(2-Chloroethoxy)methane	<0.560	U	0.560	ug/L						
bis(2-Chloroethyl) ether	<0.560	U	0.560	ug/L						
Bis(2-ethylhexyl)phthalate	<0.560	U	0.560	ug/L						
Butyl benzyl phthalate	<0.560	U	0.560	ug/L						
Chrysene	<0.560	U	0.560	ug/L						
Dibenzo(a,h)anthracene	<0.560	U	0.560	ug/L						
Diethyl phthalate	0.617		0.560	ug/L						
Dimethyl phthalate	1.20		0.560	ug/L						
Di-n-butyl phthalate	7.07		0.560	ug/L						
Di-n-octyl phthalate	<0.560	U	0.560	ug/L						
Fluoranthene	<0.560	U	0.560	ug/L						
Fluorene	<0.560	U	0.560	ug/L						
Hexachlorobenzene	<0.560	U	0.560	ug/L						
Hexachlorobutadiene	<0.560	U	0.560	ug/L						
Hexachlorocyclopentadiene	<0.560	U	0.560	ug/L						
Hexachloroethane	<0.560	U	0.560	ug/L						
Indeno(1,2,3-cd) pyrene	<0.560	U	0.560	ug/L						
Isophorone	<0.560	U	0.560	ug/L						
Naphthalene	<0.560	U	0.560	ug/L						
Nitrobenzene	<0.560	U	0.560	ug/L						
n-Nitrosodimethylamine	<2.24	U	2.24	ug/L						
n-Nitrosodi-n-propylamine	<0.560	U	0.560	ug/L						
n-Nitrosodiphenylamine	<0.560	U	0.560	ug/L						
Pentachlorophenol	<1.12	U	1.12	ug/L						
Phenanthrene	<0.560	U	0.560	ug/L						
Phenol, Total	<1.12	U	1.12	ug/L						
Pyrene	<0.560	U	0.560	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.68*	*ug/L*	*9.95*		*97.2*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.7*	*ug/L*	*19.9*		*114*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.4*	*ug/L*	*19.9*		*97.7*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.62*	*ug/L*	*9.95*		*86.7*	*52-162*		
Surrogate: Phenol-d5-surr			*21.0*	*ug/L*	*19.9*		*106*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.26*	*ug/L*	*9.95*		*83.0*	*51.9-147*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
BS BENZ (BGA3953-BS1)					Prepared: 1/31/2023 Analyzed: 2/7/2023					
3,3'-Dichlorobenzidine	5.75		0.561	ug/L	9.98		57.6	22.3-156		
Benzidine	0.563	J1	0.561	ug/L	9.98		5.64	9.32-162		
Surrogate: 2-Fluorobiphenyl-surr			*8.20*	*ug/L*	*9.98*		*82.1*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.6*	*ug/L*	*20.0*		*113*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*24.2*	*ug/L*	*20.0*		*121*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.6*	*ug/L*	*9.98*		*106*	*52-162*		
Surrogate: Phenol-d5-surr			*20.5*	*ug/L*	*20.0*		*103*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.89*	*ug/L*	*9.98*		*89.0*	*51.9-147*		
BS SV (BGA3953-BS2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
1,2,4-Trichlorobenzene	11.5		0.556	ug/L	9.88		117	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	10.5		0.556	ug/L	9.88		106	60-140		
1,2-Diphenylhydrazine	12.1		0.556	ug/L	9.88		122	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	9.21		0.556	ug/L	9.88		93.1	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	10.3		0.556	ug/L	9.88		104	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	11.6		0.556	ug/L	9.88		117	60-140		
2,4-Dichlorophenol	22.4		0.556	ug/L	19.8		114	60-140		
2,4-Dimethylphenol	25.2		1.11	ug/L	19.8		128	35.9-153		
2,4-Dinitrophenol	64.8		4.45	ug/L	49.4		131	60-140		
2,4-Dinitrotoluene (2,4-DNT)	12.7		0.556	ug/L	9.88		129	60-140		
2,6-Dinitrotoluene (2,6-DNT)	13.0		0.556	ug/L	9.88		132	60-140		
2-Chloronaphthalene	11.5		0.556	ug/L	9.88		117	60-140		
2-Chlorophenol	12.7		1.11	ug/L	19.8		64.1	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	26.3		1.11	ug/L	19.8		133	60-140		
2-Nitrophenol	21.8		1.11	ug/L	19.8		110	60-140		
4-Bromophenyl phenyl ether (BDE-3)	11.0		0.556	ug/L	9.88		112	60-140		
4-Chloro-3-methylphenol	24.0		1.11	ug/L	19.8		121	60-140		
4-Chlorophenyl phenylether	10.4		0.556	ug/L	9.88		106	60-140		
4-Nitrophenol	59.0		4.45	ug/L	49.4		119	60-140		
Acenaphthene	11.7		0.556	ug/L	9.88		118	60-140		
Acenaphthylene	13.5		0.556	ug/L	9.88		137	60-140		
Anthracene	11.9		0.556	ug/L	9.88		120	60-140		
Benzo(a)anthracene	12.3		0.556	ug/L	9.88		124	60-140		
Benzo(a)pyrene	12.0		0.556	ug/L	9.88		121	60-140		
benzo(b&k)fluoranthene	24.3		0.556	ug/L	19.8		123	60-140		
Benzo(g,h,i)perylene	11.1		0.556	ug/L	9.88		112	60-140		
bis(2-Chloroethoxy)methane	12.0		0.556	ug/L	9.88		121	60-140		
bis(2-Chloroethyl) ether	8.62		0.556	ug/L	9.88		87.3	60-140		
Bis(2-ethylhexyl)phthalate	11.4		0.556	ug/L	9.88		116	60-140		
Butyl benzyl phthalate	11.5		0.556	ug/L	9.88		116	60-140		
Chrysene	10.8		0.556	ug/L	9.88		109	60-140		
Dibenzo(a,h)anthracene	11.3		0.556	ug/L	9.88		114	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
BS SV (BGA3953-BS2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
Diethyl phthalate	12.0		0.556	ug/L	9.88		122	60-140		
Dimethyl phthalate	13.5		0.556	ug/L	9.88		137	60-140		
Di-n-butyl phthalate	<0.556	J1, L, U	0.556	ug/L	9.88			60-140		
Di-n-octyl phthalate	13.4		0.556	ug/L	9.88		135	60-140		
Fluoranthene	11.6		0.556	ug/L	9.88		117	60-140		
Fluorene	11.6		0.556	ug/L	9.88		118	60-140		
Hexachlorobenzene	10.7		0.556	ug/L	9.88		109	60-140		
Hexachlorobutadiene	6.91		0.556	ug/L	9.88		69.9	60-140		
Hexachlorocyclopentadiene	9.30		0.556	ug/L	9.88		94.1	60-140		
Hexachloroethane	8.37		0.556	ug/L	9.88		84.7	60-140		
Indeno(1,2,3-cd) pyrene	10.9		0.556	ug/L	9.88		111	60-140		
Isophorone	10.7		0.556	ug/L	9.88		108	60-140		
Naphthalene	11.7		0.556	ug/L	9.88		118	60-140		
Nitrobenzene	12.7		0.556	ug/L	9.88		128	60-140		
n-Nitrosodimethylamine	4.57		2.22	ug/L	49.4		9.25	2.5-65.7		
n-Nitrosodi-n-propylamine	11.6		0.556	ug/L	9.88		118	60-140		
n-Nitrosodiphenylamine	9.55		0.556	ug/L	9.88		96.6	60-140		
Pentachlorophenol	24.0		1.11	ug/L	19.8		121	36.8-149		
Phenanthrene	11.6		0.556	ug/L	9.88		117	60-140		
Phenol, Total	21.2		1.11	ug/L	19.8		107	60-140		
Pyrene	9.70		0.556	ug/L	9.88		98.1	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*10.8*	*ug/L*	*9.88*		*110*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*26.2*	*ug/L*	*19.8*		*133*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.4*	*ug/L*	*19.8*		*98.0*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.1*	*ug/L*	*9.88*		*102*	*52-162*		
Surrogate: Phenol-d5-surr			*26.2*	*ug/L*	*19.8*		*132*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.07*	*ug/L*	*9.88*		*91.8*	*51.9-147*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
BSD BENZ (BGA3953-BSD1)					Prepared: 1/31/2023 Analyzed: 2/7/2023					
3,3'-Dichlorobenzidine	6.24		0.550	ug/L	9.78		63.8	22.3-156	8.11	40
Benzidine	0.941	J1	0.550	ug/L	9.78		9.63	9.32-162	50.2	40
Surrogate: 2-Fluorobiphenyl-surr			*9.15*	*ug/L*	*9.78*		*93.6*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.3*	*ug/L*	*19.6*		*119*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*25.9*	*ug/L*	*19.6*		*133*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.4*	*ug/L*	*9.78*		*117*	*52-162*		
Surrogate: Phenol-d5-surr			*22.5*	*ug/L*	*19.6*		*115*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.26*	*ug/L*	*9.78*		*94.7*	*51.9-147*		
BSD SV (BGA3953-BSD2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
1,2,4-Trichlorobenzene	9.53		0.562	ug/L	10.0		95.3	60-140	18.9	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.17		0.562	ug/L	10.0		91.8	60-140	13.1	40
1,2-Diphenylhydrazine	11.1		0.562	ug/L	10.0		111	60-140	8.45	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.07		0.562	ug/L	10.0		80.8	60-140	13.1	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.96		0.562	ug/L	10.0		89.6	60-140	13.7	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.1		0.562	ug/L	10.0		101	60-140	13.5	40
2,4-Dichlorophenol	19.7		0.562	ug/L	20.0		98.7	60-140	12.8	40
2,4-Dimethylphenol	22.7		1.12	ug/L	20.0		113	35.9-153	10.6	40
2,4-Dinitrophenol	62.4		4.50	ug/L	50.0		125	60-140	3.76	40
2,4-Dinitrotoluene (2,4-DNT)	11.3		0.562	ug/L	10.0		113	60-140	11.5	40
2,6-Dinitrotoluene (2,6-DNT)	11.0		0.562	ug/L	10.0		111	60-140	16.3	40
2-Chloronaphthalene	10.1		0.562	ug/L	10.0		101	60-140	13.2	40
2-Chlorophenol	11.0	J1	1.12	ug/L	20.0		55.0	60-140	14.2	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.2		1.12	ug/L	20.0		121	60-140	8.62	40
2-Nitrophenol	21.4		1.12	ug/L	20.0		107	60-140	1.70	40
4-Bromophenyl phenyl ether (BDE-3)	9.43		0.562	ug/L	10.0		94.4	60-140	15.7	40
4-Chloro-3-methylphenol	21.2		1.12	ug/L	20.0		106	60-140	12.4	40
4-Chlorophenyl phenylether	7.34		0.562	ug/L	10.0		73.4	60-140	34.9	40
4-Nitrophenol	55.7		4.50	ug/L	50.0		111	60-140	5.84	40
Acenaphthene	10.2		0.562	ug/L	10.0		102	60-140	13.5	40
Acenaphthylene	12.0		0.562	ug/L	10.0		120	60-140	11.9	40
Anthracene	10.3		0.562	ug/L	10.0		104	60-140	13.6	40
Benzo(a)anthracene	11.5		0.562	ug/L	10.0		115	60-140	6.82	40
Benzo(a)pyrene	10.7		0.562	ug/L	10.0		107	60-140	11.2	40
benzo(b&k)fluoranthene	18.8		0.562	ug/L	20.0		94.0	60-140	25.5	40
Benzo(g,h,i)perylene	9.30		0.562	ug/L	10.0		93.1	60-140	17.2	40
bis(2-Chloroethoxy)methane	10.4		0.562	ug/L	10.0		104	60-140	14.1	40
bis(2-Chloroethyl) ether	9.61		0.562	ug/L	10.0		96.1	60-140	10.8	40
Bis(2-ethylhexyl)phthalate	10.1		0.562	ug/L	10.0		101	60-140	12.2	40
Butyl benzyl phthalate	10.5		0.562	ug/L	10.0		105	60-140	8.71	40
Chrysene	9.66		0.562	ug/L	10.0		96.7	60-140	10.7	40
Dibenzo(a,h)anthracene	10.3		0.562	ug/L	10.0		104	60-140	8.75	40

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TCEQ T104704238-23-38
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
BSD SV (BGA3953-BSD2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
Diethyl phthalate	10.5		0.562	ug/L	10.0		105	60-140	13.3	40
Dimethyl phthalate	11.3		0.562	ug/L	10.0		113	60-140	18.4	40
Di-n-butyl phthalate	18.4	J1, L	0.562	ug/L	10.0		184	60-140	200	40
Di-n-octyl phthalate	11.6		0.562	ug/L	10.0		117	60-140	13.8	40
Fluoranthene	10.1		0.562	ug/L	10.0		101	60-140	13.9	40
Fluorene	9.56		0.562	ug/L	10.0		95.7	60-140	19.6	40
Hexachlorobenzene	8.38		0.562	ug/L	10.0		83.8	60-140	24.6	40
Hexachlorobutadiene	5.86	J1	0.562	ug/L	10.0		58.7	60-140	16.4	40
Hexachlorocyclopentadiene	9.45		0.562	ug/L	10.0		94.6	60-140	1.67	40
Hexachloroethane	7.33		0.562	ug/L	10.0		73.3	60-140	13.3	40
Indeno(1,2,3-cd) pyrene	10.2		0.562	ug/L	10.0		102	60-140	7.38	40
Isophorone	9.05		0.562	ug/L	10.0		90.5	60-140	16.4	40
Naphthalene	9.90		0.562	ug/L	10.0		99.1	60-140	16.4	40
Nitrobenzene	11.3		0.562	ug/L	10.0		113	60-140	11.3	40
n-Nitrosodimethylamine	4.02		2.25	ug/L	50.0		8.05	2.5-65.7	12.7	40
n-Nitrosodi-n-propylamine	10.3		0.562	ug/L	10.0		104	60-140	11.8	40
n-Nitrosodiphenylamine	7.85		0.562	ug/L	10.0		78.6	60-140	19.5	40
Pentachlorophenol	21.0		1.12	ug/L	20.0		105	36.8-149	13.2	40
Phenanthrene	10.2		0.562	ug/L	10.0		102	60-140	12.9	40
Phenol, Total	19.7		1.12	ug/L	20.0		98.5	60-140	7.39	40
Pyrene	7.07		0.562	ug/L	10.0		70.7	60-140	31.3	40
Surrogate: 2-Fluorobiphenyl-surr			*9.87*	*ug/L*	*10.0*		*98.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.3*	*ug/L*	*20.0*		*116*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.2*	*ug/L*	*20.0*		*85.8*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.88*	*ug/L*	*10.0*		*98.8*	*52-162*		
Surrogate: Phenol-d5-surr			*25.4*	*ug/L*	*20.0*		*127*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*7.98*	*ug/L*	*10.0*		*79.8*	*51.9-147*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
MDL BENZ (BGA3953-MRL1)					Prepared: 1/31/2023 Analyzed: 2/7/2023					
3,3'-Dichlorobenzidine	<0.560	U	0.560	ug/L	0.498					
Benzidine	<0.560	J1, U	0.560	ug/L	0.498					
Surrogate: 2-Fluorobiphenyl-surr			*9.32*	*ug/L*	*9.96*		*93.6*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.2*	*ug/L*	*19.9*		*117*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*25.8*	*ug/L*	*19.9*		*130*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.1*	*ug/L*	*9.96*		*112*	*52-162*		
Surrogate: Phenol-d5-surr			*22.4*	*ug/L*	*19.9*		*113*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.08*	*ug/L*	*9.96*		*91.2*	*51.9-147*		
MDL SV (BGA3953-MRL2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
1,2,4-Trichlorobenzene	0.533	J	0.558	ug/L	0.496		107			
1,2-Dichlorobenzene (o-Dichlorobenzene)	0.573		0.558	ug/L	0.496		115			
1,2-Diphenylhydrazine	0.727		0.558	ug/L	0.496		146			
1,3-Dichlorobenzene (m-Dichlorobenzene)	0.459	J	0.558	ug/L	0.496		92.4			
1,4-Dichlorobenzene (p-Dichlorobenzene)	0.485	J	0.558	ug/L	0.496		97.6			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	0.662		0.558	ug/L	0.496		133			
2,4-Dichlorophenol	1.17		0.558	ug/L	0.993		118	50-150		
2,4-Dimethylphenol	1.17		1.12	ug/L	0.993		118			
2,4-Dinitrophenol	<4.47	U	4.47	ug/L	2.48					
2,4-Dinitrotoluene (2,4-DNT)	0.389	J	0.558	ug/L	0.496		78.4			
2,6-Dinitrotoluene (2,6-DNT)	0.953		0.558	ug/L	0.496		192			
2-Chloronaphthalene	0.556	J	0.558	ug/L	0.496		112			
2-Chlorophenol	0.644	J	1.12	ug/L	0.993		64.9			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	0.922	J	1.12	ug/L	0.993		92.9			
2-Nitrophenol	1.35		1.12	ug/L	0.993		136			
4-Bromophenyl phenyl ether (BDE-3)	0.350	J	0.558	ug/L	0.496		70.5			
4-Chloro-3-methylphenol	1.30		1.12	ug/L	0.993		130			
4-Chlorophenyl phenylether	0.398	J	0.558	ug/L	0.496		80.2			
4-Nitrophenol	<4.47	U	4.47	ug/L	2.48					
Acenaphthene	0.542	J	0.558	ug/L	0.496		109			
Acenaphthylene	0.727		0.558	ug/L	0.496		147			
Anthracene	0.381	J	0.558	ug/L	0.496		76.8			
Benzo(a)anthracene	0.610		0.558	ug/L	0.496		123			
Benzo(a)pyrene	0.581		0.558	ug/L	0.496		117			
benzo(b&k)fluoranthene	1.11		0.558	ug/L	0.993		111	50-150		
Benzo(g,h,i)perylene	0.469	J	0.558	ug/L	0.496		94.5			
bis(2-Chloroethoxy)methane	0.696		0.558	ug/L	0.496		140			
bis(2-Chloroethyl) ether	0.600		0.558	ug/L	0.496		121			
Bis(2-ethylhexyl)phthalate	0.507	J	0.558	ug/L	0.496		102			
Butyl benzyl phthalate	0.502	J	0.558	ug/L	0.496		101			
Chrysene	0.382	J	0.558	ug/L	0.496		77.0			

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
MDL SV (BGA3953-MRL2)					Prepared: 1/31/2023 Analyzed: 2/13/2023					
Dibenzo(a,h)anthracene	0.409	J	0.558	ug/L	0.496		82.4			
Diethyl phthalate	1.26		0.558	ug/L	0.496		254			
Dimethyl phthalate	1.82		0.558	ug/L	0.496		367			
Di-n-butyl phthalate	7.40		0.558	ug/L	0.496		NR			
Di-n-octyl phthalate	0.562		0.558	ug/L	0.496		113			
Fluoranthene	0.298	J	0.558	ug/L	0.496		60.0			
Fluorene	0.641		0.558	ug/L	0.496		129			
Hexachlorobenzene	0.350	J	0.558	ug/L	0.496		70.6			
Hexachlorobutadiene	0.302	J	0.558	ug/L	0.496		60.8			
Hexachlorocyclopentadiene	0.796		0.558	ug/L	0.496		160			
Hexachloroethane	0.376	J	0.558	ug/L	0.496		75.7			
Indeno(1,2,3-cd) pyrene	0.460	J	0.558	ug/L	0.496		92.7			
Isophorone	0.480	J	0.558	ug/L	0.496		96.6			
Naphthalene	0.533	J	0.558	ug/L	0.496		107			
Nitrobenzene	0.677		0.558	ug/L	0.496		136			
n-Nitrosodimethylamine	0.539	J1, J	2.23	ug/L	2.48		21.7	50-150		
n-Nitrosodi-n-propylamine	0.789		0.558	ug/L	0.496		159			
n-Nitrosodiphenylamine	0.501	J	0.558	ug/L	0.496		101			
Pentachlorophenol	0.590	J	1.12	ug/L	0.993		59.5			
Phenanthrene	0.483	J	0.558	ug/L	0.496		97.3			
Phenol, Total	1.36		1.12	ug/L	0.993		137			
Pyrene	0.352	J	0.558	ug/L	0.496		70.9			
Surrogate: 2-Fluorobiphenyl-surr			*9.61*	*ug/L*	*9.93*		*96.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.8*	*ug/L*	*19.9*		*115*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.0*	*ug/L*	*19.9*		*95.9*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.03*	*ug/L*	*9.93*		*90.9*	*52-162*		
Surrogate: Phenol-d5-surr			*22.4*	*ug/L*	*19.9*		*113*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.10*	*ug/L*	*9.93*		*91.7*	*51.9-147*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
23A1459-02 MS (BGA3953-MS1)		**Source: 23A1459-02RE1**		Prepared: 1/31/2023 Analyzed: 2/13/2023						
1,2,4-Trichlorobenzene	10.6		0.556	ug/L	9.89	<0.556	108	35.3-142		
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.70		0.556	ug/L	9.89	<0.556	98.1	31.4-142		
1,2-Diphenylhydrazine	11.7		0.556	ug/L	9.89	<0.556	119	48.9-156		
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.72		0.556	ug/L	9.89	<0.556	88.2	30.5-135		
1,4-Dichlorobenzene (p-Dichlorobenzene)	9.85		0.556	ug/L	9.89	<0.556	99.6	37.2-133		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	11.0		0.556	ug/L	9.89	<0.556	112	41.7-151		
2,4-Dichlorophenol	21.2		0.556	ug/L	19.8	<0.556	107	42.7-158		
2,4-Dimethylphenol	24.1		1.11	ug/L	19.8	<1.11	122	38.4-170		
2,4-Dinitrophenol	61.7		4.45	ug/L	49.4	<4.45	125	60-140		
2,4-Dinitrotoluene (2,4-DNT)	12.1		0.556	ug/L	9.89	<0.556	122	50.3-144		
2,6-Dinitrotoluene (2,6-DNT)	12.4		0.556	ug/L	9.89	<0.556	125	43.7-157		
2-Chloronaphthalene	10.9		0.556	ug/L	9.89	<0.556	110	27.4-158		
2-Chlorophenol	12.4		1.11	ug/L	19.8	<1.11	62.8	49.2-150		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.1		1.11	ug/L	19.8	<1.11	122	41.9-153		
2-Nitrophenol	23.1		1.11	ug/L	19.8	<1.11	117	51.9-150		
4-Bromophenyl phenyl ether (BDE-3)	10.2		0.556	ug/L	9.89	<0.556	103	45.2-146		
4-Chloro-3-methylphenol	23.1		1.11	ug/L	19.8	<1.11	117	46.9-147		
4-Chlorophenyl phenylether	8.64		0.556	ug/L	9.89	<0.556	87.4	44.5-143		
4-Nitrophenol	60.1		4.45	ug/L	49.4	<4.45	122	2-173		
Acenaphthene	10.8		0.556	ug/L	9.89	<0.556	110	47.3-149		
Acenaphthylene	12.9		0.556	ug/L	9.89	<0.556	131	56.5-173		
Anthracene	11.1		0.556	ug/L	9.89	<0.556	112	49.7-160		
Benzo(a)anthracene	10.7		0.556	ug/L	9.89	<0.556	108	41.7-151		
Benzo(a)pyrene	9.25		0.556	ug/L	9.89	<0.556	93.5	45.4-133		
benzo(b&k)fluoranthene	19.6		0.556	ug/L	19.8	<0.556	99.3	55.3-137		
Benzo(g,h,i)perylene	8.01		0.556	ug/L	9.89	<0.556	81.0	37.9-152		
bis(2-Chloroethoxy)methane	11.3		0.556	ug/L	9.89	<0.556	114	40.1-151		
bis(2-Chloroethyl) ether	8.68		0.556	ug/L	9.89	<0.556	87.7	45.9-163		
Bis(2-ethylhexyl)phthalate	6.87		0.556	ug/L	9.89	<0.556	69.5	38.3-135		
Butyl benzyl phthalate	9.87		0.556	ug/L	9.89	<0.556	99.8	41.1-148		
Chrysene	9.03		0.556	ug/L	9.89	<0.556	91.3	51-147		
Dibenzo(a,h)anthracene	7.39		0.556	ug/L	9.89	<0.556	74.8	27.5-156		
Diethyl phthalate	11.5		0.556	ug/L	9.89	0.522	111	53.4-146		
Dimethyl phthalate	11.7		0.556	ug/L	9.89	<0.556	118	53-151		
Di-n-butyl phthalate	11.0		0.556	ug/L	9.89	1.19	98.8	25.4-168		
Di-n-octyl phthalate	7.53		0.556	ug/L	9.89	<0.556	76.2	39.2-123		
Fluoranthene	10.6		0.556	ug/L	9.89	<0.556	108	45.3-156		
Fluorene	11.0		0.556	ug/L	9.89	<0.556	111	56.3-145		
Hexachlorobenzene	8.95		0.556	ug/L	9.89	<0.556	90.5	56.1-137		
Hexachlorobutadiene	6.55		0.556	ug/L	9.89	<0.556	66.3	33.1-110		
Hexachlorocyclopentadiene	9.34		0.556	ug/L	9.89	<0.556	94.5	2-179		
Hexachloroethane	7.58		0.556	ug/L	9.89	<0.556	76.7	36.2-106		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
23A1459-02 MS (BGA3953-MS1)		**Source: 23A1459-02RE1**		Prepared: 1/31/2023 Analyzed: 2/13/2023						
Indeno(1,2,3-cd) pyrene	7.69		0.556	ug/L	9.89	<0.556	77.7	33.4-153		
Isophorone	9.43		0.556	ug/L	9.89	<0.556	95.4	43.3-154		
Naphthalene	11.2		0.556	ug/L	9.89	<0.556	113	45.1-153		
Nitrobenzene	13.2		0.556	ug/L	9.89	<0.556	134	54.9-156		
n-Nitrosodimethylamine	4.91		2.22	ug/L	49.4	<2.22	9.93	2-56.4		
n-Nitrosodi-n-propylamine	10.9		0.556	ug/L	9.89	<0.556	110	38.3-160		
n-Nitrosodiphenylamine	7.41		0.556	ug/L	9.89	<0.556	75.0	38.1-163		
Pentachlorophenol	22.5		1.11	ug/L	19.8	<1.11	114	42.2-151		
Phenanthrene	10.9		0.556	ug/L	9.89	<0.556	110	45.3-165		
Phenol, Total	21.4		1.11	ug/L	19.8	0.803	104	39.8-164		
Pyrene	8.86		0.556	ug/L	9.89	<0.556	89.6	46.3-149		
Surrogate: 2-Fluorobiphenyl-surr			*10.3*	*ug/L*	*9.89*		*105*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*25.1*	*ug/L*	*19.8*		*127*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*18.5*	*ug/L*	*19.8*		*93.4*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.94*	*ug/L*	*9.89*		*101*	*52-162*		
Surrogate: Phenol-d5-surr			*26.1*	*ug/L*	*19.8*		*132*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.91*	*ug/L*	*9.89*		*69.9*	*51.9-147*		
23A1459-02 MSD (BGA3953-MSD1)		**Source: 23A1459-02RE1**		Prepared: 1/31/2023 Analyzed: 2/13/2023						
1,2,4-Trichlorobenzene	9.43		0.559	ug/L	9.94	<0.559	94.9	35.3-142	12.0	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.66		0.559	ug/L	9.94	<0.559	97.2	31.4-142	0.363	40
1,2-Diphenylhydrazine	10.9		0.559	ug/L	9.94	<0.559	109	48.9-156	7.56	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	7.96		0.559	ug/L	9.94	<0.559	80.1	30.5-135	9.15	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	9.34		0.559	ug/L	9.94	<0.559	93.9	37.2-133	5.38	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	11.1		0.559	ug/L	9.94	<0.559	111	41.7-151	0.358	40
2,4-Dichlorophenol	21.3		0.559	ug/L	19.9	<0.559	107	42.7-158	0.638	40
2,4-Dimethylphenol	22.9		1.12	ug/L	19.9	<1.12	115	38.4-170	5.12	40
2,4-Dinitrophenol	65.1		4.47	ug/L	49.7	<4.47	131	60-140	5.44	40
2,4-Dinitrotoluene (2,4-DNT)	11.8		0.559	ug/L	9.94	<0.559	119	50.3-144	2.30	40
2,6-Dinitrotoluene (2,6-DNT)	11.8		0.559	ug/L	9.94	<0.559	119	43.7-157	4.70	40
2-Chloronaphthalene	9.93		0.559	ug/L	9.94	<0.559	99.9	27.4-158	8.90	40
2-Chlorophenol	11.8		1.12	ug/L	19.9	<1.12	59.4	49.2-150	5.17	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.6		1.12	ug/L	19.9	<1.12	124	41.9-153	2.07	40
2-Nitrophenol	20.8		1.12	ug/L	19.9	<1.12	105	51.9-150	10.4	40
4-Bromophenyl phenyl ether (BDE-3)	9.04		0.559	ug/L	9.94	<0.559	91.0	45.2-146	11.9	40
4-Chloro-3-methylphenol	21.6		1.12	ug/L	19.9	<1.12	108	46.9-147	6.68	40
4-Chlorophenyl phenylether	7.66		0.559	ug/L	9.94	<0.559	77.1	44.5-143	12.0	40
4-Nitrophenol	57.3		4.47	ug/L	49.7	<4.47	115	2-173	4.81	40
Acenaphthene	9.98		0.559	ug/L	9.94	<0.559	100	47.3-149	8.28	40
Acenaphthylene	11.8		0.559	ug/L	9.94	<0.559	119	56.5-173	8.91	40
Anthracene	10.0		0.559	ug/L	9.94	<0.559	101	49.7-160	10.1	40
Benzo(a)anthracene	10.2		0.559	ug/L	9.94	<0.559	103	41.7-151	4.68	40

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3953 - SW-3511 (Continued)										
23A1459-02 MSD (BGA3953-MSD1)		**Source: 23A1459-02RE1**			Prepared: 1/31/2023 Analyzed: 2/13/2023					
Benzo(a)pyrene	8.59		0.559	ug/L	9.94	<0.559	86.4	45.4-133	7.36	40
benzo(b&k)fluoranthene	18.8		0.559	ug/L	19.9	<0.559	94.7	55.3-137	4.20	40
Benzo(g,h,i)perylene	7.48		0.559	ug/L	9.94	<0.559	75.3	37.9-152	6.80	40
bis(2-Chloroethoxy)methane	11.0		0.559	ug/L	9.94	<0.559	110	40.1-151	2.53	40
bis(2-Chloroethyl) ether	9.19		0.559	ug/L	9.94	<0.559	92.5	45.9-163	5.79	40
Bis(2-ethylhexyl)phthalate	6.32		0.559	ug/L	9.94	<0.559	63.6	38.3-135	8.30	40
Butyl benzyl phthalate	9.22		0.559	ug/L	9.94	<0.559	92.8	41.1-148	6.79	40
Chrysene	8.28		0.559	ug/L	9.94	<0.559	83.3	51-147	8.66	40
Dibenzo(a,h)anthracene	7.05		0.559	ug/L	9.94	<0.559	70.9	27.5-156	4.77	40
Diethyl phthalate	10.3		0.559	ug/L	9.94	0.522	98.4	53.4-146	10.5	40
Dimethyl phthalate	10.7		0.559	ug/L	9.94	<0.559	108	53-151	8.93	40
Di-n-butyl phthalate	9.80		0.559	ug/L	9.94	1.19	86.6	25.4-168	11.2	40
Di-n-octyl phthalate	6.94		0.559	ug/L	9.94	<0.559	69.9	39.2-123	8.13	40
Fluoranthene	9.84		0.559	ug/L	9.94	<0.559	99.0	45.3-156	7.69	40
Fluorene	9.84		0.559	ug/L	9.94	<0.559	99.0	56.3-145	10.8	40
Hexachlorobenzene	7.97		0.559	ug/L	9.94	<0.559	80.2	56.1-137	11.6	40
Hexachlorobutadiene	6.16		0.559	ug/L	9.94	<0.559	62.0	33.1-110	6.11	40
Hexachlorocyclopentadiene	9.74		0.559	ug/L	9.94	<0.559	98.0	2-179	4.18	40
Hexachloroethane	7.69		0.559	ug/L	9.94	<0.559	77.3	36.2-106	1.37	40
Indeno(1,2,3-cd) pyrene	7.30		0.559	ug/L	9.94	<0.559	73.5	33.4-153	5.15	40
Isophorone	9.70		0.559	ug/L	9.94	<0.559	97.6	43.3-154	2.79	40
Naphthalene	10.4		0.559	ug/L	9.94	<0.559	105	45.1-153	7.58	40
Nitrobenzene	12.3		0.559	ug/L	9.94	<0.559	124	54.9-156	7.44	40
n-Nitrosodimethylamine	4.78		2.24	ug/L	49.7	<2.24	9.61	2-56.4	2.74	40
n-Nitrosodi-n-propylamine	11.1		0.559	ug/L	9.94	<0.559	112	38.3-160	1.68	40
n-Nitrosodiphenylamine	5.14		0.559	ug/L	9.94	<0.559	51.7	38.1-163	36.3	40
Pentachlorophenol	21.3		1.12	ug/L	19.9	<1.12	107	42.2-151	5.81	40
Phenanthrene	10.3		0.559	ug/L	9.94	<0.559	104	45.3-165	5.16	40
Phenol, Total	20.1		1.12	ug/L	19.9	0.803	97.2	39.8-164	5.87	40
Pyrene	8.36		0.559	ug/L	9.94	<0.559	84.1	46.3-149	5.84	40
Surrogate: 2-Fluorobiphenyl-surr			*9.18*	*ug/L*	*9.94*		*92.4*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.2*	*ug/L*	*19.9*		*117*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.3*	*ug/L*	*19.9*		*87.1*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.06*	*ug/L*	*9.94*		*91.1*	*52-162*		
Surrogate: Phenol-d5-surr			*24.8*	*ug/L*	*19.9*		*125*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.92*	*ug/L*	*9.94*		*69.7*	*51.9-147*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570										
Blank (BGB0288-BLK1)				Prepared: 2/2/2023 Analyzed: 2/9/2023						
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet						
Benzidine	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*14.2*	*ug/kg wet*	*20.0*		*70.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.8*	*ug/kg wet*	*40.0*		*92.1*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*42.2*	*ug/kg wet*	*40.0*		*105*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*20.0*	*ug/kg wet*	*20.0*		*100*	*60-140*		
Surrogate: Phenol-d5-surr			*40.0*	*ug/kg wet*	*40.0*		*100*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.6*	*ug/kg wet*	*20.0*		*78.0*	*60-140*		
Blank (BGB0288-BLK2)				Prepared: 2/2/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	<2.50	U	2.50	ug/kg wet						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
1,2-Diphenylhydrazine	<2.50	U	2.50	ug/kg wet						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<2.50	U	2.50	ug/kg wet						
2,4,6-Trichlorophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dichlorophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dimethylphenol	<5.00	U	5.00	ug/kg wet						
2,4-Dinitrophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dinitrotoluene (2,4-DNT)	<2.50	U	2.50	ug/kg wet						
2,6-Dinitrotoluene (2,6-DNT)	<2.50	U	2.50	ug/kg wet						
2-Chloronaphthalene	<2.50	U	2.50	ug/kg wet						
2-Chlorophenol	<5.00	U	5.00	ug/kg wet						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<20.0	U	20.0	ug/kg wet						
2-Nitrophenol	<5.00	U	5.00	ug/kg wet						
4-Bromophenyl phenyl ether (BDE-3)	<2.50	U	2.50	ug/kg wet						
4-Chloro-3-methylphenol	<5.00	U	5.00	ug/kg wet						
4-Chlorophenyl phenylether	<2.50	U	2.50	ug/kg wet						
4-Nitrophenol	<2.50	U	2.50	ug/kg wet						
Acenaphthene	<2.50	U	2.50	ug/kg wet						
Acenaphthylene	<2.50	U	2.50	ug/kg wet						
Anthracene	<2.50	U	2.50	ug/kg wet						
Benzo(a)anthracene	<2.50	U	2.50	ug/kg wet						
Benzo(a)pyrene	<2.50	U	2.50	ug/kg wet						
Benzo(b)fluoranthene	<2.50	U	2.50	ug/kg wet						
Benzo(g,h,i)perylene	<2.50	U	2.50	ug/kg wet						
Benzo(k)fluoranthene	<2.50	U	2.50	ug/kg wet						
bis(2-Chloroethoxy)methane	<2.50	U	2.50	ug/kg wet						
bis(2-Chloroethyl) ether	<2.50	U	2.50	ug/kg wet						
Bis(2-ethylhexyl)phthalate	<2.50	U	2.50	ug/kg wet						

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
Blank (BGB0288-BLK2)				Prepared: 2/2/2023 Analyzed: 2/27/2023						
Butyl benzyl phthalate	<2.50	U	2.50	ug/kg wet						
Chrysene	<2.50	U	2.50	ug/kg wet						
Dibenzo(a,h)anthracene	<2.50	U	2.50	ug/kg wet						
Diethyl phthalate	<2.50	U	2.50	ug/kg wet						
Dimethyl phthalate	<2.50	U	2.50	ug/kg wet						
Di-n-butyl phthalate	1.58	J	2.50	ug/kg wet						
Di-n-octyl phthalate	<2.50	U	2.50	ug/kg wet						
Fluoranthene	<2.50	U	2.50	ug/kg wet						
Fluorene	<2.50	U	2.50	ug/kg wet						
Hexachlorobenzene	<2.50	U	2.50	ug/kg wet						
Hexachlorobutadiene	<2.50	U	2.50	ug/kg wet						
Hexachlorocyclopentadiene	<2.50	U	2.50	ug/kg wet						
Hexachloroethane	<2.50	U	2.50	ug/kg wet						
Indeno(1,2,3-cd) pyrene	<2.50	U	2.50	ug/kg wet						
Isophorone	<2.50	U	2.50	ug/kg wet						
Naphthalene	<2.50	U	2.50	ug/kg wet						
Nitrobenzene	<2.50	U	2.50	ug/kg wet						
n-Nitrosodimethylamine	<2.50	U	2.50	ug/kg wet						
n-Nitrosodi-n-propylamine	<2.50	U	2.50	ug/kg wet						
n-Nitrosodiphenylamine	<2.50	U	2.50	ug/kg wet						
Pentachlorophenol	<5.00	U	5.00	ug/kg wet						
Phenanthrene	<2.50	U	2.50	ug/kg wet						
Phenol, Total	<5.00	U	5.00	ug/kg wet						
Pyrene	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr	*S*		*11.0*	*ug/kg wet*	*20.0*		*55.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr	*S*		*23.5*	*ug/kg wet*	*40.0*		*58.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr	*S*		*23.5*	*ug/kg wet*	*40.0*		*58.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr	*S*		*10.1*	*ug/kg wet*	*20.0*		*50.5*	*60-140*		
Surrogate: Phenol-d5-surr	*S*		*21.9*	*ug/kg wet*	*40.0*		*54.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr	*S*		*11.2*	*ug/kg wet*	*20.0*		*56.0*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
BS BENZ (BGB0288-BS1)					Prepared: 2/2/2023 Analyzed: 2/9/2023					
3,3'-Dichlorobenzidine	3.39	J1	2.50	ug/kg wet	20.0		16.9	60-140		
Benzidine	<2.50	J1, U	2.50	ug/kg wet	20.0			60-140		
Surrogate: 2-Fluorobiphenyl-surr			*13.9*	*ug/kg wet*	*20.0*		*69.6*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.4*	*ug/kg wet*	*40.0*		*91.0*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*40.5*	*ug/kg wet*	*40.0*		*101*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.9*	*ug/kg wet*	*20.0*		*99.3*	*60-140*		
Surrogate: Phenol-d5-surr			*39.3*	*ug/kg wet*	*40.0*		*98.2*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.4*	*ug/kg wet*	*20.0*		*77.1*	*60-140*		
BS SV (BGB0288-BS2)					Prepared: 2/2/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	14.0		2.50	ug/kg wet	20.0		70.1	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.5		2.50	ug/kg wet	20.0		62.5	60-140		
1,2-Diphenylhydrazine	16.7		2.50	ug/kg wet	20.0		83.6	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.6	J1	2.50	ug/kg wet	20.0		58.1	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.3		2.50	ug/kg wet	20.0		61.6	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	16.4		2.50	ug/kg wet	20.0		81.8	60-140		
2,4,6-Trichlorophenol	32.5		5.00	ug/kg wet	40.0		81.4	60-140		
2,4-Dichlorophenol	33.6		5.00	ug/kg wet	40.0		84.0	60-140		
2,4-Dimethylphenol	39.6		5.00	ug/kg wet	40.0		99.1	60-140		
2,4-Dinitrophenol	24.8		5.00	ug/kg wet	100		24.8	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	15.7		2.50	ug/kg wet	20.0		78.4	60-140		
2,6-Dinitrotoluene (2,6-DNT)	16.8		2.50	ug/kg wet	20.0		84.1	60-140		
2-Chloronaphthalene	14.7		2.50	ug/kg wet	20.0		73.3	60-140		
2-Chlorophenol	36.9		5.00	ug/kg wet	40.0		92.3	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	23.9	J1	20.0	ug/kg wet	40.0		59.8	60-140		
2-Nitrophenol	33.6		5.00	ug/kg wet	40.0		83.9	60-140		
4-Bromophenyl phenyl ether (BDE-3)	16.5		2.50	ug/kg wet	20.0		82.6	60-140		
4-Chloro-3-methylphenol	33.9		5.00	ug/kg wet	40.0		84.7	60-140		
4-Chlorophenyl phenylether	16.4		2.50	ug/kg wet	20.0		81.8	60-140		
4-Nitrophenol	88.4		2.50	ug/kg wet	100		88.4	60-140		
Acenaphthene	15.3		2.50	ug/kg wet	20.0		76.7	60-140		
Acenaphthylene	18.3		2.50	ug/kg wet	20.0		91.3	60-140		
Anthracene	17.1		2.50	ug/kg wet	20.0		85.4	60-140		
Benzo(a)anthracene	16.4		2.50	ug/kg wet	20.0		82.2	60-140		
Benzo(a)pyrene	17.2		2.50	ug/kg wet	20.0		85.8	60-140		
Benzo(b)fluoranthene	16.2		2.50	ug/kg wet	20.0		81.0	60-140		
Benzo(g,h,i)perylene	16.3		2.50	ug/kg wet	20.0		81.7	60-140		
Benzo(k)fluoranthene	16.5		2.50	ug/kg wet	20.0		82.5	60-140		
bis(2-Chloroethoxy)methane	17.7		2.50	ug/kg wet	20.0		88.7	60-140		
bis(2-Chloroethyl) ether	17.1		2.50	ug/kg wet	20.0		85.3	60-140		
Bis(2-ethylhexyl)phthalate	17.6		2.50	ug/kg wet	20.0		88.0	60-140		
Butyl benzyl phthalate	17.7		2.50	ug/kg wet	20.0		88.3	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
BS SV (BGB0288-BS2)					Prepared: 2/2/2023 Analyzed: 2/27/2023					
Chrysene	16.2		2.50	ug/kg wet	20.0		81.2	60-140		
Dibenzo(a,h)anthracene	16.0		2.50	ug/kg wet	20.0		79.9	60-140		
Diethyl phthalate	18.2		2.50	ug/kg wet	20.0		91.1	60-140		
Dimethyl phthalate	17.1		2.50	ug/kg wet	20.0		85.3	60-140		
Di-n-butyl phthalate	19.3		2.50	ug/kg wet	20.0		96.6	60-140		
Di-n-octyl phthalate	17.5		2.50	ug/kg wet	20.0		87.4	60-140		
Fluoranthene	16.7		2.50	ug/kg wet	20.0		83.4	60-140		
Fluorene	16.4		2.50	ug/kg wet	20.0		82.0	60-140		
Hexachlorobenzene	16.2		2.50	ug/kg wet	20.0		81.0	60-140		
Hexachlorobutadiene	9.92	J1	2.50	ug/kg wet	20.0		49.6	60-140		
Hexachlorocyclopentadiene	15.3		2.50	ug/kg wet	20.0		76.3	60-140		
Hexachloroethane	10.3	J1	2.50	ug/kg wet	20.0		51.3	60-140		
Indeno(1,2,3-cd) pyrene	16.0		2.50	ug/kg wet	20.0		80.2	60-140		
Isophorone	15.0		2.50	ug/kg wet	20.0		74.9	60-140		
Naphthalene	15.2		2.50	ug/kg wet	20.0		76.0	60-140		
Nitrobenzene	16.8		2.50	ug/kg wet	20.0		84.0	60-140		
n-Nitrosodimethylamine	42.3	J1	2.50	ug/kg wet	100		42.3	60-140		
n-Nitrosodi-n-propylamine	18.3		2.50	ug/kg wet	20.0		91.3	60-140		
n-Nitrosodiphenylamine	15.8		2.50	ug/kg wet	20.0		78.8	60-140		
Pentachlorophenol	34.1		5.00	ug/kg wet	40.0		85.3	60-140		
Phenanthrene	16.9		2.50	ug/kg wet	20.0		84.4	60-140		
Phenol, Total	38.0		5.00	ug/kg wet	40.0		94.9	60-140		
Pyrene	16.6		2.50	ug/kg wet	20.0		83.2	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*12.0*	*ug/kg wet*	*20.0*		*60.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.7*	*ug/kg wet*	*40.0*		*86.7*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.5*	*ug/kg wet*	*40.0*		*83.7*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.2*	*ug/kg wet*	*20.0*		*80.9*	*60-140*		
Surrogate: Phenol-d5-surr			*36.5*	*ug/kg wet*	*40.0*		*91.2*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.1*	*ug/kg wet*	*20.0*		*80.3*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
BSD BENZ (BGB0288-BSD1)					Prepared: 2/2/2023 Analyzed: 2/9/2023					
3,3'-Dichlorobenzidine	1.84	J1, J	2.50	ug/kg wet	20.0		9.19	60-140	59.2	40
Benzidine	<2.50	J1, U	2.50	ug/kg wet	20.0			60-140		40
Surrogate: 2-Fluorobiphenyl-surr			*12.8*	*ug/kg wet*	*20.0*		*63.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*35.2*	*ug/kg wet*	*40.0*		*88.1*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*42.2*	*ug/kg wet*	*40.0*		*105*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.4*	*ug/kg wet*	*20.0*		*96.8*	*60-140*		
Surrogate: Phenol-d5-surr			*38.5*	*ug/kg wet*	*40.0*		*96.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.1*	*ug/kg wet*	*20.0*		*75.4*	*60-140*		
BSD SV (BGB0288-BSD2)					Prepared: 2/2/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	14.4		2.50	ug/kg wet	20.0		72.1	60-140	2.77	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	13.1		2.50	ug/kg wet	20.0		65.5	60-140	4.65	40
1,2-Diphenylhydrazine	17.1		2.50	ug/kg wet	20.0		85.6	60-140	2.35	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.2		2.50	ug/kg wet	20.0		61.0	60-140	4.79	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.9		2.50	ug/kg wet	20.0		64.4	60-140	4.40	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	16.7		2.50	ug/kg wet	20.0		83.7	60-140	2.28	40
2,4,6-Trichlorophenol	33.5		5.00	ug/kg wet	40.0		83.7	60-140	2.77	40
2,4-Dichlorophenol	35.4		5.00	ug/kg wet	40.0		88.4	60-140	5.07	40
2,4-Dimethylphenol	40.4		5.00	ug/kg wet	40.0		101	60-140	2.00	40
2,4-Dinitrophenol	23.7		5.00	ug/kg wet	100		23.7	10-50.4	4.67	40
2,4-Dinitrotoluene (2,4-DNT)	16.5		2.50	ug/kg wet	20.0		82.4	60-140	5.06	40
2,6-Dinitrotoluene (2,6-DNT)	17.6		2.50	ug/kg wet	20.0		88.2	60-140	4.79	40
2-Chloronaphthalene	15.1		2.50	ug/kg wet	20.0		75.4	60-140	2.83	40
2-Chlorophenol	36.8		5.00	ug/kg wet	40.0		92.1	60-140	0.164	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.0	J1	20.0	ug/kg wet	40.0		59.9	60-140	0.261	40
2-Nitrophenol	35.8		5.00	ug/kg wet	40.0		89.4	60-140	6.29	40
4-Bromophenyl phenyl ether (BDE-3)	17.0		2.50	ug/kg wet	20.0		85.2	60-140	3.08	40
4-Chloro-3-methylphenol	35.1		5.00	ug/kg wet	40.0		87.7	60-140	3.59	40
4-Chlorophenyl phenylether	16.8		2.50	ug/kg wet	20.0		84.1	60-140	2.77	40
4-Nitrophenol	96.7		2.50	ug/kg wet	100		96.7	60-140	8.95	40
Acenaphthene	15.7		2.50	ug/kg wet	20.0		78.6	60-140	2.48	40
Acenaphthylene	19.0		2.50	ug/kg wet	20.0		95.1	60-140	4.04	40
Anthracene	17.7		2.50	ug/kg wet	20.0		88.7	60-140	3.84	40
Benzo(a)anthracene	17.6		2.50	ug/kg wet	20.0		88.2	60-140	7.02	40
Benzo(a)pyrene	18.4		2.50	ug/kg wet	20.0		91.8	60-140	6.78	40
Benzo(b)fluoranthene	17.4		2.50	ug/kg wet	20.0		87.2	60-140	7.29	40
Benzo(g,h,i)perylene	18.0		2.50	ug/kg wet	20.0		89.8	60-140	9.35	40
Benzo(k)fluoranthene	17.6		2.50	ug/kg wet	20.0		88.1	60-140	6.49	40
bis(2-Chloroethoxy)methane	18.6		2.50	ug/kg wet	20.0		93.0	60-140	4.79	40
bis(2-Chloroethyl) ether	18.2		2.50	ug/kg wet	20.0		91.1	60-140	6.58	40
Bis(2-ethylhexyl)phthalate	18.4		2.50	ug/kg wet	20.0		92.1	60-140	4.57	40
Butyl benzyl phthalate	18.0		2.50	ug/kg wet	20.0		90.2	60-140	2.17	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
BSD SV (BGB0288-BSD2)				Prepared: 2/2/2023 Analyzed: 2/27/2023						
Chrysene	17.1		2.50	ug/kg wet	20.0		85.5	60-140	5.19	40
Dibenzo(a,h)anthracene	17.6		2.50	ug/kg wet	20.0		87.8	60-140	9.39	40
Diethyl phthalate	18.4		2.50	ug/kg wet	20.0		92.0	60-140	0.932	40
Dimethyl phthalate	17.5		2.50	ug/kg wet	20.0		87.5	60-140	2.59	40
Di-n-butyl phthalate	30.0	J1	2.50	ug/kg wet	20.0		150	60-140	43.5	40
Di-n-octyl phthalate	18.1		2.50	ug/kg wet	20.0		90.7	60-140	3.73	40
Fluoranthene	16.9		2.50	ug/kg wet	20.0		84.4	60-140	1.14	40
Fluorene	16.8		2.50	ug/kg wet	20.0		84.0	60-140	2.42	40
Hexachlorobenzene	16.5		2.50	ug/kg wet	20.0		82.5	60-140	1.85	40
Hexachlorobutadiene	10.6	J1	2.50	ug/kg wet	20.0		53.2	60-140	7.11	40
Hexachlorocyclopentadiene	18.0		2.50	ug/kg wet	20.0		89.9	60-140	16.3	40
Hexachloroethane	11.0	J1	2.50	ug/kg wet	20.0		55.2	60-140	7.27	40
Indeno(1,2,3-cd) pyrene	17.6		2.50	ug/kg wet	20.0		88.2	60-140	9.56	40
Isophorone	15.7		2.50	ug/kg wet	20.0		78.7	60-140	4.99	40
Naphthalene	15.9		2.50	ug/kg wet	20.0		79.4	60-140	4.44	40
Nitrobenzene	18.0		2.50	ug/kg wet	20.0		89.9	60-140	6.80	40
n-Nitrosodimethylamine	47.7	J1	2.50	ug/kg wet	100		47.7	60-140	11.8	40
n-Nitrosodi-n-propylamine	18.1		2.50	ug/kg wet	20.0		90.5	60-140	0.879	40
n-Nitrosodiphenylamine	15.3		2.50	ug/kg wet	20.0		76.7	60-140	2.65	40
Pentachlorophenol	35.3		5.00	ug/kg wet	40.0		88.2	60-140	3.27	40
Phenanthrene	17.5		2.50	ug/kg wet	20.0		87.3	60-140	3.37	40
Phenol, Total	38.7		5.00	ug/kg wet	40.0		96.8	60-140	1.98	40
Pyrene	17.0		2.50	ug/kg wet	20.0		84.8	60-140	1.92	40
Surrogate: 2-Fluorobiphenyl-surr			*12.4*	*ug/kg wet*	*20.0*		*62.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.2*	*ug/kg wet*	*40.0*		*90.5*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.9*	*ug/kg wet*	*40.0*		*84.7*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.2*	*ug/kg wet*	*20.0*		*85.9*	*60-140*		
Surrogate: Phenol-d5-surr			*38.0*	*ug/kg wet*	*40.0*		*95.0*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.5*	*ug/kg wet*	*20.0*		*82.7*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
MDL BENZ (BGB0288-MRL1)					Prepared: 2/2/2023 Analyzed: 2/9/2023					
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet	2.00					
Benzidine	<2.50	J1, U	2.50	ug/kg wet	2.00					
Surrogate: 2-Fluorobiphenyl-surr			*12.1*	*ug/kg wet*	*20.0*		*60.5*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.3*	*ug/kg wet*	*40.0*		*85.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.2*	*ug/kg wet*	*40.0*		*95.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.4*	*ug/kg wet*	*20.0*		*91.9*	*60-140*		
Surrogate: Phenol-d5-surr			*37.7*	*ug/kg wet*	*40.0*		*94.2*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*14.1*	*ug/kg wet*	*20.0*		*70.4*	*60-140*		
MDL SV (BGB0288-MRL2)					Prepared: 2/2/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	1.54	J	2.50	ug/kg wet	2.00		77.2			
1,2-Dichlorobenzene (o-Dichlorobenzene)	1.33	J	2.50	ug/kg wet	2.00		66.3			
1,2-Diphenylhydrazine	2.08	J	2.50	ug/kg wet	2.00		104			
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
1,4-Dichlorobenzene (p-Dichlorobenzene)	1.27	J	2.50	ug/kg wet	2.00		63.5			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	2.09	J	2.50	ug/kg wet	2.00		104			
2,4,6-Trichlorophenol	4.01	J	5.00	ug/kg wet	4.00		100			
2,4-Dichlorophenol	3.97	J	5.00	ug/kg wet	4.00		99.3			
2,4-Dimethylphenol	3.91	J	5.00	ug/kg wet	4.00		97.7			
2,4-Dinitrophenol	6.11		5.00	ug/kg wet	10.0		61.1	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.71	J	2.50	ug/kg wet	2.00		85.3			
2,6-Dinitrotoluene (2,6-DNT)	1.88	J	2.50	ug/kg wet	2.00		94.1			
2-Chloronaphthalene	1.66	J	2.50	ug/kg wet	2.00		83.2			
2-Chlorophenol	3.70	J	5.00	ug/kg wet	4.00		92.6			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<20.0	U	20.0	ug/kg wet	4.00					
2-Nitrophenol	3.82	J	5.00	ug/kg wet	4.00		95.5			
4-Bromophenyl phenyl ether (BDE-3)	1.80	J	2.50	ug/kg wet	2.00		89.8			
4-Chloro-3-methylphenol	4.02	J	5.00	ug/kg wet	4.00		101			
4-Chlorophenyl phenylether	1.73	J	2.50	ug/kg wet	2.00		86.6			
4-Nitrophenol	10.1		2.50	ug/kg wet	10.0		101	50-150		
Acenaphthene	1.79	J	2.50	ug/kg wet	2.00		89.6			
Acenaphthylene	1.98	J	2.50	ug/kg wet	2.00		98.9			
Anthracene	1.78	J	2.50	ug/kg wet	2.00		89.0			
Benzo(a)anthracene	1.60	J	2.50	ug/kg wet	2.00		80.2			
Benzo(a)pyrene	1.70	J	2.50	ug/kg wet	2.00		84.9			
Benzo(b)fluoranthene	1.69	J	2.50	ug/kg wet	2.00		84.7			
Benzo(g,h,i)perylene	1.59	J	2.50	ug/kg wet	2.00		79.3			
Benzo(k)fluoranthene	1.87	J	2.50	ug/kg wet	2.00		93.5			
bis(2-Chloroethoxy)methane	1.78	J	2.50	ug/kg wet	2.00		89.0			
bis(2-Chloroethyl) ether	1.74	J	2.50	ug/kg wet	2.00		86.8			
Bis(2-ethylhexyl)phthalate	3.02		2.50	ug/kg wet	2.00		151			

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
MDL SV (BGB0288-MRL2)					Prepared: 2/2/2023 Analyzed: 2/27/2023					
Butyl benzyl phthalate	1.88	J	2.50	ug/kg wet	2.00		94.1			
Chrysene	1.78	J	2.50	ug/kg wet	2.00		89.1			
Dibenzo(a,h)anthracene	1.61	J	2.50	ug/kg wet	2.00		80.7			
Diethyl phthalate	2.93		2.50	ug/kg wet	2.00		146			
Dimethyl phthalate	1.93	J	2.50	ug/kg wet	2.00		96.3			
Di-n-butyl phthalate	4.57		2.50	ug/kg wet	2.00		229			
Di-n-octyl phthalate	1.61	J	2.50	ug/kg wet	2.00		80.7			
Fluoranthene	1.73	J	2.50	ug/kg wet	2.00		86.7			
Fluorene	1.88	J	2.50	ug/kg wet	2.00		94.2			
Hexachlorobenzene	1.72	J	2.50	ug/kg wet	2.00		85.8			
Hexachlorobutadiene	<2.50	U	2.50	ug/kg wet	2.00					
Hexachlorocyclopentadiene	<2.50	J1, U	2.50	ug/kg wet	2.00					
Hexachloroethane	<2.50	U	2.50	ug/kg wet	2.00					
Indeno(1,2,3-cd) pyrene	1.59	J	2.50	ug/kg wet	2.00		79.3			
Isophorone	1.79	J	2.50	ug/kg wet	2.00		89.7			
Naphthalene	1.60	J	2.50	ug/kg wet	2.00		79.8			
Nitrobenzene	1.66	J	2.50	ug/kg wet	2.00		83.0			
n-Nitrosodimethylamine	<2.50	J1, U	2.50	ug/kg wet	10.0			50-150		
n-Nitrosodi-n-propylamine	2.08	J	2.50	ug/kg wet	2.00		104			
n-Nitrosodiphenylamine	1.65	J	2.50	ug/kg wet	2.00		82.4			
Pentachlorophenol	3.33	J	5.00	ug/kg wet	4.00		83.2			
Phenanthrene	1.74	J	2.50	ug/kg wet	2.00		86.9			
Phenol, Total	6.41		5.00	ug/kg wet	4.00		160			
Pyrene	1.69	J	2.50	ug/kg wet	2.00		84.7			
Surrogate: 2-Fluorobiphenyl-surr			*13.9*	*ug/kg wet*	*20.0*		*69.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.2*	*ug/kg wet*	*40.0*		*90.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*35.0*	*ug/kg wet*	*40.0*		*87.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.6*	*ug/kg wet*	*20.0*		*83.0*	*60-140*		
Surrogate: Phenol-d5-surr			*36.7*	*ug/kg wet*	*40.0*		*91.8*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.2*	*ug/kg wet*	*20.0*		*86.2*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
23A1459-54 MS (BGB0288-MS1)	**Source: 23A1459-54RE1**				Prepared: 2/2/2023 Analyzed: 2/27/2023					
1,2,4-Trichlorobenzene	15.3		3.12	ug/kg dry	24.9	<3.12	61.2	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	13.2	J1	3.12	ug/kg dry	24.9	<3.12	52.9	60-140		
1,2-Diphenylhydrazine	17.7		3.12	ug/kg dry	24.9	<3.12	71.0	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.6	J1	3.12	ug/kg dry	24.9	<3.12	50.6	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	13.1	J1	3.12	ug/kg dry	24.9	<3.12	52.4	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	18.3		3.12	ug/kg dry	24.9	<3.12	73.5	60-140		
2,4,6-Trichlorophenol	38.6		6.23	ug/kg dry	49.8	<6.23	77.4	60-140		
2,4-Dichlorophenol	39.9		6.23	ug/kg dry	49.8	<6.23	80.1	60-140		
2,4-Dimethylphenol	42.9		6.23	ug/kg dry	49.8	<6.23	86.1	60-140		
2,4-Dinitrophenol	110	J1	6.23	ug/kg dry	125	<6.23	88.2	10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	18.9		3.12	ug/kg dry	24.9	<3.12	75.9	60-140		
2,6-Dinitrotoluene (2,6-DNT)	20.1		3.12	ug/kg dry	24.9	<3.12	80.7	60-140		
2-Chloronaphthalene	16.3		3.12	ug/kg dry	24.9	<3.12	65.4	60-140		
2-Chlorophenol	41.8		6.23	ug/kg dry	49.8	<6.23	83.8	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	40.9		24.9	ug/kg dry	49.8	<24.9	82.0	60-140		
2-Nitrophenol	41.0		6.23	ug/kg dry	49.8	<6.23	82.2	60-140		
4-Bromophenyl phenyl ether (BDE-3)	18.2		3.12	ug/kg dry	24.9	<3.12	72.9	60-140		
4-Chloro-3-methylphenol	38.8		6.23	ug/kg dry	49.8	<6.23	77.8	60-140		
4-Chlorophenyl phenylether	18.0		3.12	ug/kg dry	24.9	<3.12	72.3	60-140		
4-Nitrophenol	109		3.12	ug/kg dry	125	<3.12	87.3	60-140		
Acenaphthene	17.5		3.12	ug/kg dry	24.9	<3.12	70.0	60-140		
Acenaphthylene	20.9		3.12	ug/kg dry	24.9	<3.12	83.8	60-140		
Anthracene	18.8		3.12	ug/kg dry	24.9	<3.12	75.4	60-140		
Benzo(a)anthracene	18.9		3.12	ug/kg dry	24.9	<3.12	75.8	60-140		
Benzo(a)pyrene	19.9		3.12	ug/kg dry	24.9	<3.12	80.0	60-140		
Benzo(b)fluoranthene	18.9		3.12	ug/kg dry	24.9	<3.12	75.7	60-140		
Benzo(g,h,i)perylene	18.8		3.12	ug/kg dry	24.9	<3.12	75.6	60-140		
Benzo(k)fluoranthene	19.0		3.12	ug/kg dry	24.9	<3.12	76.2	60-140		
bis(2-Chloroethoxy)methane	21.1		3.12	ug/kg dry	24.9	<3.12	84.6	60-140		
bis(2-Chloroethyl) ether	20.6		3.12	ug/kg dry	24.9	<3.12	82.7	60-140		
Bis(2-ethylhexyl)phthalate	20.7		3.12	ug/kg dry	24.9	<3.12	83.0	60-140		
Butyl benzyl phthalate	18.3		3.12	ug/kg dry	24.9	<3.12	73.4	60-140		
Chrysene	17.8		3.12	ug/kg dry	24.9	<3.12	71.5	60-140		
Dibenzo(a,h)anthracene	18.6		3.12	ug/kg dry	24.9	<3.12	74.8	60-140		
Diethyl phthalate	20.3		3.12	ug/kg dry	24.9	<3.12	81.4	60-140		
Dimethyl phthalate	19.2		3.12	ug/kg dry	24.9	<3.12	77.0	60-140		
Di-n-butyl phthalate	17.9		3.12	ug/kg dry	24.9	<3.12	71.9	60-140		
Di-n-octyl phthalate	20.5		3.12	ug/kg dry	24.9	<3.12	82.2	60-140		
Fluoranthene	18.1		3.12	ug/kg dry	24.9	<3.12	72.6	60-140		
Fluorene	17.8		3.12	ug/kg dry	24.9	<3.12	71.6	60-140		
Hexachlorobenzene	18.1		3.12	ug/kg dry	24.9	<3.12	72.7	60-140		
Hexachlorobutadiene	13.0	J1	3.12	ug/kg dry	24.9	<3.12	52.2	60-140		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
23A1459-54 MS (BGB0288-MS1)	**Source: 23A1459-54RE1**			Prepared: 2/2/2023 Analyzed: 2/27/2023						
Hexachlorocyclopentadiene	13.5	J1	3.12	ug/kg dry	24.9	<3.12	54.3	60-140		
Hexachloroethane	12.8	J1	3.12	ug/kg dry	24.9	<3.12	51.5	60-140		
Indeno(1,2,3-cd) pyrene	18.7		3.12	ug/kg dry	24.9	<3.12	75.2	60-140		
Isophorone	17.5		3.12	ug/kg dry	24.9	<3.12	70.2	60-140		
Naphthalene	16.3		3.12	ug/kg dry	24.9	<3.12	65.2	60-140		
Nitrobenzene	19.4		3.12	ug/kg dry	24.9	<3.12	77.9	60-140		
n-Nitrosodimethylamine	52.5	J1	3.12	ug/kg dry	125	<3.12	42.2	60-140		
n-Nitrosodi-n-propylamine	20.9		3.12	ug/kg dry	24.9	<3.12	83.8	60-140		
n-Nitrosodiphenylamine	15.4		3.12	ug/kg dry	24.9	<3.12	61.7	60-140		
Pentachlorophenol	38.0		6.23	ug/kg dry	49.8	<6.23	76.2	60-140		
Phenanthrene	18.8		3.12	ug/kg dry	24.9	<3.12	75.5	60-140		
Phenol, Total	42.6		6.23	ug/kg dry	49.8	<6.23	85.5	60-140		
Pyrene	18.1		3.12	ug/kg dry	24.9	<3.12	72.5	60-140		
Surrogate: 2-Fluorobiphenyl-surr	*S*		*12.7*	*ug/kg dry*	*24.9*		*51.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*40.1*	*ug/kg dry*	*49.8*		*80.4*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*37.4*	*ug/kg dry*	*49.8*		*75.0*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.9*	*ug/kg dry*	*24.9*		*71.6*	*60-140*		
Surrogate: Phenol-d5-surr			*42.0*	*ug/kg dry*	*49.8*		*84.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.4*	*ug/kg dry*	*24.9*		*69.9*	*60-140*		
23A1459-54 MSD (BGB0288-MSD1)	**Source: 23A1459-54RE1**			Prepared: 2/2/2023 Analyzed: 2/27/2023						
1,2,4-Trichlorobenzene	16.3		3.12	ug/kg dry	24.9	<3.12	65.5	60-140	6.86	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	14.1	J1	3.12	ug/kg dry	24.9	<3.12	56.6	60-140	6.81	40
1,2-Diphenylhydrazine	19.5		3.12	ug/kg dry	24.9	<3.12	78.3	60-140	9.83	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	13.7	J1	3.12	ug/kg dry	24.9	<3.12	54.9	60-140	8.13	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	13.9	J1	3.12	ug/kg dry	24.9	<3.12	55.7	60-140	6.16	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	18.8		3.12	ug/kg dry	24.9	<3.12	75.3	60-140	2.37	40
2,4,6-Trichlorophenol	40.2		6.23	ug/kg dry	49.8	<6.23	80.6	60-140	4.07	40
2,4-Dichlorophenol	41.5		6.23	ug/kg dry	49.8	<6.23	83.3	60-140	3.83	40
2,4-Dimethylphenol	46.7		6.23	ug/kg dry	49.8	<6.23	93.6	60-140	8.28	40
2,4-Dinitrophenol	120	J1	6.23	ug/kg dry	125	<6.23	96.2	10-51.3	8.70	40
2,4-Dinitrotoluene (2,4-DNT)	20.2		3.12	ug/kg dry	24.9	<3.12	81.1	60-140	6.58	40
2,6-Dinitrotoluene (2,6-DNT)	21.0		3.12	ug/kg dry	24.9	<3.12	84.2	60-140	4.19	40
2-Chloronaphthalene	17.3		3.12	ug/kg dry	24.9	<3.12	69.3	60-140	5.79	40
2-Chlorophenol	44.2		6.23	ug/kg dry	49.8	<6.23	88.6	60-140	5.59	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	43.4		24.9	ug/kg dry	49.8	<24.9	87.0	60-140	5.93	40
2-Nitrophenol	43.5		6.23	ug/kg dry	49.8	<6.23	87.2	60-140	5.83	40
4-Bromophenyl phenyl ether (BDE-3)	19.6		3.12	ug/kg dry	24.9	<3.12	78.7	60-140	7.70	40
4-Chloro-3-methylphenol	40.8		6.23	ug/kg dry	49.8	<6.23	81.9	60-140	5.15	40
4-Chlorophenyl phenylether	19.1		3.12	ug/kg dry	24.9	<3.12	76.6	60-140	5.80	40
4-Nitrophenol	115		3.12	ug/kg dry	125	<3.12	92.3	60-140	5.57	40
Acenaphthene	18.4		3.12	ug/kg dry	24.9	<3.12	73.6	60-140	5.04	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0288 - SW-3570 (Continued)										
23A1459-54 MSD (BGB0288-MSD1)	**Source: 23A1459-54RE1**		Prepared: 2/2/2023 Analyzed: 2/27/2023							
Acenaphthylene	22.0		3.12	ug/kg dry	24.9	<3.12	88.4	60-140	5.34	40
Anthracene	20.5		3.12	ug/kg dry	24.9	<3.12	82.2	60-140	8.66	40
Benzo(a)anthracene	20.4		3.12	ug/kg dry	24.9	<3.12	81.9	60-140	7.73	40
Benzo(a)pyrene	21.3		3.12	ug/kg dry	24.9	<3.12	85.4	60-140	6.56	40
Benzo(b)fluoranthene	20.1		3.12	ug/kg dry	24.9	<3.12	80.6	60-140	6.24	40
Benzo(g,h,i)perylene	20.3		3.12	ug/kg dry	24.9	<3.12	81.6	60-140	7.62	40
Benzo(k)fluoranthene	20.4		3.12	ug/kg dry	24.9	<3.12	81.8	60-140	7.17	40
bis(2-Chloroethoxy)methane	22.5		3.12	ug/kg dry	24.9	<3.12	90.2	60-140	6.39	40
bis(2-Chloroethyl) ether	21.4		3.12	ug/kg dry	24.9	<3.12	85.9	60-140	3.71	40
Bis(2-ethylhexyl)phthalate	22.2		3.12	ug/kg dry	24.9	<3.12	89.2	60-140	7.19	40
Butyl benzyl phthalate	20.0		3.12	ug/kg dry	24.9	<3.12	80.3	60-140	9.11	40
Chrysene	19.2		3.12	ug/kg dry	24.9	<3.12	76.8	60-140	7.27	40
Dibenzo(a,h)anthracene	20.1		3.12	ug/kg dry	24.9	<3.12	80.7	60-140	7.59	40
Diethyl phthalate	20.4		3.12	ug/kg dry	24.9	<3.12	81.7	60-140	0.349	40
Dimethyl phthalate	20.3		3.12	ug/kg dry	24.9	<3.12	81.5	60-140	5.57	40
Di-n-butyl phthalate	29.5	J1	3.12	ug/kg dry	24.9	<3.12	118	60-140	48.8	40
Di-n-octyl phthalate	21.8		3.12	ug/kg dry	24.9	<3.12	87.6	60-140	6.33	40
Fluoranthene	19.3		3.12	ug/kg dry	24.9	<3.12	77.3	60-140	6.20	40
Fluorene	19.1		3.12	ug/kg dry	24.9	<3.12	76.7	60-140	6.81	40
Hexachlorobenzene	19.3		3.12	ug/kg dry	24.9	<3.12	77.2	60-140	6.04	40
Hexachlorobutadiene	13.7	J1	3.12	ug/kg dry	24.9	<3.12	55.0	60-140	5.19	40
Hexachlorocyclopentadiene	20.6	J1	3.12	ug/kg dry	24.9	<3.12	82.8	60-140	41.7	40
Hexachloroethane	13.7	J1	3.12	ug/kg dry	24.9	<3.12	55.1	60-140	6.75	40
Indeno(1,2,3-cd) pyrene	20.1		3.12	ug/kg dry	24.9	<3.12	80.8	60-140	7.20	40
Isophorone	18.4		3.12	ug/kg dry	24.9	<3.12	74.0	60-140	5.29	40
Naphthalene	17.2		3.12	ug/kg dry	24.9	<3.12	69.0	60-140	5.62	40
Nitrobenzene	20.8		3.12	ug/kg dry	24.9	<3.12	83.3	60-140	6.71	40
n-Nitrosodimethylamine	63.2	J1	3.12	ug/kg dry	125	<3.12	50.7	60-140	18.4	40
n-Nitrosodi-n-propylamine	22.4		3.12	ug/kg dry	24.9	<3.12	89.8	60-140	6.89	40
n-Nitrosodiphenylamine	15.7		3.12	ug/kg dry	24.9	<3.12	62.9	60-140	1.98	40
Pentachlorophenol	40.1		6.23	ug/kg dry	49.8	<6.23	80.4	60-140	5.41	40
Phenanthrene	20.1		3.12	ug/kg dry	24.9	<3.12	80.8	60-140	6.73	40
Phenol, Total	46.0		6.23	ug/kg dry	49.8	<6.23	92.3	60-140	7.58	40
Pyrene	19.3		3.12	ug/kg dry	24.9	<3.12	77.6	60-140	6.73	40
Surrogate: 2-Fluorobiphenyl-surr	*S*		*13.3*	*ug/kg dry*	*24.9*		*53.2*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*42.7*	*ug/kg dry*	*49.8*		*85.7*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*39.3*	*ug/kg dry*	*49.8*		*78.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.8*	*ug/kg dry*	*24.9*		*75.6*	*60-140*		
Surrogate: Phenol-d5-surr			*45.6*	*ug/kg dry*	*49.8*		*91.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*18.3*	*ug/kg dry*	*24.9*		*73.4*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570										
Blank (BGB0424-BLK1)				Prepared: 2/3/2023 Analyzed: 2/8/2023						
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet						
Benzidine	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*15.6*	*ug/kg wet*	*20.0*		*77.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*37.1*	*ug/kg wet*	*40.0*		*92.7*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*46.8*	*ug/kg wet*	*40.0*		*117*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.7*	*ug/kg wet*	*20.0*		*93.6*	*60-140*		
Surrogate: Phenol-d5-surr			*36.5*	*ug/kg wet*	*40.0*		*91.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.2*	*ug/kg wet*	*20.0*		*86.0*	*60-140*		
Blank (BGB0424-BLK2)				Prepared: 2/3/2023 Analyzed: 2/17/2023						
1,2,4-Trichlorobenzene	<2.50	U	2.50	ug/kg wet						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
1,2-Diphenylhydrazine	<2.50	U	2.50	ug/kg wet						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<2.50	U	2.50	ug/kg wet						
2,4,6-Trichlorophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dichlorophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dimethylphenol	<5.00	U	5.00	ug/kg wet						
2,4-Dinitrophenol	<5.00	U	5.00	ug/kg wet						
2,4-Dinitrotoluene (2,4-DNT)	<2.50	U	2.50	ug/kg wet						
2,6-Dinitrotoluene (2,6-DNT)	<2.50	U	2.50	ug/kg wet						
2-Chloronaphthalene	<2.50	U	2.50	ug/kg wet						
2-Chlorophenol	<5.00	U	5.00	ug/kg wet						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<20.0	U	20.0	ug/kg wet						
2-Nitrophenol	<5.00	U	5.00	ug/kg wet						
4-Bromophenyl phenyl ether (BDE-3)	<2.50	U	2.50	ug/kg wet						
4-Chloro-3-methylphenol	<5.00	U	5.00	ug/kg wet						
4-Chlorophenyl phenylether	<2.50	U	2.50	ug/kg wet						
4-Nitrophenol	<2.50	U	2.50	ug/kg wet						
Acenaphthene	<2.50	U	2.50	ug/kg wet						
Acenaphthylene	<2.50	U	2.50	ug/kg wet						
Anthracene	<2.50	U	2.50	ug/kg wet						
Benzo(a)anthracene	<2.50	U	2.50	ug/kg wet						
Benzo(a)pyrene	<2.50	U	2.50	ug/kg wet						
Benzo(b)fluoranthene	<2.50	U	2.50	ug/kg wet						
Benzo(g,h,i)perylene	<2.50	U	2.50	ug/kg wet						
Benzo(k)fluoranthene	<2.50	U	2.50	ug/kg wet						
bis(2-Chloroethoxy)methane	<2.50	U	2.50	ug/kg wet						
bis(2-Chloroethyl) ether	<2.50	U	2.50	ug/kg wet						
Bis(2-ethylhexyl)phthalate	8.75		2.50	ug/kg wet						

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Quality Control
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Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
Blank (BGB0424-BLK2)				Prepared: 2/3/2023 Analyzed: 2/17/2023						
Butyl benzyl phthalate	<2.50	U	2.50	ug/kg wet						
Chrysene	<2.50	U	2.50	ug/kg wet						
Dibenzo(a,h)anthracene	<2.50	U	2.50	ug/kg wet						
Diethyl phthalate	<2.50	U	2.50	ug/kg wet						
Dimethyl phthalate	<2.50	U	2.50	ug/kg wet						
Di-n-butyl phthalate	<2.50	U	2.50	ug/kg wet						
Di-n-octyl phthalate	<2.50	U	2.50	ug/kg wet						
Fluoranthene	<2.50	U	2.50	ug/kg wet						
Fluorene	<2.50	U	2.50	ug/kg wet						
Hexachlorobenzene	<2.50	U	2.50	ug/kg wet						
Hexachlorobutadiene	<2.50	U	2.50	ug/kg wet						
Hexachloroethane	<2.50	U	2.50	ug/kg wet						
Indeno(1,2,3-cd) pyrene	<2.50	U	2.50	ug/kg wet						
Isophorone	<2.50	U	2.50	ug/kg wet						
Naphthalene	<2.50	U	2.50	ug/kg wet						
Nitrobenzene	<2.50	U	2.50	ug/kg wet						
n-Nitrosodimethylamine	<2.50	U	2.50	ug/kg wet						
n-Nitrosodi-n-propylamine	<2.50	U	2.50	ug/kg wet						
n-Nitrosodiphenylamine	<2.50	U	2.50	ug/kg wet						
Pentachlorophenol	<5.00	U	5.00	ug/kg wet						
Phenanthrene	<2.50	U	2.50	ug/kg wet						
Phenol, Total	3.93	J	5.00	ug/kg wet						
Pyrene	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*13.6*	*ug/kg wet*	*20.0*		*68.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*27.5*	*ug/kg wet*	*40.0*		*68.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*24.2*	*ug/kg wet*	*40.0*		*60.4*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*14.4*	*ug/kg wet*	*20.0*		*72.0*	*60-140*		
Surrogate: Phenol-d5-surr			*28.2*	*ug/kg wet*	*40.0*		*70.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*10.9*	*ug/kg wet*	*20.0*		*54.6*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
Blank (BGB0424-BLK3)				Prepared: 2/3/2023 Analyzed: 2/27/2023						
Hexachlorocyclopentadiene	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*12.2*	*ug/kg wet*	*20.0*		*61.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*27.1*	*ug/kg wet*	*40.0*		*67.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*29.5*	*ug/kg wet*	*40.0*		*73.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*12.5*	*ug/kg wet*	*20.0*		*62.6*	*60-140*		
Surrogate: Phenol-d5-surr			*25.2*	*ug/kg wet*	*40.0*		*63.1*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*10.7*	*ug/kg wet*	*20.0*		*53.6*	*60-140*		
BS BENZ (BGB0424-BS1)				Prepared: 2/3/2023 Analyzed: 2/8/2023						
3,3'-Dichlorobenzidine	6.26	J1	2.50	ug/kg wet	20.0		31.3	60-140		
Benzidine	<2.50	J1, U	2.50	ug/kg wet	20.0			60-140		
Surrogate: 2-Fluorobiphenyl-surr			*14.9*	*ug/kg wet*	*20.0*		*74.5*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.9*	*ug/kg wet*	*40.0*		*87.4*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*46.5*	*ug/kg wet*	*40.0*		*116*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.0*	*ug/kg wet*	*20.0*		*95.2*	*60-140*		
Surrogate: Phenol-d5-surr			*39.0*	*ug/kg wet*	*40.0*		*97.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.7*	*ug/kg wet*	*20.0*		*83.6*	*60-140*		
BS SV (BGB0424-BS2)				Prepared: 2/3/2023 Analyzed: 2/17/2023						
1,2,4-Trichlorobenzene	14.4		2.48	ug/kg wet	19.8		72.6	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	11.8	J1	2.48	ug/kg wet	19.8		59.3	60-140		
1,2-Diphenylhydrazine	16.8		2.48	ug/kg wet	19.8		84.8	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.5	J1	2.48	ug/kg wet	19.8		58.0	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	11.6	J1	2.48	ug/kg wet	19.8		58.6	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.0		2.48	ug/kg wet	19.8		75.5	60-140		
2,4,6-Trichlorophenol	36.0		4.96	ug/kg wet	39.7		90.7	60-140		
2,4-Dichlorophenol	35.8		4.96	ug/kg wet	39.7		90.2	60-140		
2,4-Dimethylphenol	35.1		4.96	ug/kg wet	39.7		88.4	60-140		
2,4-Dinitrophenol	15.7		4.96	ug/kg wet	99.2		15.8	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	15.3		2.48	ug/kg wet	19.8		76.9	60-140		
2,6-Dinitrotoluene (2,6-DNT)	16.4		2.48	ug/kg wet	19.8		82.6	60-140		
2-Chloronaphthalene	17.2		2.48	ug/kg wet	19.8		86.9	60-140		
2-Chlorophenol	35.6		4.96	ug/kg wet	39.7		89.7	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	18.9	J1, J	19.8	ug/kg wet	39.7		47.6	60-140		
2-Nitrophenol	38.1		4.96	ug/kg wet	39.7		95.9	60-140		
4-Bromophenyl phenyl ether (BDE-3)	15.5		2.48	ug/kg wet	19.8		78.2	60-140		
4-Chloro-3-methylphenol	35.4		4.96	ug/kg wet	39.7		89.2	60-140		
4-Chlorophenyl phenylether	16.3		2.48	ug/kg wet	19.8		82.0	60-140		
4-Nitrophenol	68.1		2.48	ug/kg wet	99.2		68.6	60-140		
Acenaphthene	15.4		2.48	ug/kg wet	19.8		77.5	60-140		
Acenaphthylene	17.8		2.48	ug/kg wet	19.8		89.6	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
BS SV (BGB0424-BS2)					Prepared: 2/3/2023 Analyzed: 2/17/2023					
Anthracene	15.8		2.48	ug/kg wet	19.8		79.5	60-140		
Benzo(a)anthracene	16.1		2.48	ug/kg wet	19.8		81.3	60-140		
Benzo(a)pyrene	16.4		2.48	ug/kg wet	19.8		82.7	60-140		
Benzo(b)fluoranthene	9.79	J1	2.48	ug/kg wet	19.8		49.4	60-140		
Benzo(g,h,i)perylene	14.6		2.48	ug/kg wet	19.8		73.4	60-140		
Benzo(k)fluoranthene	14.5		2.48	ug/kg wet	19.8		73.0	60-140		
bis(2-Chloroethoxy)methane	17.8		2.48	ug/kg wet	19.8		89.9	60-140		
bis(2-Chloroethyl) ether	16.3		2.48	ug/kg wet	19.8		82.1	60-140		
Bis(2-ethylhexyl)phthalate	16.1		2.48	ug/kg wet	19.8		81.1	60-140		
Butyl benzyl phthalate	13.3		2.48	ug/kg wet	19.8		67.0	60-140		
Chrysene	15.6		2.48	ug/kg wet	19.8		78.8	60-140		
Dibenzo(a,h)anthracene	14.5		2.48	ug/kg wet	19.8		72.8	60-140		
Diethyl phthalate	16.9		2.48	ug/kg wet	19.8		84.9	60-140		
Dimethyl phthalate	17.8		2.48	ug/kg wet	19.8		89.9	60-140		
Di-n-butyl phthalate	15.6		2.48	ug/kg wet	19.8		78.8	60-140		
Di-n-octyl phthalate	14.3		2.48	ug/kg wet	19.8		72.0	60-140		
Fluoranthene	13.8		2.48	ug/kg wet	19.8		69.4	60-140		
Fluorene	16.2		2.48	ug/kg wet	19.8		81.8	60-140		
Hexachlorobenzene	14.7		2.48	ug/kg wet	19.8		73.9	60-140		
Hexachlorobutadiene	10.2	J1	2.48	ug/kg wet	19.8		51.6	60-140		
Hexachloroethane	10.5	J1	2.48	ug/kg wet	19.8		52.8	60-140		
Indeno(1,2,3-cd) pyrene	14.5		2.48	ug/kg wet	19.8		72.8	60-140		
Isophorone	14.4		2.48	ug/kg wet	19.8		72.5	60-140		
Naphthalene	14.4		2.48	ug/kg wet	19.8		72.4	60-140		
Nitrobenzene	18.1		2.48	ug/kg wet	19.8		91.4	60-140		
n-Nitrosodimethylamine	75.9		2.48	ug/kg wet	99.2		76.5	60-140		
n-Nitrosodi-n-propylamine	16.4		2.48	ug/kg wet	19.8		82.5	60-140		
n-Nitrosodiphenylamine	9.19	J1	2.48	ug/kg wet	19.8		46.3	60-140		
Pentachlorophenol	27.7		4.96	ug/kg wet	39.7		69.9	60-140		
Phenanthrene	15.5		2.48	ug/kg wet	19.8		77.9	60-140		
Phenol, Total	38.6		4.96	ug/kg wet	39.7		97.2	60-140		
Pyrene	13.0		2.48	ug/kg wet	19.8		65.3	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*14.0*	*ug/kg wet*	*19.8*		*70.6*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*32.4*	*ug/kg wet*	*39.7*		*81.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*30.3*	*ug/kg wet*	*39.7*		*76.3*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.0*	*ug/kg wet*	*19.8*		*90.6*	*60-140*		
Surrogate: Phenol-d5-surr			*34.0*	*ug/kg wet*	*39.7*		*85.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*12.9*	*ug/kg wet*	*19.8*		*64.9*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
LCS (BGB0424-BS3)					Prepared: 2/3/2023 Analyzed: 2/27/2023					
Hexachlorocyclopentadiene	10.1	J1	2.48	ug/kg wet	19.8		50.7	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*13.7*	*ug/kg wet*	*19.8*		*69.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*33.4*	*ug/kg wet*	*39.7*		*84.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.7*	*ug/kg wet*	*39.7*		*84.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.6*	*ug/kg wet*	*19.8*		*83.7*	*60-140*		
Surrogate: Phenol-d5-surr			*36.9*	*ug/kg wet*	*39.7*		*93.1*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.7*	*ug/kg wet*	*19.8*		*79.2*	*60-140*		
BSD BENZ (BGB0424-BSD1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
3,3'-Dichlorobenzidine	5.92	J1	2.47	ug/kg wet	19.8		29.9	60-140	5.52	40
Benzidine	2.48	J1	2.47	ug/kg wet	19.8		12.5	60-140	82.5	40
Surrogate: 2-Fluorobiphenyl-surr			*13.2*	*ug/kg wet*	*19.8*		*66.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*35.1*	*ug/kg wet*	*39.6*		*88.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*42.3*	*ug/kg wet*	*39.6*		*107*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.1*	*ug/kg wet*	*19.8*		*91.3*	*60-140*		
Surrogate: Phenol-d5-surr			*36.0*	*ug/kg wet*	*39.6*		*90.9*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.9*	*ug/kg wet*	*19.8*		*85.2*	*60-140*		
BSD SV (BGB0424-BSD2)					Prepared: 2/3/2023 Analyzed: 2/17/2023					
1,2,4-Trichlorobenzene	15.3		2.46	ug/kg wet	19.7		77.5	60-140	5.81	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.2		2.46	ug/kg wet	19.7		62.2	60-140	4.04	40
1,2-Diphenylhydrazine	17.7		2.46	ug/kg wet	19.7		90.0	60-140	5.23	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.8	J1	2.46	ug/kg wet	19.7		59.9	60-140	2.53	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	11.9		2.46	ug/kg wet	19.7		60.6	60-140	2.62	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.7		2.46	ug/kg wet	19.7		79.4	60-140	4.40	40
2,4,6-Trichlorophenol	38.0		4.93	ug/kg wet	39.4		96.4	60-140	5.31	40
2,4-Dichlorophenol	38.1		4.93	ug/kg wet	39.4		96.8	60-140	6.34	40
2,4-Dimethylphenol	37.9		4.93	ug/kg wet	39.4		96.1	60-140	7.75	40
2,4-Dinitrophenol	27.8	J1	4.93	ug/kg wet	98.5		28.2	10-50.4	55.8	40
2,4-Dinitrotoluene (2,4-DNT)	16.3		2.46	ug/kg wet	19.7		82.9	60-140	6.88	40
2,6-Dinitrotoluene (2,6-DNT)	17.2		2.46	ug/kg wet	19.7		87.2	60-140	4.75	40
2-Chloronaphthalene	18.6		2.46	ug/kg wet	19.7		94.1	60-140	7.36	40
2-Chlorophenol	37.8		4.93	ug/kg wet	39.4		95.9	60-140	5.96	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.3		19.7	ug/kg wet	39.4		61.7	60-140	25.2	40
2-Nitrophenol	40.3		4.93	ug/kg wet	39.4		102	60-140	5.68	40
4-Bromophenyl phenyl ether (BDE-3)	16.7		2.46	ug/kg wet	19.7		84.7	60-140	7.31	40
4-Chloro-3-methylphenol	37.7		4.93	ug/kg wet	39.4		95.6	60-140	6.26	40
4-Chlorophenyl phenylether	15.8		2.46	ug/kg wet	19.7		80.2	60-140	2.90	40
4-Nitrophenol	71.6		2.46	ug/kg wet	98.5		72.6	60-140	4.97	40
Acenaphthene	16.4		2.46	ug/kg wet	19.7		83.1	60-140	6.30	40
Acenaphthylene	18.9		2.46	ug/kg wet	19.7		95.9	60-140	6.03	40

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
BSD SV (BGB0424-BSD2)					Prepared: 2/3/2023 Analyzed: 2/17/2023					
Anthracene	16.6		2.46	ug/kg wet	19.7		84.4	60-140	5.31	40
Benzo(a)anthracene	16.9		2.46	ug/kg wet	19.7		85.9	60-140	4.88	40
Benzo(a)pyrene	17.7		2.46	ug/kg wet	19.7		90.1	60-140	7.82	40
Benzo(b)fluoranthene	9.80	J1	2.46	ug/kg wet	19.7		49.8	60-140	0.100	40
Benzo(g,h,i)perylene	16.1		2.46	ug/kg wet	19.7		81.8	60-140	10.1	40
Benzo(k)fluoranthene	14.6		2.46	ug/kg wet	19.7		74.3	60-140	1.14	40
bis(2-Chloroethoxy)methane	19.7		2.46	ug/kg wet	19.7		100	60-140	9.90	40
bis(2-Chloroethyl) ether	17.3		2.46	ug/kg wet	19.7		87.6	60-140	5.79	40
Bis(2-ethylhexyl)phthalate	17.2		2.46	ug/kg wet	19.7		87.4	60-140	6.77	40
Butyl benzyl phthalate	14.0		2.46	ug/kg wet	19.7		70.9	60-140	4.95	40
Chrysene	16.5		2.46	ug/kg wet	19.7		83.7	60-140	5.34	40
Dibenzo(a,h)anthracene	15.6		2.46	ug/kg wet	19.7		79.4	60-140	7.93	40
Diethyl phthalate	18.3		2.46	ug/kg wet	19.7		93.0	60-140	8.37	40
Dimethyl phthalate	17.5		2.46	ug/kg wet	19.7		88.7	60-140	1.99	40
Di-n-butyl phthalate	16.3		2.46	ug/kg wet	19.7		82.9	60-140	4.45	40
Di-n-octyl phthalate	14.9		2.46	ug/kg wet	19.7		75.8	60-140	4.51	40
Fluoranthene	14.2		2.46	ug/kg wet	19.7		72.2	60-140	3.22	40
Fluorene	15.8		2.46	ug/kg wet	19.7		80.0	60-140	2.94	40
Hexachlorobenzene	15.9		2.46	ug/kg wet	19.7		80.6	60-140	7.89	40
Hexachlorobutadiene	10.7	J1	2.46	ug/kg wet	19.7		54.1	60-140	4.00	40
Hexachloroethane	10.8	J1	2.46	ug/kg wet	19.7		54.9	60-140	3.21	40
Indeno(1,2,3-cd) pyrene	15.7		2.46	ug/kg wet	19.7		79.5	60-140	8.11	40
Isophorone	15.4		2.46	ug/kg wet	19.7		78.1	60-140	6.78	40
Naphthalene	14.9		2.46	ug/kg wet	19.7		75.8	60-140	3.86	40
Nitrobenzene	19.4		2.46	ug/kg wet	19.7		98.3	60-140	6.56	40
n-Nitrosodimethylamine	77.5		2.46	ug/kg wet	98.5		78.6	60-140	2.06	40
n-Nitrosodi-n-propylamine	17.1		2.46	ug/kg wet	19.7		87.0	60-140	4.52	40
n-Nitrosodiphenylamine	8.58	J1	2.46	ug/kg wet	19.7		43.6	60-140	6.87	40
Pentachlorophenol	28.9		4.93	ug/kg wet	39.4		73.3	60-140	4.08	40
Phenanthrene	16.3		2.46	ug/kg wet	19.7		82.8	60-140	5.35	40
Phenol, Total	41.5		4.93	ug/kg wet	39.4		105	60-140	7.26	40
Pyrene	12.5		2.46	ug/kg wet	19.7		63.6	60-140	3.35	40
Surrogate: 2-Fluorobiphenyl-surr			*15.3*	*ug/kg wet*	*19.7*		*77.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.1*	*ug/kg wet*	*39.4*		*86.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*32.1*	*ug/kg wet*	*39.4*		*81.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*19.3*	*ug/kg wet*	*19.7*		*98.1*	*60-140*		
Surrogate: Phenol-d5-surr			*36.6*	*ug/kg wet*	*39.4*		*92.9*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*13.3*	*ug/kg wet*	*19.7*		*67.6*	*60-140*		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
LCS Dup (BGB0424-BSD3)					Prepared: 2/3/2023 Analyzed: 2/27/2023					
Hexachlorocyclopentadiene	12.5		2.46	ug/kg wet	19.7		63.6	60-140	21.9	40
Surrogate: 2-Fluorobiphenyl-surr			*14.6*	*ug/kg wet*	*19.7*		*73.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.2*	*ug/kg wet*	*39.4*		*92.0*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.7*	*ug/kg wet*	*39.4*		*98.2*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.2*	*ug/kg wet*	*19.7*		*92.6*	*60-140*		
Surrogate: Phenol-d5-surr			*35.3*	*ug/kg wet*	*39.4*		*89.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*13.6*	*ug/kg wet*	*19.7*		*69.1*	*60-140*		
BENZ MDL (BGB0424-MRL1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
3,3'-Dichlorobenzidine	<2.33	U	2.33	ug/kg wet	1.86					
Benzidine	<2.33	J1, U	2.33	ug/kg wet	1.86					
Surrogate: 2-Fluorobiphenyl-surr			*13.7*	*ug/kg wet*	*18.6*		*73.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.1*	*ug/kg wet*	*37.2*		*96.9*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*42.0*	*ug/kg wet*	*37.2*		*113*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.8*	*ug/kg wet*	*18.6*		*95.4*	*60-140*		
Surrogate: Phenol-d5-surr			*37.0*	*ug/kg wet*	*37.2*		*99.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*15.6*	*ug/kg wet*	*18.6*		*84.0*	*60-140*		
SV MDL (BGB0424-MRL2)					Prepared: 2/3/2023 Analyzed: 2/17/2023					
1,2,4-Trichlorobenzene	1.42	J	2.37	ug/kg wet	1.90		74.7			
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.37	U	2.37	ug/kg wet	1.90					
1,2-Diphenylhydrazine	1.46	J	2.37	ug/kg wet	1.90		77.1			
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.37	U	2.37	ug/kg wet	1.90					
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.37	U	2.37	ug/kg wet	1.90					
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.64	J	2.37	ug/kg wet	1.90		86.1			
2,4,6-Trichlorophenol	3.79	J	4.75	ug/kg wet	3.80		99.9			
2,4-Dichlorophenol	3.66	J	4.75	ug/kg wet	3.80		96.4			
2,4-Dimethylphenol	3.54	J	4.75	ug/kg wet	3.80		93.2			
2,4-Dinitrophenol	5.77		4.75	ug/kg wet	9.50		60.7	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.45	J	2.37	ug/kg wet	1.90		76.2			
2,6-Dinitrotoluene (2,6-DNT)	1.64	J	2.37	ug/kg wet	1.90		86.5			
2-Chloronaphthalene	1.61	J	2.37	ug/kg wet	1.90		84.8			
2-Chlorophenol	3.08	J	4.75	ug/kg wet	3.80		81.1			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<19.0	U	19.0	ug/kg wet	3.80					
2-Nitrophenol	4.15	J	4.75	ug/kg wet	3.80		109			
4-Bromophenyl phenyl ether (BDE-3)	1.47	J	2.37	ug/kg wet	1.90		77.7			
4-Chloro-3-methylphenol	3.59	J	4.75	ug/kg wet	3.80		94.5			
4-Chlorophenyl phenylether	1.64	J	2.37	ug/kg wet	1.90		86.3			
4-Nitrophenol	8.08		2.37	ug/kg wet	9.50		85.1	50-150		
Acenaphthene	1.48	J	2.37	ug/kg wet	1.90		77.7			
Acenaphthylene	1.83	J	2.37	ug/kg wet	1.90		96.2			

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
SV MDL (BGB0424-MRL2)					Prepared: 2/3/2023 Analyzed: 2/17/2023					
Anthracene	1.48	J	2.37	ug/kg wet	1.90		77.7			
Benzo(a)anthracene	1.46	J	2.37	ug/kg wet	1.90		77.0			
Benzo(a)pyrene	1.53	J	2.37	ug/kg wet	1.90		80.4			
Benzo(b)fluoranthene	1.60	J	2.37	ug/kg wet	1.90		84.4			
Benzo(g,h,i)perylene	1.62	J	2.37	ug/kg wet	1.90		85.4			
Benzo(k)fluoranthene	1.53	J	2.37	ug/kg wet	1.90		80.8			
bis(2-Chloroethoxy)methane	1.79	J	2.37	ug/kg wet	1.90		94.3			
bis(2-Chloroethyl) ether	1.51	J	2.37	ug/kg wet	1.90		79.8			
Bis(2-ethylhexyl)phthalate	1.85	J	2.37	ug/kg wet	1.90		97.2			
Butyl benzyl phthalate	1.31	J	2.37	ug/kg wet	1.90		69.2			
Chrysene	1.53	J	2.37	ug/kg wet	1.90		80.6			
Dibenzo(a,h)anthracene	1.41	J	2.37	ug/kg wet	1.90		74.5			
Diethyl phthalate	2.23	J	2.37	ug/kg wet	1.90		117			
Dimethyl phthalate	1.67	J	2.37	ug/kg wet	1.90		87.8			
Di-n-butyl phthalate	2.21	J	2.37	ug/kg wet	1.90		116			
Di-n-octyl phthalate	1.32	J	2.37	ug/kg wet	1.90		69.6			
Fluoranthene	1.32	J	2.37	ug/kg wet	1.90		69.4			
Fluorene	1.76	J	2.37	ug/kg wet	1.90		92.8			
Hexachlorobenzene	1.40	J	2.37	ug/kg wet	1.90		73.8			
Hexachlorobutadiene	<2.37	U	2.37	ug/kg wet	1.90					
Hexachloroethane	<2.37	U	2.37	ug/kg wet	1.90					
Indeno(1,2,3-cd) pyrene	1.45	J	2.37	ug/kg wet	1.90		76.1			
Isophorone	1.51	J	2.37	ug/kg wet	1.90		79.4			
Naphthalene	1.43	J	2.37	ug/kg wet	1.90		75.5			
Nitrobenzene	1.68	J	2.37	ug/kg wet	1.90		88.4			
n-Nitrosodimethylamine	14.7	J1	2.37	ug/kg wet	9.50		155	50-150		
n-Nitrosodi-n-propylamine	1.68	J	2.37	ug/kg wet	1.90		88.5			
n-Nitrosodiphenylamine	<2.37	U	2.37	ug/kg wet	1.90					
Pentachlorophenol	2.43	J	4.75	ug/kg wet	3.80		64.1			
Phenanthrene	1.45	J	2.37	ug/kg wet	1.90		76.2			
Phenol, Total	5.03		4.75	ug/kg wet	3.80		132			
Pyrene	1.32	J	2.37	ug/kg wet	1.90		69.7			
Surrogate: 2-Fluorobiphenyl-surr			*12.7*	*ug/kg wet*	*19.0*		*66.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*29.4*	*ug/kg wet*	*38.0*		*77.3*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*27.8*	*ug/kg wet*	*38.0*		*73.2*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.4*	*ug/kg wet*	*19.0*		*86.2*	*60-140*		
Surrogate: Phenol-d5-surr			*30.6*	*ug/kg wet*	*38.0*		*80.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*12.9*	*ug/kg wet*	*19.0*		*67.7*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
MRL Check (BGB0424-MRL3)				Prepared: 2/3/2023 Analyzed: 2/27/2023						
Hexachlorocyclopentadiene	<2.37	J1, U	2.37	ug/kg wet	1.90					
Surrogate: 2-Fluorobiphenyl-surr			*12.6*	*ug/kg wet*	*19.0*		*66.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*29.5*	*ug/kg wet*	*38.0*		*77.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*31.0*	*ug/kg wet*	*38.0*		*81.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*13.6*	*ug/kg wet*	*19.0*		*71.4*	*60-140*		
Surrogate: Phenol-d5-surr			*31.3*	*ug/kg wet*	*38.0*		*82.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.1*	*ug/kg wet*	*19.0*		*84.8*	*60-140*		
23A1459-66 MS (BGB0424-MS1)			**Source: 23A1459-66RE1**	Prepared: 2/3/2023 Analyzed: 2/17/2023						
1,2,4-Trichlorobenzene	20.4		3.18	ug/kg dry	25.4	<3.18	80.2	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	15.2	J1	3.18	ug/kg dry	25.4	<3.18	59.9	60-140		
1,2-Diphenylhydrazine	23.4		3.18	ug/kg dry	25.4	<3.18	92.0	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	15.0	J1	3.18	ug/kg dry	25.4	<3.18	59.2	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	15.2	J1	3.18	ug/kg dry	25.4	<3.18	59.8	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	20.8		3.18	ug/kg dry	25.4	<3.18	82.0	60-140		
2,4,6-Trichlorophenol	49.6		6.35	ug/kg dry	50.8	<6.35	97.6	60-140		
2,4-Dichlorophenol	50.0		6.35	ug/kg dry	50.8	<6.35	98.3	60-140		
2,4-Dimethylphenol	49.5		6.35	ug/kg dry	50.8	<6.35	97.4	60-140		
2,4-Dinitrophenol	18.2		6.35	ug/kg dry	127	<6.35	14.3	10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	21.4		3.18	ug/kg dry	25.4	<3.18	84.3	60-140		
2,6-Dinitrotoluene (2,6-DNT)	22.9		3.18	ug/kg dry	25.4	<3.18	90.3	60-140		
2-Chloronaphthalene	24.1		3.18	ug/kg dry	25.4	<3.18	94.9	60-140		
2-Chlorophenol	51.1		6.35	ug/kg dry	50.8	<6.35	101	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.9	J1, J	25.4	ug/kg dry	50.8	<25.4	49.1	60-140		
2-Nitrophenol	53.8		6.35	ug/kg dry	50.8	<6.35	106	60-140		
4-Bromophenyl phenyl ether (BDE-3)	21.6		3.18	ug/kg dry	25.4	<3.18	85.0	60-140		
4-Chloro-3-methylphenol	50.6		6.35	ug/kg dry	50.8	<6.35	99.7	60-140		
4-Chlorophenyl phenylether	22.1		3.18	ug/kg dry	25.4	<3.18	86.9	60-140		
4-Nitrophenol	96.3		3.18	ug/kg dry	127	<3.18	75.8	60-140		
Acenaphthene	21.3		3.18	ug/kg dry	25.4	<3.18	84.0	60-140		
Acenaphthylene	24.5		3.18	ug/kg dry	25.4	<3.18	96.3	60-140		
Anthracene	21.7		3.18	ug/kg dry	25.4	<3.18	85.4	60-140		
Benzo(a)anthracene	21.8		3.18	ug/kg dry	25.4	<3.18	85.9	60-140		
Benzo(a)pyrene	21.9		3.18	ug/kg dry	25.4	<3.18	86.2	60-140		
Benzo(b)fluoranthene	14.9	J1	3.18	ug/kg dry	25.4	<3.18	58.7	60-140		
Benzo(g,h,i)perylene	19.1		3.18	ug/kg dry	25.4	<3.18	75.2	60-140		
Benzo(k)fluoranthene	20.1		3.18	ug/kg dry	25.4	<3.18	79.3	60-140		
bis(2-Chloroethoxy)methane	26.3		3.18	ug/kg dry	25.4	<3.18	104	60-140		
bis(2-Chloroethyl) ether	22.6		3.18	ug/kg dry	25.4	<3.18	88.8	60-140		
Bis(2-ethylhexyl)phthalate	19.9		3.18	ug/kg dry	25.4	<3.18	78.3	60-140		
Butyl benzyl phthalate	18.2		3.18	ug/kg dry	25.4	<3.18	71.8	60-140		
Chrysene	21.1		3.18	ug/kg dry	25.4	<3.18	82.9	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
23A1459-66 MS (BGB0424-MS1)			**Source: 23A1459-66RE1**		Prepared: 2/3/2023 Analyzed: 2/17/2023					
Dibenzo(a,h)anthracene	19.3		3.18	ug/kg dry	25.4	<3.18	75.8	60-140		
Diethyl phthalate	23.3		3.18	ug/kg dry	25.4	<3.18	91.7	60-140		
Dimethyl phthalate	24.4		3.18	ug/kg dry	25.4	<3.18	95.9	60-140		
Di-n-butyl phthalate	19.5		3.18	ug/kg dry	25.4	<3.18	76.8	60-140		
Di-n-octyl phthalate	18.4		3.18	ug/kg dry	25.4	<3.18	72.5	60-140		
Fluoranthene	17.6		3.18	ug/kg dry	25.4	<3.18	69.3	60-140		
Fluorene	22.0		3.18	ug/kg dry	25.4	<3.18	86.7	60-140		
Hexachlorobenzene	19.9		3.18	ug/kg dry	25.4	<3.18	78.3	60-140		
Hexachlorobutadiene	16.0		3.18	ug/kg dry	25.4	<3.18	63.1	60-140		
Hexachloroethane	15.1	J1	3.18	ug/kg dry	25.4	<3.18	59.5	60-140		
Indeno(1,2,3-cd) pyrene	18.8		3.18	ug/kg dry	25.4	<3.18	74.0	60-140		
Isophorone	20.4		3.18	ug/kg dry	25.4	<3.18	80.3	60-140		
Naphthalene	18.8		3.18	ug/kg dry	25.4	<3.18	73.9	60-140		
Nitrobenzene	25.7		3.18	ug/kg dry	25.4	<3.18	101	60-140		
n-Nitrosodimethylamine	71.9	J1	3.18	ug/kg dry	127	<3.18	56.6	60-140		
n-Nitrosodi-n-propylamine	22.8		3.18	ug/kg dry	25.4	<3.18	89.7	60-140		
n-Nitrosodiphenylamine	8.65	J1	3.18	ug/kg dry	25.4	<3.18	34.0	60-140		
Pentachlorophenol	38.0		6.35	ug/kg dry	50.8	<6.35	74.8	60-140		
Phenanthrene	21.2		3.18	ug/kg dry	25.4	<3.18	83.3	60-140		
Phenol, Total	52.2		6.35	ug/kg dry	50.8	11.3	80.7	60-140		
Pyrene	16.8		3.18	ug/kg dry	25.4	<3.18	66.1	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*20.3*	*ug/kg dry*	*25.4*		*79.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*44.2*	*ug/kg dry*	*50.8*		*86.9*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*40.9*	*ug/kg dry*	*50.8*		*80.6*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*25.1*	*ug/kg dry*	*25.4*		*98.7*	*60-140*		
Surrogate: Phenol-d5-surr			*46.5*	*ug/kg dry*	*50.8*		*91.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.6*	*ug/kg dry*	*25.4*		*65.2*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
Matrix Spike (BGB0424-MS2)			**Source: 23A1459-66RE2**		Prepared: 2/3/2023 Analyzed: 2/27/2023					
Hexachlorocyclopentadiene	13.4	J1	3.18	ug/kg dry	25.4	<3.18	52.6	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*19.5*	*ug/kg dry*	*25.4*		*76.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*44.5*	*ug/kg dry*	*50.8*		*87.5*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*49.5*	*ug/kg dry*	*50.8*		*97.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*24.3*	*ug/kg dry*	*25.4*		*95.7*	*60-140*		
Surrogate: Phenol-d5-surr			*50.8*	*ug/kg dry*	*50.8*		*100*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*22.3*	*ug/kg dry*	*25.4*		*87.7*	*60-140*		
23A1459-66 MSD (BGB0424-MSD1)			**Source: 23A1459-66RE1**		Prepared: 2/3/2023 Analyzed: 2/17/2023					
1,2,4-Trichlorobenzene	19.8		3.15	ug/kg dry	25.2	<3.15	78.6	60-140	2.72	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	15.4		3.15	ug/kg dry	25.2	<3.15	61.1	60-140	1.35	40
1,2-Diphenylhydrazine	23.2		3.15	ug/kg dry	25.2	<3.15	91.8	60-140	0.939	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	15.3		3.15	ug/kg dry	25.2	<3.15	60.8	60-140	2.01	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	15.4		3.15	ug/kg dry	25.2	<3.15	61.2	60-140	1.60	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	20.6		3.15	ug/kg dry	25.2	<3.15	81.7	60-140	1.12	40
2,4,6-Trichlorophenol	49.1		6.31	ug/kg dry	50.5	<6.31	97.2	60-140	1.10	40
2,4-Dichlorophenol	48.9		6.31	ug/kg dry	50.5	<6.31	96.9	60-140	2.14	40
2,4-Dimethylphenol	48.4		6.31	ug/kg dry	50.5	<6.31	96.0	60-140	2.09	40
2,4-Dinitrophenol	19.3		6.31	ug/kg dry	126	<6.31	15.3	10-51.3	6.07	40
2,4-Dinitrotoluene (2,4-DNT)	21.2		3.15	ug/kg dry	25.2	<3.15	84.2	60-140	0.748	40
2,6-Dinitrotoluene (2,6-DNT)	22.9		3.15	ug/kg dry	25.2	<3.15	90.8	60-140	0.0949	40
2-Chloronaphthalene	23.0		3.15	ug/kg dry	25.2	<3.15	91.0	60-140	4.95	40
2-Chlorophenol	49.9		6.31	ug/kg dry	50.5	<6.31	98.9	60-140	2.44	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	26.4	J1	25.2	ug/kg dry	50.5	<25.2	52.4	60-140	5.83	40
2-Nitrophenol	54.2		6.31	ug/kg dry	50.5	<6.31	107	60-140	0.645	40
4-Bromophenyl phenyl ether (BDE-3)	21.0		3.15	ug/kg dry	25.2	<3.15	83.3	60-140	2.71	40
4-Chloro-3-methylphenol	49.8		6.31	ug/kg dry	50.5	<6.31	98.6	60-140	1.76	40
4-Chlorophenyl phenylether	22.0		3.15	ug/kg dry	25.2	<3.15	87.2	60-140	0.310	40
4-Nitrophenol	95.2		3.15	ug/kg dry	126	<3.15	75.5	60-140	1.08	40
Acenaphthene	20.6		3.15	ug/kg dry	25.2	<3.15	81.8	60-140	3.25	40
Acenaphthylene	23.9		3.15	ug/kg dry	25.2	<3.15	94.6	60-140	2.52	40
Anthracene	21.4		3.15	ug/kg dry	25.2	<3.15	85.0	60-140	1.11	40
Benzo(a)anthracene	22.1		3.15	ug/kg dry	25.2	<3.15	87.6	60-140	1.27	40
Benzo(a)pyrene	21.9		3.15	ug/kg dry	25.2	<3.15	87.0	60-140	0.271	40
Benzo(b)fluoranthene	16.8		3.15	ug/kg dry	25.2	<3.15	66.7	60-140	12.0	40
Benzo(g,h,i)perylene	18.7		3.15	ug/kg dry	25.2	<3.15	74.2	60-140	2.07	40
Benzo(k)fluoranthene	20.9		3.15	ug/kg dry	25.2	<3.15	82.7	60-140	3.51	40
bis(2-Chloroethoxy)methane	25.6		3.15	ug/kg dry	25.2	<3.15	102	60-140	2.66	40
bis(2-Chloroethyl) ether	22.2		3.15	ug/kg dry	25.2	<3.15	87.8	60-140	1.76	40
Bis(2-ethylhexyl)phthalate	21.5		3.15	ug/kg dry	25.2	<3.15	85.4	60-140	7.96	40
Butyl benzyl phthalate	18.4		3.15	ug/kg dry	25.2	<3.15	73.1	60-140	1.07	40
Chrysene	21.2		3.15	ug/kg dry	25.2	<3.15	84.1	60-140	0.705	40

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
23A1459-66 MSD (BGB0424-MSD1)	**Source: 23A1459-66RE1**		Prepared: 2/3/2023 Analyzed: 2/17/2023							
Dibenzo(a,h)anthracene	19.1		3.15	ug/kg dry	25.2	<3.15	75.5	60-140	1.06	40
Diethyl phthalate	22.8		3.15	ug/kg dry	25.2	<3.15	90.3	60-140	2.19	40
Dimethyl phthalate	24.0		3.15	ug/kg dry	25.2	<3.15	94.9	60-140	1.69	40
Di-n-butyl phthalate	19.1		3.15	ug/kg dry	25.2	<3.15	75.7	60-140	2.11	40
Di-n-octyl phthalate	19.2		3.15	ug/kg dry	25.2	<3.15	76.0	60-140	4.03	40
Fluoranthene	17.6		3.15	ug/kg dry	25.2	<3.15	69.9	60-140	0.165	40
Fluorene	22.2		3.15	ug/kg dry	25.2	<3.15	88.0	60-140	0.756	40
Hexachlorobenzene	19.5		3.15	ug/kg dry	25.2	<3.15	77.3	60-140	1.87	40
Hexachlorobutadiene	16.3		3.15	ug/kg dry	25.2	<3.15	64.8	60-140	1.90	40
Hexachloroethane	15.6		3.15	ug/kg dry	25.2	<3.15	61.9	60-140	3.24	40
Indeno(1,2,3-cd) pyrene	18.6		3.15	ug/kg dry	25.2	<3.15	73.8	60-140	1.03	40
Isophorone	20.6		3.15	ug/kg dry	25.2	<3.15	81.7	60-140	1.07	40
Naphthalene	18.3		3.15	ug/kg dry	25.2	<3.15	72.4	60-140	2.72	40
Nitrobenzene	25.6		3.15	ug/kg dry	25.2	<3.15	101	60-140	0.543	40
n-Nitrosodimethylamine	63.8	J1	3.15	ug/kg dry	126	<3.15	50.6	60-140	11.9	40
n-Nitrosodi-n-propylamine	22.3		3.15	ug/kg dry	25.2	<3.15	88.2	60-140	2.32	40
n-Nitrosodiphenylamine	8.57	J1	3.15	ug/kg dry	25.2	<3.15	34.0	60-140	0.879	40
Pentachlorophenol	37.6		6.31	ug/kg dry	50.5	<6.31	74.5	60-140	1.20	40
Phenanthrene	20.7		3.15	ug/kg dry	25.2	<3.15	82.2	60-140	2.03	40
Phenol, Total	50.2		6.31	ug/kg dry	50.5	11.3	77.1	60-140	4.00	40
Pyrene	17.7		3.15	ug/kg dry	25.2	<3.15	70.2	60-140	5.36	40
Surrogate: 2-Fluorobiphenyl-surr			*19.2*	*ug/kg dry*	*25.2*		*76.2*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*44.7*	*ug/kg dry*	*50.5*		*88.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*41.0*	*ug/kg dry*	*50.5*		*81.2*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*25.0*	*ug/kg dry*	*25.2*		*98.9*	*60-140*		
Surrogate: Phenol-d5-surr			*46.2*	*ug/kg dry*	*50.5*		*91.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.8*	*ug/kg dry*	*25.2*		*66.7*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0424 - SW-3570 (Continued)										
Matrix Spike Dup (BGB0424-MSD2)			**Source: 23A1459-66RE2**		Prepared: 2/3/2023 Analyzed: 2/27/2023					
Hexachlorocyclopentadiene	14.6	J1	3.15	ug/kg dry	25.2	<3.15	57.9	60-140	8.84	40
Surrogate: 2-Fluorobiphenyl-surr			*19.2*	*ug/kg dry*	*25.2*		*76.2*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*45.5*	*ug/kg dry*	*50.5*		*90.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*48.0*	*ug/kg dry*	*50.5*		*95.1*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*23.0*	*ug/kg dry*	*25.2*		*91.0*	*60-140*		
Surrogate: Phenol-d5-surr			*47.8*	*ug/kg dry*	*50.5*		*94.8*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*20.8*	*ug/kg dry*	*25.2*		*82.5*	*60-140*		
Batch: BGC0816 - SW-3570										
Blank (BGC0816-BLK1)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	<2.48	U	2.48	ug/kg wet						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.48	U	2.48	ug/kg wet						
1,2-Diphenylhydrazine	<2.48	U	2.48	ug/kg wet						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.48	U	2.48	ug/kg wet						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.48	U	2.48	ug/kg wet						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<2.48	U	2.48	ug/kg wet						
2,4,6-Trichlorophenol	<4.96	U	4.96	ug/kg wet						
2,4-Dichlorophenol	<4.96	U	4.96	ug/kg wet						
2,4-Dimethylphenol	<4.96	U	4.96	ug/kg wet						
2,4-Dinitrophenol	<4.96	U	4.96	ug/kg wet						
2,4-Dinitrotoluene (2,4-DNT)	<2.48	U	2.48	ug/kg wet						
2,6-Dinitrotoluene (2,6-DNT)	<2.48	U	2.48	ug/kg wet						
2-Chloronaphthalene	<2.48	U	2.48	ug/kg wet						
2-Chlorophenol	<4.96	U	4.96	ug/kg wet						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<19.8	U	19.8	ug/kg wet						
2-Nitrophenol	<4.96	U	4.96	ug/kg wet						
4-Bromophenyl phenyl ether (BDE-3)	<2.48	U	2.48	ug/kg wet						
4-Chloro-3-methylphenol	<4.96	U	4.96	ug/kg wet						
4-Chlorophenyl phenylether	<2.48	U	2.48	ug/kg wet						
4-Nitrophenol	<2.48	U	2.48	ug/kg wet						
Acenaphthene	<2.48	U	2.48	ug/kg wet						
Acenaphthylene	<2.48	U	2.48	ug/kg wet						
Anthracene	<2.48	U	2.48	ug/kg wet						
Benzo(a)anthracene	<2.48	U	2.48	ug/kg wet						
Benzo(a)pyrene	<2.48	U	2.48	ug/kg wet						
benzo(b&k)fluoranthene	<2.48	U	2.48	ug/kg wet						
Benzo(g,h,i)perylene	<2.48	U	2.48	ug/kg wet						
bis(2-Chloroethoxy)methane	<2.48	U	2.48	ug/kg wet						
bis(2-Chloroethyl) ether	<2.48	U	2.48	ug/kg wet						
Bis(2-ethylhexyl)phthalate	36.3		2.48	ug/kg wet						

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
Blank (BGC0816-BLK1)				Prepared: 3/6/2023 Analyzed: 3/15/2023						
Butyl benzyl phthalate	<2.48	U	2.48	ug/kg wet						
Chrysene	<2.48	U	2.48	ug/kg wet						
Dibenzo(a,h)anthracene	<2.48	U	2.48	ug/kg wet						
Diethyl phthalate	<2.48	U	2.48	ug/kg wet						
Dimethyl phthalate	<2.48	U	2.48	ug/kg wet						
Di-n-butyl phthalate	<2.48	U	2.48	ug/kg wet						
Di-n-octyl phthalate	<2.48	U	2.48	ug/kg wet						
Fluoranthene	<2.48	U	2.48	ug/kg wet						
Fluorene	<2.48	U	2.48	ug/kg wet						
Hexachlorobenzene	<2.48	U	2.48	ug/kg wet						
Hexachlorobutadiene	<2.48	U	2.48	ug/kg wet						
Hexachlorocyclopentadiene	<2.48	U	2.48	ug/kg wet						
Hexachloroethane	<2.48	U	2.48	ug/kg wet						
Indeno(1,2,3-cd) pyrene	<2.48	U	2.48	ug/kg wet						
Isophorone	<2.48	U	2.48	ug/kg wet						
Naphthalene	<2.48	U	2.48	ug/kg wet						
Nitrobenzene	<2.48	U	2.48	ug/kg wet						
n-Nitrosodimethylamine	<2.48	U	2.48	ug/kg wet						
n-Nitrosodi-n-propylamine	<2.48	U	2.48	ug/kg wet						
n-Nitrosodiphenylamine	<2.48	U	2.48	ug/kg wet						
Pentachlorophenol	<4.96	U	4.96	ug/kg wet						
Phenanthrene	<2.48	U	2.48	ug/kg wet						
Phenol, Total	<4.96	U	4.96	ug/kg wet						
Pyrene	<2.48	U	2.48	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*16.5*	*ug/kg wet*	*19.8*		*83.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*39.4*	*ug/kg wet*	*39.6*		*99.3*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.3*	*ug/kg wet*	*39.6*		*84.0*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.3*	*ug/kg wet*	*19.8*		*92.1*	*60-140*		
Surrogate: Phenol-d5-surr			*41.4*	*ug/kg wet*	*39.6*		*104*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*20.6*	*ug/kg wet*	*19.8*		*104*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
LCS (BGC0816-BS2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	13.2		2.45	ug/kg wet	19.6		67.6	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	11.2	J1	2.45	ug/kg wet	19.6		57.2	60-140		
1,2-Diphenylhydrazine	16.8		2.45	ug/kg wet	19.6		85.9	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	9.83	J1	2.45	ug/kg wet	19.6		50.2	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	10.3	J1	2.45	ug/kg wet	19.6		52.7	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.4		2.45	ug/kg wet	19.6		78.6	60-140		
2,4,6-Trichlorophenol	38.8		4.90	ug/kg wet	39.2		99.0	60-140		
2,4-Dichlorophenol	40.5		4.90	ug/kg wet	39.2		103	60-140		
2,4-Dimethylphenol	35.1		4.90	ug/kg wet	39.2		89.6	60-140		
2,4-Dinitrophenol	13.6		4.90	ug/kg wet	97.9		13.9	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	16.3		2.45	ug/kg wet	19.6		83.1	60-140		
2,6-Dinitrotoluene (2,6-DNT)	16.7		2.45	ug/kg wet	19.6		85.4	60-140		
2-Chloronaphthalene	15.3		2.45	ug/kg wet	19.6		78.2	60-140		
2-Chlorophenol	31.8		4.90	ug/kg wet	39.2		81.3	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	15.9	J1, J	19.6	ug/kg wet	39.2		40.6	60-140		
2-Nitrophenol	41.1		4.90	ug/kg wet	39.2		105	60-140		
4-Bromophenyl phenyl ether (BDE-3)	14.4		2.45	ug/kg wet	19.6		73.7	60-140		
4-Chloro-3-methylphenol	34.2		4.90	ug/kg wet	39.2		87.3	60-140		
4-Chlorophenyl phenylether	14.3		2.45	ug/kg wet	19.6		72.9	60-140		
4-Nitrophenol	71.5		2.45	ug/kg wet	97.9		73.0	60-140		
Acenaphthene	14.4		2.45	ug/kg wet	19.6		73.6	60-140		
Acenaphthylene	17.5		2.45	ug/kg wet	19.6		89.2	60-140		
Anthracene	16.2		2.45	ug/kg wet	19.6		82.9	60-140		
Benzo(a)anthracene	13.0		2.45	ug/kg wet	19.6		66.5	60-140		
Benzo(a)pyrene	13.2		2.45	ug/kg wet	19.6		67.6	60-140		
benzo(b&k)fluoranthene	25.9		2.45	ug/kg wet	39.2		66.1	60-140		
Benzo(g,h,i)perylene	12.3		2.45	ug/kg wet	19.6		62.9	60-140		
bis(2-Chloroethoxy)methane	16.7		2.45	ug/kg wet	19.6		85.4	60-140		
bis(2-Chloroethyl) ether	15.1		2.45	ug/kg wet	19.6		77.1	60-140		
Bis(2-ethylhexyl)phthalate	15.7		2.45	ug/kg wet	19.6		80.2	60-140		
Butyl benzyl phthalate	12.1		2.45	ug/kg wet	19.6		61.6	60-140		
Chrysene	12.8		2.45	ug/kg wet	19.6		65.4	60-140		
Dibenzo(a,h)anthracene	12.9		2.45	ug/kg wet	19.6		65.8	60-140		
Diethyl phthalate	14.7		2.45	ug/kg wet	19.6		75.0	60-140		
Dimethyl phthalate	13.3		2.45	ug/kg wet	19.6		68.0	60-140		
Di-n-butyl phthalate	15.0		2.45	ug/kg wet	19.6		76.8	60-140		
Di-n-octyl phthalate	12.1		2.45	ug/kg wet	19.6		61.6	60-140		
Fluoranthene	12.9		2.45	ug/kg wet	19.6		65.8	60-140		
Fluorene	15.8		2.45	ug/kg wet	19.6		80.4	60-140		
Hexachlorobenzene	14.3		2.45	ug/kg wet	19.6		72.8	60-140		
Hexachlorobutadiene	8.11	J1	2.45	ug/kg wet	19.6		41.4	60-140		
Hexachlorocyclopentadiene	3.74	J1	2.45	ug/kg wet	19.6		19.1	60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
LCS (BGC0816-BS2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
Hexachloroethane	7.26	J1	2.45	ug/kg wet	19.6		37.1	60-140		
Indeno(1,2,3-cd) pyrene	12.7		2.45	ug/kg wet	19.6		64.7	60-140		
Isophorone	15.0		2.45	ug/kg wet	19.6		76.5	60-140		
Naphthalene	12.7		2.45	ug/kg wet	19.6		64.9	60-140		
Nitrobenzene	19.1		2.45	ug/kg wet	19.6		97.3	60-140		
n-Nitrosodimethylamine	26.1	J1	2.45	ug/kg wet	97.9		26.6	60-140		
n-Nitrosodi-n-propylamine	17.5		2.45	ug/kg wet	19.6		89.5	60-140		
n-Nitrosodiphenylamine	13.0		2.45	ug/kg wet	19.6		66.5	60-140		
Pentachlorophenol	19.8	J1	4.90	ug/kg wet	39.2		50.5	60-140		
Phenanthrene	16.0		2.45	ug/kg wet	19.6		81.9	60-140		
Phenol, Total	25.6		4.90	ug/kg wet	39.2		65.4	60-140		
Pyrene	12.7		2.45	ug/kg wet	19.6		65.1	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*14.5*	*ug/kg wet*	*19.6*		*74.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*37.9*	*ug/kg wet*	*39.2*		*96.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*28.8*	*ug/kg wet*	*39.2*		*73.6*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.3*	*ug/kg wet*	*19.6*		*83.0*	*60-140*		
Surrogate: Phenol-d5-surr			*28.8*	*ug/kg wet*	*39.2*		*73.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.1*	*ug/kg wet*	*19.6*		*97.4*	*60-140*		
LCS Dup (BGC0816-BSD2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	12.5		2.47	ug/kg wet	19.8		63.0	60-140	6.06	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	10.9	J1	2.47	ug/kg wet	19.8		55.0	60-140	2.99	40
1,2-Diphenylhydrazine	17.0		2.47	ug/kg wet	19.8		85.9	60-140	0.972	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	10.2	J1	2.47	ug/kg wet	19.8		51.6	60-140	3.79	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	10.3	J1	2.47	ug/kg wet	19.8		51.8	60-140	0.702	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.2		2.47	ug/kg wet	19.8		76.9	60-140	1.12	40
2,4,6-Trichlorophenol	39.6		4.95	ug/kg wet	39.6		100	60-140	2.22	40
2,4-Dichlorophenol	41.9		4.95	ug/kg wet	39.6		106	60-140	3.29	40
2,4-Dimethylphenol	38.0		4.95	ug/kg wet	39.6		96.0	60-140	7.95	40
2,4-Dinitrophenol	16.1		4.95	ug/kg wet	98.9		16.3	10-50.4	16.6	40
2,4-Dinitrotoluene (2,4-DNT)	16.5		2.47	ug/kg wet	19.8		83.5	60-140	1.54	40
2,6-Dinitrotoluene (2,6-DNT)	16.8		2.47	ug/kg wet	19.8		84.8	60-140	0.295	40
2-Chloronaphthalene	16.3		2.47	ug/kg wet	19.8		82.5	60-140	6.31	40
2-Chlorophenol	25.3		4.95	ug/kg wet	39.6		64.0	60-140	22.8	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	17.3	J1, J	19.8	ug/kg wet	39.6		43.7	60-140	8.34	40
2-Nitrophenol	43.5		4.95	ug/kg wet	39.6		110	60-140	5.76	40
4-Bromophenyl phenyl ether (BDE-3)	16.7		2.47	ug/kg wet	19.8		84.4	60-140	14.5	40
4-Chloro-3-methylphenol	36.7		4.95	ug/kg wet	39.6		92.9	60-140	7.13	40
4-Chlorophenyl phenylether	15.4		2.47	ug/kg wet	19.8		78.0	60-140	7.70	40
4-Nitrophenol	77.7		2.47	ug/kg wet	98.9		78.6	60-140	8.27	40
Acenaphthene	14.7		2.47	ug/kg wet	19.8		74.1	60-140	1.68	40
Acenaphthylene	17.7		2.47	ug/kg wet	19.8		89.2	60-140	1.06	40

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
LCS Dup (BGC0816-BSD2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
Anthracene	17.3		2.47	ug/kg wet	19.8		87.7	60-140	6.56	40
Benzo(a)anthracene	14.1		2.47	ug/kg wet	19.8		71.5	60-140	8.27	40
Benzo(a)pyrene	14.1		2.47	ug/kg wet	19.8		71.1	60-140	6.05	40
benzo(b&k)fluoranthene	27.5		2.47	ug/kg wet	39.6		69.6	60-140	6.18	40
Benzo(g,h,i)perylene	12.9		2.47	ug/kg wet	19.8		65.0	60-140	4.32	40
bis(2-Chloroethoxy)methane	16.3		2.47	ug/kg wet	19.8		82.2	60-140	2.78	40
bis(2-Chloroethyl) ether	13.9		2.47	ug/kg wet	19.8		70.0	60-140	8.63	40
Bis(2-ethylhexyl)phthalate	16.4		2.47	ug/kg wet	19.8		83.1	60-140	4.61	40
Butyl benzyl phthalate	14.3		2.47	ug/kg wet	19.8		72.2	60-140	16.8	40
Chrysene	13.5		2.47	ug/kg wet	19.8		68.2	60-140	5.05	40
Dibenzo(a,h)anthracene	13.3		2.47	ug/kg wet	19.8		67.1	60-140	2.84	40
Diethyl phthalate	14.8		2.47	ug/kg wet	19.8		74.9	60-140	0.825	40
Dimethyl phthalate	14.3		2.47	ug/kg wet	19.8		72.4	60-140	7.32	40
Di-n-butyl phthalate	15.2		2.47	ug/kg wet	19.8		76.9	60-140	1.16	40
Di-n-octyl phthalate	13.8		2.47	ug/kg wet	19.8		69.6	60-140	13.1	40
Fluoranthene	13.8		2.47	ug/kg wet	19.8		70.0	60-140	7.19	40
Fluorene	16.2		2.47	ug/kg wet	19.8		81.9	60-140	2.80	40
Hexachlorobenzene	15.4		2.47	ug/kg wet	19.8		77.8	60-140	7.60	40
Hexachlorobutadiene	7.98	J1	2.47	ug/kg wet	19.8		40.3	60-140	1.65	40
Hexachlorocyclopentadiene	3.86	J1	2.47	ug/kg wet	19.8		19.5	60-140	3.03	40
Hexachloroethane	6.10	J1	2.47	ug/kg wet	19.8		30.8	60-140	17.5	40
Indeno(1,2,3-cd) pyrene	13.1		2.47	ug/kg wet	19.8		66.0	60-140	2.98	40
Isophorone	14.3		2.47	ug/kg wet	19.8		72.4	60-140	4.57	40
Naphthalene	12.8		2.47	ug/kg wet	19.8		64.8	60-140	0.841	40
Nitrobenzene	18.7		2.47	ug/kg wet	19.8		94.7	60-140	1.78	40
n-Nitrosodimethylamine	39.3	J1	2.47	ug/kg wet	98.9		39.8	60-140	40.5	40
n-Nitrosodi-n-propylamine	17.3		2.47	ug/kg wet	19.8		87.5	60-140	1.28	40
n-Nitrosodiphenylamine	14.1		2.47	ug/kg wet	19.8		71.2	60-140	7.79	40
Pentachlorophenol	24.7		4.95	ug/kg wet	39.6		62.5	60-140	22.3	40
Phenanthrene	17.0		2.47	ug/kg wet	19.8		85.7	60-140	5.55	40
Phenol, Total	21.7	J1	4.95	ug/kg wet	39.6		55.0	60-140	16.3	40
Pyrene	14.8		2.47	ug/kg wet	19.8		74.6	60-140	14.7	40
Surrogate: 2-Fluorobiphenyl-surr			*15.2*	*ug/kg wet*	*19.8*		*76.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*38.1*	*ug/kg wet*	*39.6*		*96.4*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.5*	*ug/kg wet*	*39.6*		*84.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*15.6*	*ug/kg wet*	*19.8*		*79.0*	*60-140*		
Surrogate: Phenol-d5-surr			*27.5*	*ug/kg wet*	*39.6*		*69.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*25.4*	*ug/kg wet*	*19.8*		*129*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
MRL Check (BGC0816-MRL2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	1.40	J	2.34	ug/kg wet	1.87		74.7	50-150		
1,2-Dichlorobenzene (o-Dichlorobenzene)	1.42	J	2.34	ug/kg wet	1.87		76.0	50-150		
1,2-Diphenylhydrazine	1.49	J	2.34	ug/kg wet	1.87		79.4	50-150		
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.34	U	2.34	ug/kg wet	1.87			50-150		
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.34	U	2.34	ug/kg wet	1.87			50-150		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.58	J	2.34	ug/kg wet	1.87		84.2	50-150		
2,4,6-Trichlorophenol	3.95	J	4.69	ug/kg wet	3.75		105	50-150		
2,4-Dichlorophenol	4.69		4.69	ug/kg wet	3.75		125	50-150		
2,4-Dimethylphenol	4.46	J	4.69	ug/kg wet	3.75		119	50-150		
2,4-Dinitrophenol	3.97	J	4.69	ug/kg wet	9.37		42.4	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.17	J	2.34	ug/kg wet	1.87		62.7	50-150		
2,6-Dinitrotoluene (2,6-DNT)	1.78	J	2.34	ug/kg wet	1.87		94.7	50-150		
2-Chloronaphthalene	1.73	J	2.34	ug/kg wet	1.87		92.4	50-150		
2-Chlorophenol	3.38	J	4.69	ug/kg wet	3.75		90.0	50-150		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<18.7	U	18.7	ug/kg wet	3.75			50-150		
2-Nitrophenol	4.23	J	4.69	ug/kg wet	3.75		113	50-150		
4-Bromophenyl phenyl ether (BDE-3)	1.60	J	2.34	ug/kg wet	1.87		85.3	50-150		
4-Chloro-3-methylphenol	3.57	J	4.69	ug/kg wet	3.75		95.3	50-150		
4-Chlorophenyl phenylether	1.26	J	2.34	ug/kg wet	1.87		67.3	50-150		
4-Nitrophenol	4.88		2.34	ug/kg wet	9.37		52.1	50-150		
Acenaphthene	1.49	J	2.34	ug/kg wet	1.87		79.5	50-150		
Acenaphthylene	1.78	J	2.34	ug/kg wet	1.87		95.0	50-150		
Anthracene	1.46	J	2.34	ug/kg wet	1.87		78.0	50-150		
Benzo(a)anthracene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Benzo(a)pyrene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
benzo(b&k)fluoranthene	2.30	J	2.34	ug/kg wet	3.75		61.4	50-150		
Benzo(g,h,i)perylene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
bis(2-Chloroethoxy)methane	1.38	J	2.34	ug/kg wet	1.87		73.4	50-150		
bis(2-Chloroethyl) ether	1.72	J	2.34	ug/kg wet	1.87		91.8	50-150		
Bis(2-ethylhexyl)phthalate	11.4		2.34	ug/kg wet	1.87		607			
Butyl benzyl phthalate	1.39	J	2.34	ug/kg wet	1.87		74.0	50-150		
Chrysene	1.25	J	2.34	ug/kg wet	1.87		66.6	50-150		
Dibenzo(a,h)anthracene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Diethyl phthalate	1.77	J	2.34	ug/kg wet	1.87		94.6	50-150		
Dimethyl phthalate	1.40	J	2.34	ug/kg wet	1.87		74.8	50-150		
Di-n-butyl phthalate	2.25	J	2.34	ug/kg wet	1.87		120	50-150		
Di-n-octyl phthalate	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Fluoranthene	1.32	J	2.34	ug/kg wet	1.87		70.6	50-150		
Fluorene	1.54	J	2.34	ug/kg wet	1.87		82.3	50-150		
Hexachlorobenzene	1.26	J	2.34	ug/kg wet	1.87		67.3	50-150		
Hexachlorobutadiene	<2.34	U	2.34	ug/kg wet	1.87			50-150		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
MRL Check (BGC0816-MRL2)					Prepared: 3/6/2023 Analyzed: 3/15/2023					
Hexachlorocyclopentadiene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Hexachloroethane	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Indeno(1,2,3-cd) pyrene	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Isophorone	1.45	J	2.34	ug/kg wet	1.87		77.4	50-150		
Naphthalene	1.42	J	2.34	ug/kg wet	1.87		75.9	50-150		
Nitrobenzene	1.80	J	2.34	ug/kg wet	1.87		96.2	50-150		
n-Nitrosodimethylamine	<2.34	U	2.34	ug/kg wet	9.37			50-150		
n-Nitrosodi-n-propylamine	1.67	J	2.34	ug/kg wet	1.87		89.3	50-150		
n-Nitrosodiphenylamine	<2.34	U	2.34	ug/kg wet	1.87			50-150		
Pentachlorophenol	<4.69	U	4.69	ug/kg wet	3.75			50-150		
Phenanthrene	1.54	J	2.34	ug/kg wet	1.87		81.9	50-150		
Phenol, Total	<4.69	U	4.69	ug/kg wet	3.75			50-150		
Pyrene	1.18	J	2.34	ug/kg wet	1.87		63.0	50-150		
Surrogate: 2-Fluorobiphenyl-surr			*14.9*	*ug/kg wet*	*18.7*		*79.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*36.3*	*ug/kg wet*	*37.5*		*96.9*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*27.0*	*ug/kg wet*	*37.5*		*72.1*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.7*	*ug/kg wet*	*18.7*		*94.7*	*60-140*		
Surrogate: Phenol-d5-surr			*29.4*	*ug/kg wet*	*37.5*		*78.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*18.6*	*ug/kg wet*	*18.7*		*99.4*	*60-140*		
Matrix Spike (BGC0816-MS1)			**Source: 23A1459-24RE2**		Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	195		32.3	ug/kg dry	258	<32.3	75.4	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	179		32.3	ug/kg dry	258	<32.3	69.1	60-140		
1,2-Diphenylhydrazine	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	164		32.3	ug/kg dry	258	<32.3	63.4	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	167		32.3	ug/kg dry	258	<32.3	64.7	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	180		32.3	ug/kg dry	258	<32.3	69.8	60-140		
2,4,6-Trichlorophenol	338		64.6	ug/kg dry	517	<64.6	65.4	60-140		
2,4-Dichlorophenol	818	J1	64.6	ug/kg dry	517	<64.6	158	60-140		
2,4-Dimethylphenol	461		64.6	ug/kg dry	517	<64.6	89.2	60-140		
2,4-Dinitrophenol	<64.6	J1, U	64.6	ug/kg dry	1290	<64.6		10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
2,6-Dinitrotoluene (2,6-DNT)	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
2-Chloronaphthalene	87.4	J1	32.3	ug/kg dry	258	<32.3	33.8	60-140		
2-Chlorophenol	598		64.6	ug/kg dry	517	<64.6	116	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<258	J1, U	258	ug/kg dry	517	<258		60-140		
2-Nitrophenol	<64.6	J1, U	64.6	ug/kg dry	517	<64.6		60-140		
4-Bromophenyl phenyl ether (BDE-3)	104	J1	32.3	ug/kg dry	258	<32.3	40.1	60-140		
4-Chloro-3-methylphenol	<64.6	J1, U	64.6	ug/kg dry	517	<64.6		60-140		
4-Chlorophenyl phenylether	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
4-Nitrophenol	<32.3	J1, U	32.3	ug/kg dry	1290	<32.3		60-140		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
Matrix Spike (BGC0816-MS1)	**Source: 23A1459-24RE2**			Prepared: 3/6/2023 Analyzed: 3/15/2023						
Acenaphthene	535	J1	32.3	ug/kg dry	258	416	45.8	60-140		
Acenaphthylene	490		32.3	ug/kg dry	258	323	64.6	60-140		
Anthracene	152	J1	32.3	ug/kg dry	258	<32.3	59.0	60-140		
Benzo(a)anthracene	183	J1	32.3	ug/kg dry	258	31.3	58.8	60-140		
Benzo(a)pyrene	134	J1	32.3	ug/kg dry	258	<32.3	52.0	60-140		
benzo(b&k)fluoranthene	270	J1	32.3	ug/kg dry	517	<32.3	52.3	60-140		
Benzo(g,h,i)perylene	216		32.3	ug/kg dry	258	22.3	75.0	60-140		
bis(2-Chloroethoxy)methane	253		32.3	ug/kg dry	258	<32.3	97.9	60-140		
bis(2-Chloroethyl) ether	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
Bis(2-ethylhexyl)phthalate	138	J1	32.3	ug/kg dry	258	18.8	46.2	60-140		
Butyl benzyl phthalate	97.2	J1	32.3	ug/kg dry	258	<32.3	37.6	60-140		
Chrysene	176	J1	32.3	ug/kg dry	258	36.7	53.9	60-140		
Dibenzo(a,h)anthracene	184		32.3	ug/kg dry	258	<32.3	71.4	60-140		
Diethyl phthalate	139	J1	32.3	ug/kg dry	258	<32.3	53.7	60-140		
Dimethyl phthalate	86.6	J1	32.3	ug/kg dry	258	<32.3	33.5	60-140		
Di-n-butyl phthalate	285		32.3	ug/kg dry	258	120	63.8	60-140		
Di-n-octyl phthalate	156		32.3	ug/kg dry	258	<32.3	60.2	60-140		
Fluoranthene	176	J1	32.3	ug/kg dry	258	81.3	36.6	60-140		
Fluorene	1070	L	32.3	ug/kg dry	258	893	67.1	60-140		
Hexachlorobenzene	93.4	J1	32.3	ug/kg dry	258	<32.3	36.2	60-140		
Hexachlorobutadiene	147	J1	32.3	ug/kg dry	258	<32.3	56.8	60-140		
Hexachlorocyclopentadiene	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
Hexachloroethane	37.2	J1	32.3	ug/kg dry	258	<32.3	14.4	60-140		
Indeno(1,2,3-cd) pyrene	184		32.3	ug/kg dry	258	<32.3	71.1	60-140		
Isophorone	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
Naphthalene	139	J1	32.3	ug/kg dry	258	<32.3	53.8	60-140		
Nitrobenzene	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
n-Nitrosodimethylamine	225	J1	32.3	ug/kg dry	1290	<32.3	17.4	60-140		
n-Nitrosodi-n-propylamine	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
n-Nitrosodiphenylamine	<32.3	J1, U	32.3	ug/kg dry	258	<32.3		60-140		
Pentachlorophenol	153	J1	64.6	ug/kg dry	517	<64.6	29.6	60-140		
Phenanthrene	639	J1	32.3	ug/kg dry	258	522	45.1	60-140		
Phenol, Total	576		64.6	ug/kg dry	517	<64.6	112	60-140		
Pyrene	214	J1	32.3	ug/kg dry	258	90.3	47.7	60-140		
Surrogate: 2-Fluorobiphenyl-surr		*S*	*129*	*ug/kg dry*	*258*		*50.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*414*	*ug/kg dry*	*517*		*80.0*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*209*	*ug/kg dry*	*517*		*40.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*189*	*ug/kg dry*	*258*		*73.1*	*60-140*		
Surrogate: Phenol-d5-surr			*449*	*ug/kg dry*	*517*		*86.9*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*231*	*ug/kg dry*	*258*		*89.3*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
Matrix Spike (BGC0816-MS2)		**Source: 23A1459-24RE4**			Prepared: 3/6/2023 Analyzed: 3/16/2023					
Fluorene	1290	J1	80.8	ug/kg dry	258	1190	36.2	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*232*	*ug/kg dry*	*258*		*89.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*594*	*ug/kg dry*	*258*		*230*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*136*	*ug/kg dry*	*258*		*52.7*	*60-140*		
Matrix Spike Dup (BGC0816-MSD1)		**Source: 23A1459-24RE2**			Prepared: 3/6/2023 Analyzed: 3/15/2023					
1,2,4-Trichlorobenzene	165		33.4	ug/kg dry	267	<33.4	61.6	60-140	16.7	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	179		33.4	ug/kg dry	267	<33.4	66.8	60-140	0.0334	40
1,2-Diphenylhydrazine	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
1,3-Dichlorobenzene (m-Dichlorobenzene)	155	J1	33.4	ug/kg dry	267	<33.4	57.8	60-140	5.83	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	182		33.4	ug/kg dry	267	<33.4	68.2	60-140	8.67	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	199		33.4	ug/kg dry	267	<33.4	74.3	60-140	9.62	40
2,4,6-Trichlorophenol	386		66.8	ug/kg dry	535	<66.8	72.2	60-140	13.3	40
2,4-Dichlorophenol	777	J1	66.8	ug/kg dry	535	<66.8	145	60-140	5.17	40
2,4-Dimethylphenol	457		66.8	ug/kg dry	535	<66.8	85.4	60-140	0.901	40
2,4-Dinitrophenol	<66.8	J1, U	66.8	ug/kg dry	1340	<66.8		10-51.3		40
2,4-Dinitrotoluene (2,4-DNT)	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
2,6-Dinitrotoluene (2,6-DNT)	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
2-Chloronaphthalene	73.6	J1	33.4	ug/kg dry	267	<33.4	27.5	60-140	17.1	40
2-Chlorophenol	611		66.8	ug/kg dry	535	<66.8	114	60-140	2.13	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<267	J1, U	267	ug/kg dry	535	<267		60-140		40
2-Nitrophenol	<66.8	J1, U	66.8	ug/kg dry	535	<66.8		60-140		40
4-Bromophenyl phenyl ether (BDE-3)	103	J1	33.4	ug/kg dry	267	<33.4	38.4	60-140	0.962	40
4-Chloro-3-methylphenol	<66.8	J1, U	66.8	ug/kg dry	535	<66.8		60-140		40
4-Chlorophenyl phenylether	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
4-Nitrophenol	<33.4	J1, U	33.4	ug/kg dry	1340	<33.4		60-140		40
Acenaphthene	489	J1	33.4	ug/kg dry	267	416	27.0	60-140	9.02	40
Acenaphthylene	512		33.4	ug/kg dry	267	323	70.8	60-140	4.45	40
Anthracene	146	J1	33.4	ug/kg dry	267	<33.4	54.4	60-140	4.61	40
Benzo(a)anthracene	188	J1	33.4	ug/kg dry	267	31.3	58.6	60-140	2.55	40
Benzo(a)pyrene	136	J1	33.4	ug/kg dry	267	<33.4	51.0	60-140	1.41	40
benzo(b&k)fluoranthene	285	J1	33.4	ug/kg dry	535	<33.4	53.3	60-140	5.29	40
Benzo(g,h,i)perylene	237		33.4	ug/kg dry	267	22.3	80.3	60-140	9.30	40
bis(2-Chloroethoxy)methane	281		33.4	ug/kg dry	267	<33.4	105	60-140	10.4	40
bis(2-Chloroethyl) ether	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
Bis(2-ethylhexyl)phthalate	148	J1	33.4	ug/kg dry	267	18.8	48.5	60-140	7.20	40
Butyl benzyl phthalate	114	J1	33.4	ug/kg dry	267	<33.4	42.8	60-140	16.3	40
Chrysene	178	J1	33.4	ug/kg dry	267	36.7	52.9	60-140	1.20	40
Dibenzo(a,h)anthracene	194		33.4	ug/kg dry	267	<33.4	72.6	60-140	5.13	40
Diethyl phthalate	122	J1	33.4	ug/kg dry	267	<33.4	45.6	60-140	12.9	40
Dimethyl phthalate	88.9	J1	33.4	ug/kg dry	267	<33.4	33.2	60-140	2.62	40

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC0816 - SW-3570 (Continued)										
Matrix Spike Dup (BGC0816-MSD1)		**Source: 23A1459-24RE2**			Prepared: 3/6/2023 Analyzed: 3/15/2023					
Di-n-butyl phthalate	235	J1	33.4	ug/kg dry	267	120	43.3	60-140	19.0	40
Di-n-octyl phthalate	169		33.4	ug/kg dry	267	<33.4	63.3	60-140	8.36	40
Fluoranthene	184	J1	33.4	ug/kg dry	267	81.3	38.3	60-140	4.29	40
Fluorene	1030	J1, L	33.4	ug/kg dry	267	893	50.6	60-140	3.62	40
Hexachlorobenzene	90.8	J1	33.4	ug/kg dry	267	<33.4	34.0	60-140	2.81	40
Hexachlorobutadiene	144	J1	33.4	ug/kg dry	267	<33.4	53.9	60-140	1.76	40
Hexachlorocyclopentadiene	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
Hexachloroethane	45.4	J1	33.4	ug/kg dry	267	<33.4	17.0	60-140	19.8	40
Indeno(1,2,3-cd) pyrene	207		33.4	ug/kg dry	267	<33.4	77.3	60-140	11.8	40
Isophorone	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
Naphthalene	150	J1	33.4	ug/kg dry	267	<33.4	56.0	60-140	7.43	40
Nitrobenzene	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
n-Nitrosodimethylamine	254	J1	33.4	ug/kg dry	1340	<33.4	19.0	60-140	12.3	40
n-Nitrosodi-n-propylamine	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
n-Nitrosodiphenylamine	<33.4	J1, U	33.4	ug/kg dry	267	<33.4		60-140		40
Pentachlorophenol	138	J1	66.8	ug/kg dry	535	<66.8	25.8	60-140	10.2	40
Phenanthrene	605	J1	33.4	ug/kg dry	267	522	31.0	60-140	5.43	40
Phenol, Total	709		66.8	ug/kg dry	535	<66.8	133	60-140	20.7	40
Pyrene	218	J1	33.4	ug/kg dry	267	90.3	47.7	60-140	2.03	40
Surrogate: 2-Fluorobiphenyl-surr		*S*	*100*	*ug/kg dry*	*267*		*37.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*506*	*ug/kg dry*	*535*		*94.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*192*	*ug/kg dry*	*535*		*35.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*156*	*ug/kg dry*	*267*		*58.3*	*60-140*		
Surrogate: Phenol-d5-surr			*375*	*ug/kg dry*	*535*		*70.1*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*140*	*ug/kg dry*	*267*		*52.3*	*60-140*		
Matrix Spike Dup (BGC0816-MSD2)		**Source: 23A1459-24RE4**			Prepared: 3/6/2023 Analyzed: 3/16/2023					
Fluorene	1510		83.6	ug/kg dry	267	1190	119	60-140	16.0	40
Surrogate: 2-Fluorobiphenyl-surr			*187*	*ug/kg dry*	*267*		*69.8*	*60-140*		
Surrogate: Nitrobenzene-d5-surr		*S*	*638*	*ug/kg dry*	*267*		*239*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*153*	*ug/kg dry*	*267*		*57.1*	*60-140*		

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Quality Control
(Continued)

Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3044 - SW-3570										
Blank (BGA3044-BLK1)					Prepared: 1/24/2023 Analyzed: 2/1/2023					
4,4'-DDD	<0.997	U	0.997	ug/kg wet						
4,4'-DDE	<0.997	U	0.997	ug/kg wet						
4,4'-DDT	<0.997	U	0.997	ug/kg wet						
Aldrin	<0.997	U	0.997	ug/kg wet						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.997	U	0.997	ug/kg wet						
beta-BHC (beta-Hexachlorocyclohexane)	<0.997	U	0.997	ug/kg wet						
Chlordane (tech.)	<0.997	U	0.997	ug/kg wet						
cis-Chlordane (alpha-Chlordane)	<0.997	U	0.997	ug/kg wet						
delta-BHC	<0.997	U	0.997	ug/kg wet						
Dieldrin	<0.997	U	0.997	ug/kg wet						
Endosulfan I	<0.997	U	0.997	ug/kg wet						
Endosulfan II	<0.997	U	0.997	ug/kg wet						
Endosulfan sulfate	<0.997	U	0.997	ug/kg wet						
Endrin	<0.997	U	0.997	ug/kg wet						
Endrin aldehyde	<0.997	U	0.997	ug/kg wet						
Endrin ketone	<0.997	U	0.997	ug/kg wet						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.997	U	0.997	ug/kg wet						
gamma-Chlordane	<0.997	U	0.997	ug/kg wet						
Heptachlor	<0.997	U	0.997	ug/kg wet						
Heptachlor epoxide	<0.997	U	0.997	ug/kg wet						
Methoxychlor	<0.997	U	0.997	ug/kg wet						
Toxaphene (Chlorinated Camphene)	<15.0	U	15.0	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.45*	*ug/kg wet*	*5.98*		*91.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.56*	*ug/kg wet*	*5.98*		*110*	*60-140*		
LCS (BGA3044-BS1)					Prepared: 1/24/2023 Analyzed: 2/1/2023					
Toxaphene (Chlorinated Camphene)	60.8		14.9	ug/kg wet	59.6		102	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.94*	*ug/kg wet*	*5.96*		*82.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.53*	*ug/kg wet*	*5.96*		*109*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3044 - SW-3570 (Continued)										
LCS (BGA3044-BS2)					Prepared: 1/24/2023 Analyzed: 2/1/2023					
4,4'-DDD	4.90		0.994	ug/kg wet	5.96		82.1	60-140		
4,4'-DDE	5.85		0.994	ug/kg wet	5.96		98.0	60-140		
4,4'-DDT	5.29		0.994	ug/kg wet	5.96		88.7	60-140		
Aldrin	5.48		0.994	ug/kg wet	5.96		91.8	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.17		0.994	ug/kg wet	5.96		103	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	5.48		0.994	ug/kg wet	5.96		91.8	60-140		
Chlordane (tech.)	19.9		0.994	ug/kg wet	23.9		83.4	60-140		
cis-Chlordane (alpha-Chlordane)	4.99		0.994	ug/kg wet	5.96		83.7	60-140		
delta-BHC	5.65		0.994	ug/kg wet	5.96		94.7	60-140		
Dieldrin	5.26		0.994	ug/kg wet	5.96		88.2	60-140		
Endosulfan I	4.81		0.994	ug/kg wet	5.96		80.7	60-140		
Endosulfan II	4.84		0.994	ug/kg wet	5.96		81.1	60-140		
Endosulfan sulfate	4.52		0.994	ug/kg wet	5.96		75.8	60-140		
Endrin	5.25		0.994	ug/kg wet	5.96		88.0	60-140		
Endrin aldehyde	4.29		0.994	ug/kg wet	5.96		71.9	60-140		
Endrin ketone	5.10		0.994	ug/kg wet	5.96		85.5	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.82		0.994	ug/kg wet	5.96		97.6	60-140		
gamma-Chlordane	5.09		0.994	ug/kg wet	5.96		85.3	60-140		
Heptachlor	4.86		0.994	ug/kg wet	5.96		81.5	60-140		
Heptachlor epoxide	4.95		0.994	ug/kg wet	5.96		83.1	60-140		
Methoxychlor	4.52		0.994	ug/kg wet	5.96		75.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.87*	*ug/kg wet*	*5.96*		*81.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.37*	*ug/kg wet*	*5.96*		*107*	*60-140*		
LCS Dup (BGA3044-BSD1)					Prepared: 1/24/2023 Analyzed: 2/1/2023					
Toxaphene (Chlorinated Camphene)	59.8		15.0	ug/kg wet	59.9		99.8	60-140	1.68	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.86*	*ug/kg wet*	*5.99*		*97.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.58*	*ug/kg wet*	*5.99*		*110*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3044 - SW-3570 (Continued)										
LCS Dup (BGA3044-BSD2)				Prepared: 1/24/2023 Analyzed: 2/1/2023						
4,4'-DDD	4.82		0.997	ug/kg wet	5.98		80.5	60-140	1.68	40
4,4'-DDE	5.41		0.997	ug/kg wet	5.98		90.4	60-140	7.76	40
4,4'-DDT	5.20		0.997	ug/kg wet	5.98		86.9	60-140	1.75	40
Aldrin	5.34		0.997	ug/kg wet	5.98		89.3	60-140	2.46	40
alpha-BHC (alpha-Hexachlorocyclohexane)	6.02		0.997	ug/kg wet	5.98		101	60-140	2.43	40
beta-BHC (beta-Hexachlorocyclohexane)	5.37		0.997	ug/kg wet	5.98		89.8	60-140	1.93	40
Chlordane (tech.)	19.8		0.997	ug/kg wet	23.9		82.7	60-140	0.528	40
cis-Chlordane (alpha-Chlordane)	4.99		0.997	ug/kg wet	5.98		83.4	60-140	0.0533	40
delta-BHC	5.59		0.997	ug/kg wet	5.98		93.5	60-140	1.01	40
Dieldrin	5.10		0.997	ug/kg wet	5.98		85.3	60-140	3.15	40
Endosulfan I	4.78		0.997	ug/kg wet	5.98		80.0	60-140	0.622	40
Endosulfan II	4.95		0.997	ug/kg wet	5.98		82.7	60-140	2.25	40
Endosulfan sulfate	4.76		0.997	ug/kg wet	5.98		79.6	60-140	5.18	40
Endrin	5.01		0.997	ug/kg wet	5.98		83.7	60-140	4.69	40
Endrin aldehyde	4.15		0.997	ug/kg wet	5.98		69.4	60-140	3.20	40
Endrin ketone	5.03		0.997	ug/kg wet	5.98		84.1	60-140	1.41	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.60		0.997	ug/kg wet	5.98		93.6	60-140	3.86	40
gamma-Chlordane	5.03		0.997	ug/kg wet	5.98		84.2	60-140	1.08	40
Heptachlor	4.92		0.997	ug/kg wet	5.98		82.2	60-140	1.11	40
Heptachlor epoxide	4.85		0.997	ug/kg wet	5.98		81.0	60-140	2.18	40
Methoxychlor	4.53		0.997	ug/kg wet	5.98		75.7	60-140	0.272	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.15*	*ug/kg wet*	*5.98*		*86.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.47*	*ug/kg wet*	*5.98*		*108*	*60-140*		
MRL Check (BGA3044-MRL1)				Prepared: 1/24/2023 Analyzed: 2/1/2023						
Toxaphene (Chlorinated Camphene)	16.0		14.8	ug/kg wet	14.8		108	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.53*	*ug/kg wet*	*5.92*		*93.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.86*	*ug/kg wet*	*5.92*		*116*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3044 - SW-3570 (Continued)										
MRL Check (BGA3044-MRL2)					Prepared: 1/24/2023 Analyzed: 2/1/2023					
4,4'-DDD	0.353	J	0.987	ug/kg wet	0.395		89.3			
4,4'-DDE	0.336	J	0.987	ug/kg wet	0.395		85.2			
4,4'-DDT	0.283	J	0.987	ug/kg wet	0.395		71.6			
Aldrin	0.371	J	0.987	ug/kg wet	0.395		93.9			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.454	J	0.987	ug/kg wet	0.395		115			
beta-BHC (beta-Hexachlorocyclohexane)	0.263	J	0.987	ug/kg wet	0.395		66.5			
Chlordane (tech.)	1.46		0.987	ug/kg wet	1.58		92.3	50-150		
cis-Chlordane (alpha-Chlordane)	0.368	J	0.987	ug/kg wet	0.395		93.3			
delta-BHC	<0.987	J1, U	0.987	ug/kg wet	0.395					
Dieldrin	0.309	J	0.987	ug/kg wet	0.395		78.1			
Endosulfan I	0.324	J	0.987	ug/kg wet	0.395		82.0			
Endosulfan II	0.322	J	0.987	ug/kg wet	0.395		81.5			
Endosulfan sulfate	0.331	J	0.987	ug/kg wet	0.395		83.8			
Endrin	0.326	J	0.987	ug/kg wet	0.395		82.5			
Endrin aldehyde	0.324	J	0.987	ug/kg wet	0.395		82.0			
Endrin ketone	0.397	J	0.987	ug/kg wet	0.395		100			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.312	J	0.987	ug/kg wet	0.395		78.9			
gamma-Chlordane	0.341	J	0.987	ug/kg wet	0.395		86.3			
Heptachlor	0.369	J	0.987	ug/kg wet	0.395		93.5			
Heptachlor epoxide	0.380	J	0.987	ug/kg wet	0.395		96.1			
Methoxychlor	0.304	J	0.987	ug/kg wet	0.395		76.9			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.37*	*ug/kg wet*	*5.92*		*90.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.39*	*ug/kg wet*	*5.92*		*108*	*60-140*		
Matrix Spike (BGA3044-MS1)		**Source: 23A1459-17**			Prepared: 1/24/2023 Analyzed: 2/1/2023					
4,4'-DDD	5.95		1.29	ug/kg dry	7.75	<1.29	76.8	60-140		
4,4'-DDE	7.23		1.29	ug/kg dry	7.75	<1.29	93.4	60-140		
4,4'-DDT	6.90		1.29	ug/kg dry	7.75	<1.29	89.0	60-140		
Aldrin	6.40		1.29	ug/kg dry	7.75	<1.29	82.5	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	7.39		1.29	ug/kg dry	7.75	<1.29	95.3	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	6.95		1.29	ug/kg dry	7.75	<1.29	89.6	60-140		
Chlordane (tech.)	25.0		1.29	ug/kg dry	31.0	<1.29	80.7	60-140		
cis-Chlordane (alpha-Chlordane)	6.22		1.29	ug/kg dry	7.75	<1.29	80.3	60-140		
delta-BHC	7.28		1.29	ug/kg dry	7.75	<1.29	93.9	60-140		
Dieldrin	6.40		1.29	ug/kg dry	7.75	<1.29	82.6	60-140		
Endosulfan I	5.87		1.29	ug/kg dry	7.75	<1.29	75.7	60-140		
Endosulfan II	6.18		1.29	ug/kg dry	7.75	<1.29	79.7	60-140		
Endosulfan sulfate	5.97		1.29	ug/kg dry	7.75	<1.29	77.0	60-140		
Endrin	6.43		1.29	ug/kg dry	7.75	<1.29	83.0	60-140		
Endrin aldehyde	5.45		1.29	ug/kg dry	7.75	<1.29	70.3	60-140		
Endrin ketone	6.49		1.29	ug/kg dry	7.75	<1.29	83.8	60-140		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3044 - SW-3570 (Continued)										
Matrix Spike (BGA3044-MS1)	**Source: 23A1459-17**			Prepared: 1/24/2023 Analyzed: 2/1/2023						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.94		1.29	ug/kg dry	7.75	<1.29	89.6	60-140		
gamma-Chlordane	6.98		1.29	ug/kg dry	7.75	<1.29	90.1	60-140		
Heptachlor	5.85		1.29	ug/kg dry	7.75	<1.29	75.5	60-140		
Heptachlor epoxide	5.94		1.29	ug/kg dry	7.75	<1.29	76.7	60-140		
Methoxychlor	6.27		1.29	ug/kg dry	7.75	<1.29	81.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.42*	*ug/kg dry*	*7.75*		*82.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*8.42*	*ug/kg dry*	*7.75*		*109*	*60-140*		
Matrix Spike Dup (BGA3044-MSD1)	**Source: 23A1459-17**			Prepared: 1/24/2023 Analyzed: 2/1/2023						
4,4'-DDD	6.00		1.23	ug/kg dry	7.40	<1.23	81.0	60-140	0.730	40
4,4'-DDE	6.80		1.23	ug/kg dry	7.40	<1.23	91.9	60-140	6.13	40
4,4'-DDT	6.52		1.23	ug/kg dry	7.40	<1.23	88.2	60-140	5.62	40
Aldrin	6.31		1.23	ug/kg dry	7.40	<1.23	85.3	60-140	1.33	40
alpha-BHC (alpha-Hexachlorocyclohexane)	7.27		1.23	ug/kg dry	7.40	<1.23	98.2	60-140	1.64	40
beta-BHC (beta-Hexachlorocyclohexane)	6.95		1.23	ug/kg dry	7.40	<1.23	93.9	60-140	0.0143	40
Chlordane (tech.)	24.3		1.23	ug/kg dry	29.6	<1.23	82.0	60-140	2.97	40
cis-Chlordane (alpha-Chlordane)	5.89		1.23	ug/kg dry	7.40	<1.23	79.7	60-140	5.45	40
delta-BHC	7.14		1.23	ug/kg dry	7.40	<1.23	96.5	60-140	1.89	40
Dieldrin	6.09		1.23	ug/kg dry	7.40	<1.23	82.2	60-140	5.07	40
Endosulfan I	5.73		1.23	ug/kg dry	7.40	<1.23	77.5	60-140	2.33	40
Endosulfan II	6.02		1.23	ug/kg dry	7.40	<1.23	81.3	60-140	2.66	40
Endosulfan sulfate	5.78		1.23	ug/kg dry	7.40	<1.23	78.1	60-140	3.19	40
Endrin	6.23		1.23	ug/kg dry	7.40	<1.23	84.2	60-140	3.18	40
Endrin aldehyde	5.05		1.23	ug/kg dry	7.40	<1.23	68.2	60-140	7.72	40
Endrin ketone	6.28		1.23	ug/kg dry	7.40	<1.23	84.9	60-140	3.24	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.74		1.23	ug/kg dry	7.40	<1.23	91.1	60-140	2.90	40
gamma-Chlordane	6.71		1.23	ug/kg dry	7.40	<1.23	90.7	60-140	3.94	40
Heptachlor	5.78		1.23	ug/kg dry	7.40	<1.23	78.1	60-140	1.23	40
Heptachlor epoxide	5.88		1.23	ug/kg dry	7.40	<1.23	79.5	60-140	1.01	40
Methoxychlor	6.26		1.23	ug/kg dry	7.40	<1.23	84.5	60-140	0.286	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.08*	*ug/kg dry*	*7.40*		*82.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*8.17*	*ug/kg dry*	*7.40*		*110*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3182 - SW-3570										
Blank (BGA3182-BLK1)				Prepared: 1/25/2023 Analyzed: 1/28/2023						
PCBs, Total	<2.00	U	2.00	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*1.10*	*ug/kg wet*	*0.600*		*183*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.648*	*ug/kg wet*	*0.600*		*108*	*60-140*		
LCS (BGA3182-BS1)				Prepared: 1/25/2023 Analyzed: 1/28/2023						
Aroclor-1016 (PCB-1016)	5.44		2.00	ug/kg wet	6.00		90.6	60-140		
Aroclor-1260 (PCB-1260)	5.59		2.00	ug/kg wet	6.00		93.2	60-140		
PCBs, Total	5.58		2.00	ug/kg wet	6.00		93.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.953*	*ug/kg wet*	*0.600*		*159*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.684*	*ug/kg wet*	*0.600*		*114*	*60-140*		
LCS Dup (BGA3182-BSD1)				Prepared: 1/25/2023 Analyzed: 1/28/2023						
Aroclor-1016 (PCB-1016)	7.19		2.00	ug/kg wet	6.00		120	60-140	27.7	40
Aroclor-1260 (PCB-1260)	5.28		2.00	ug/kg wet	6.00		87.9	60-140	5.77	40
PCBs, Total	5.47		2.00	ug/kg wet	6.00		91.2	60-140	2.00	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.927*	*ug/kg wet*	*0.600*		*154*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.599*	*ug/kg wet*	*0.600*		*99.9*	*60-140*		
MRL Check (BGA3182-MRL1)				Prepared: 1/25/2023 Analyzed: 1/28/2023						
Aroclor-1016 (PCB-1016)	3.51		2.00	ug/kg wet	1.20		292			
Aroclor-1260 (PCB-1260)	1.34	J	2.00	ug/kg wet	1.20		112			
PCBs, Total	1.57	J	2.00	ug/kg wet	1.20		131			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*1.00*	*ug/kg wet*	*0.600*		*167*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.537*	*ug/kg wet*	*0.600*		*89.5*	*60-140*		
Matrix Spike (BGA3182-MS1)	**Source: 23A1459-18**			Prepared: 1/25/2023 Analyzed: 1/28/2023						
Aroclor-1016 (PCB-1016)	7.88		2.69	ug/kg dry	8.07	<2.69	97.6	60-140		
Aroclor-1260 (PCB-1260)	6.99		2.69	ug/kg dry	8.07	<2.69	86.6	60-140		
PCBs, Total	7.09		2.69	ug/kg dry	8.07	<2.69	87.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*1.48*	*ug/kg dry*	*0.807*		*184*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.407*	*ug/kg dry*	*0.807*		*50.4*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3182 - SW-3570 (Continued)										
Matrix Spike Dup (BGA3182-MSD1)	**Source: 23A1459-18**			Prepared: 1/25/2023 Analyzed: 1/28/2023						
Aroclor-1016 (PCB-1016)	8.13		2.69	ug/kg dry	8.07	<2.69	101	60-140	3.17	40
Aroclor-1260 (PCB-1260)	6.71		2.69	ug/kg dry	8.07	<2.69	83.1	60-140	4.10	40
PCBs, Total	6.86		2.69	ug/kg dry	8.07	<2.69	85.0	60-140	3.26	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*1.43*	*ug/kg dry*	*0.807*		*177*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.685*	*ug/kg dry*	*0.807*		*85.0*	*60-140*		
Batch: BGA3603 - SW-3570										
Blank (BGA3603-BLK1)				Prepared: 1/27/2023 Analyzed: 2/3/2023						
4,4'-DDD	<0.943	U	0.943	ug/kg wet						
4,4'-DDE	<0.943	U	0.943	ug/kg wet						
4,4'-DDT	<0.943	U	0.943	ug/kg wet						
Aldrin	<0.943	U	0.943	ug/kg wet						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.943	U	0.943	ug/kg wet						
beta-BHC (beta-Hexachlorocyclohexane)	<0.943	U	0.943	ug/kg wet						
Chlordane (tech.)	<0.943	U	0.943	ug/kg wet						
cis-Chlordane (alpha-Chlordane)	<0.943	U	0.943	ug/kg wet						
delta-BHC	<0.943	U	0.943	ug/kg wet						
Dieldrin	<0.943	U	0.943	ug/kg wet						
Endosulfan I	<0.943	U	0.943	ug/kg wet						
Endosulfan II	<0.943	U	0.943	ug/kg wet						
Endosulfan sulfate	<0.943	U	0.943	ug/kg wet						
Endrin	<0.943	U	0.943	ug/kg wet						
Endrin aldehyde	<0.943	U	0.943	ug/kg wet						
Endrin ketone	<0.943	U	0.943	ug/kg wet						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.943	U	0.943	ug/kg wet						
gamma-Chlordane	<0.943	U	0.943	ug/kg wet						
Heptachlor	<0.943	U	0.943	ug/kg wet						
Heptachlor epoxide	<0.943	U	0.943	ug/kg wet						
Methoxychlor	<0.943	U	0.943	ug/kg wet						
Toxaphene (Chlorinated Camphene)	<14.2	U	14.2	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.90*	*ug/kg wet*	*5.66*		*86.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.13*	*ug/kg wet*	*5.66*		*108*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3603 - SW-3570 (Continued)										
TOX LCS (BGA3603-BS1)					Prepared: 1/27/2023 Analyzed: 2/3/2023					
Toxaphene (Chlorinated Camphene)	57.2		13.9	ug/kg wet	55.5		103	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.24*	*ug/kg wet*	*5.55*		*94.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.78*	*ug/kg wet*	*5.55*		*104*	*60-140*		
LCS (BGA3603-BS2)					Prepared: 1/27/2023 Analyzed: 2/3/2023					
4,4'-DDD	4.86		0.960	ug/kg wet	5.76		84.5	60-140		
4,4'-DDE	4.45		0.960	ug/kg wet	5.76		77.2	60-140		
4,4'-DDT	3.37	J1	0.960	ug/kg wet	5.76		58.6	60-140		
Aldrin	5.38		0.960	ug/kg wet	5.76		93.5	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.12		0.960	ug/kg wet	5.76		106	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	5.45		0.960	ug/kg wet	5.76		94.7	60-140		
Chlordane (tech.)	20.8		0.960	ug/kg wet	23.0		90.4	60-140		
cis-Chlordane (alpha-Chlordane)	5.17		0.960	ug/kg wet	5.76		89.8	60-140		
delta-BHC	5.85		0.960	ug/kg wet	5.76		102	60-140		
Dieldrin	5.14		0.960	ug/kg wet	5.76		89.2	60-140		
Endosulfan I	4.99		0.960	ug/kg wet	5.76		86.7	60-140		
Endosulfan II	5.15		0.960	ug/kg wet	5.76		89.5	60-140		
Endosulfan sulfate	4.67		0.960	ug/kg wet	5.76		81.1	60-140		
Endrin	5.28		0.960	ug/kg wet	5.76		91.6	60-140		
Endrin aldehyde	4.09		0.960	ug/kg wet	5.76		71.1	60-140		
Endrin ketone	5.15		0.960	ug/kg wet	5.76		89.4	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.42		0.960	ug/kg wet	5.76		94.1	60-140		
gamma-Chlordane	5.22		0.960	ug/kg wet	5.76		90.7	60-140		
Heptachlor	5.30		0.960	ug/kg wet	5.76		92.1	60-140		
Heptachlor epoxide	5.12		0.960	ug/kg wet	5.76		88.9	60-140		
Methoxychlor	4.23		0.960	ug/kg wet	5.76		73.5	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.79*	*ug/kg wet*	*5.76*		*101*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.09*	*ug/kg wet*	*5.76*		*106*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3603 - SW-3570 (Continued)										
TOX LCSD (BGA3603-BSD1)				Prepared: 1/27/2023 Analyzed: 2/3/2023						
Toxaphene (Chlorinated Camphene)	56.3		14.5	ug/kg wet	58.2		96.8	60-140	1.46	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.30*	*ug/kg wet*	*5.82*		*91.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.06*	*ug/kg wet*	*5.82*		*104*	*60-140*		
LCS Dup (BGA3603-BSD2)				Prepared: 1/27/2023 Analyzed: 2/3/2023						
4,4'-DDD	4.98		0.963	ug/kg wet	5.78		86.2	60-140	2.37	40
4,4'-DDE	4.55		0.963	ug/kg wet	5.78		78.7	60-140	2.26	40
4,4'-DDT	3.56		0.963	ug/kg wet	5.78		61.5	60-140	5.32	40
Aldrin	4.87		0.963	ug/kg wet	5.78		84.2	60-140	10.1	40
alpha-BHC (alpha-Hexachlorocyclohexane)	4.76		0.963	ug/kg wet	5.78		82.4	60-140	24.9	40
beta-BHC (beta-Hexachlorocyclohexane)	5.01		0.963	ug/kg wet	5.78		86.7	60-140	8.40	40
Chlordane (tech.)	19.7		0.963	ug/kg wet	23.1		85.2	60-140	5.50	40
cis-Chlordane (alpha-Chlordane)	4.96		0.963	ug/kg wet	5.78		85.7	60-140	4.31	40
delta-BHC	5.36		0.963	ug/kg wet	5.78		92.7	60-140	8.79	40
Dieldrin	5.18		0.963	ug/kg wet	5.78		89.7	60-140	0.916	40
Endosulfan I	4.70		0.963	ug/kg wet	5.78		81.3	60-140	6.07	40
Endosulfan II	4.84		0.963	ug/kg wet	5.78		83.8	60-140	6.21	40
Endosulfan sulfate	4.53		0.963	ug/kg wet	5.78		78.4	60-140	3.01	40
Endrin	5.15		0.963	ug/kg wet	5.78		89.1	60-140	2.39	40
Endrin aldehyde	3.91		0.963	ug/kg wet	5.78		67.6	60-140	4.64	40
Endrin ketone	4.56		0.963	ug/kg wet	5.78		78.9	60-140	12.1	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	4.83		0.963	ug/kg wet	5.78		83.6	60-140	11.5	40
gamma-Chlordane	5.01		0.963	ug/kg wet	5.78		86.7	60-140	4.20	40
Heptachlor	4.75		0.963	ug/kg wet	5.78		82.2	60-140	10.9	40
Heptachlor epoxide	4.98		0.963	ug/kg wet	5.78		86.2	60-140	2.62	40
Methoxychlor	4.16		0.963	ug/kg wet	5.78		72.0	60-140	1.68	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.42*	*ug/kg wet*	*5.78*		*93.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.32*	*ug/kg wet*	*5.78*		*109*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3603 - SW-3570 (Continued)										
TOX MRL (BGA3603-MRL1)					Prepared: 1/27/2023 Analyzed: 2/3/2023					
Toxaphene (Chlorinated Camphene)	16.5		14.3	ug/kg wet	14.3		115	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.22*	*ug/kg wet*	*5.71*		*109*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.38*	*ug/kg wet*	*5.71*		*129*	*60-140*		
MRL Check (BGA3603-MRL2)					Prepared: 1/27/2023 Analyzed: 2/3/2023					
4,4'-DDD	0.303	J	0.980	ug/kg wet	0.392		77.2			
4,4'-DDE	0.320	J	0.980	ug/kg wet	0.392		81.7			
4,4'-DDT	0.243	J	0.980	ug/kg wet	0.392		61.9			
Aldrin	0.356	J	0.980	ug/kg wet	0.392		90.8			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.432	J	0.980	ug/kg wet	0.392		110			
beta-BHC (beta-Hexachlorocyclohexane)	0.298	J	0.980	ug/kg wet	0.392		76.0			
Chlordane (tech.)	1.26		0.980	ug/kg wet	1.57		80.1	50-150		
cis-Chlordane (alpha-Chlordane)	0.338	J	0.980	ug/kg wet	0.392		86.1			
delta-BHC	<0.980	J1, U	0.980	ug/kg wet	0.392					
Dieldrin	0.286	J	0.980	ug/kg wet	0.392		72.9			
Endosulfan I	0.300	J	0.980	ug/kg wet	0.392		76.4			
Endosulfan II	0.294	J	0.980	ug/kg wet	0.392		75.0			
Endosulfan sulfate	0.309	J	0.980	ug/kg wet	0.392		78.9			
Endrin	0.281	J	0.980	ug/kg wet	0.392		71.8			
Endrin aldehyde	0.284	J	0.980	ug/kg wet	0.392		72.5			
Endrin ketone	0.361	J	0.980	ug/kg wet	0.392		92.1			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.309	J	0.980	ug/kg wet	0.392		78.7			
gamma-Chlordane	0.308	J	0.980	ug/kg wet	0.392		78.6			
Heptachlor	0.278	J	0.980	ug/kg wet	0.392		70.9			
Heptachlor epoxide	0.332	J	0.980	ug/kg wet	0.392		84.7			
Methoxychlor	0.236	J	0.980	ug/kg wet	0.392		60.2			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.81*	*ug/kg wet*	*5.88*		*98.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.48*	*ug/kg wet*	*5.88*		*110*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3603 - SW-3570 (Continued)										
Matrix Spike (BGA3603-MS1)	**Source: 23A1459-25**			Prepared: 1/27/2023 Analyzed: 2/3/2023						
4,4'-DDD	7.03		1.33	ug/kg dry	7.98	<1.33	88.0	60-140		
4,4'-DDE	5.97		1.33	ug/kg dry	7.98	<1.33	74.7	60-140		
4,4'-DDT	5.45		1.33	ug/kg dry	7.98	<1.33	68.3	60-140		
Aldrin	7.32		1.33	ug/kg dry	7.98	<1.33	91.6	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	8.54		1.33	ug/kg dry	7.98	<1.33	107	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	7.79		1.33	ug/kg dry	7.98	<1.33	97.6	60-140		
Chlordane (tech.)	30.1		1.33	ug/kg dry	31.9	<1.33	94.3	60-140		
cis-Chlordane (alpha-Chlordane)	7.28		1.33	ug/kg dry	7.98	<1.33	91.1	60-140		
delta-BHC	8.52		1.33	ug/kg dry	7.98	<1.33	107	60-140		
Dieldrin	7.47		1.33	ug/kg dry	7.98	<1.33	93.5	60-140		
Endosulfan I	6.83		1.33	ug/kg dry	7.98	<1.33	85.5	60-140		
Endosulfan II	7.08		1.33	ug/kg dry	7.98	<1.33	88.6	60-140		
Endosulfan sulfate	6.70		1.33	ug/kg dry	7.98	<1.33	83.9	60-140		
Endrin	7.45		1.33	ug/kg dry	7.98	<1.33	93.3	60-140		
Endrin aldehyde	5.66		1.33	ug/kg dry	7.98	<1.33	70.8	60-140		
Endrin ketone	7.21		1.33	ug/kg dry	7.98	<1.33	90.3	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	7.52		1.33	ug/kg dry	7.98	<1.33	94.2	60-140		
gamma-Chlordane	8.18		1.33	ug/kg dry	7.98	<1.33	102	60-140		
Heptachlor	7.31		1.33	ug/kg dry	7.98	<1.33	91.6	60-140		
Heptachlor epoxide	7.35		1.33	ug/kg dry	7.98	<1.33	92.1	60-140		
Methoxychlor	6.76		1.33	ug/kg dry	7.98	<1.33	84.6	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*8.12*	*ug/kg dry*	*7.98*		*102*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*8.83*	*ug/kg dry*	*7.98*		*111*	*60-140*		
Matrix Spike Dup (BGA3603-MSD1)	**Source: 23A1459-25**			Prepared: 1/27/2023 Analyzed: 2/3/2023						
4,4'-DDD	6.19		1.27	ug/kg dry	7.64	<1.27	81.0	60-140	12.8	40
4,4'-DDE	5.71		1.27	ug/kg dry	7.64	<1.27	74.7	60-140	4.51	40
4,4'-DDT	4.83		1.27	ug/kg dry	7.64	<1.27	63.2	60-140	12.2	40
Aldrin	6.24		1.27	ug/kg dry	7.64	<1.27	81.7	60-140	15.8	40
alpha-BHC (alpha-Hexachlorocyclohexane)	7.22		1.27	ug/kg dry	7.64	<1.27	94.5	60-140	16.8	40
beta-BHC (beta-Hexachlorocyclohexane)	6.79		1.27	ug/kg dry	7.64	<1.27	89.0	60-140	13.7	40
Chlordane (tech.)	25.8		1.27	ug/kg dry	30.6	<1.27	84.3	60-140	15.6	40
cis-Chlordane (alpha-Chlordane)	6.21		1.27	ug/kg dry	7.64	<1.27	81.4	60-140	15.7	40
delta-BHC	7.36		1.27	ug/kg dry	7.64	<1.27	96.4	60-140	14.6	40
Dieldrin	6.38		1.27	ug/kg dry	7.64	<1.27	83.5	60-140	15.7	40
Endosulfan I	6.12		1.27	ug/kg dry	7.64	<1.27	80.1	60-140	11.0	40
Endosulfan II	6.14		1.27	ug/kg dry	7.64	<1.27	80.4	60-140	14.2	40
Endosulfan sulfate	6.03		1.27	ug/kg dry	7.64	<1.27	79.0	60-140	10.5	40
Endrin	6.49		1.27	ug/kg dry	7.64	<1.27	85.0	60-140	13.7	40
Endrin aldehyde	5.29		1.27	ug/kg dry	7.64	<1.27	69.3	60-140	6.67	40
Endrin ketone	6.31		1.27	ug/kg dry	7.64	<1.27	82.6	60-140	13.3	40

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3603 - SW-3570 (Continued)										
Matrix Spike Dup (BGA3603-MSD1)	**Source: 23A1459-25**			Prepared: 1/27/2023 Analyzed: 2/3/2023						
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	6.58		1.27	ug/kg dry	7.64	<1.27	86.2	60-140	13.4	40
gamma-Chlordane	7.07		1.27	ug/kg dry	7.64	<1.27	92.5	60-140	14.6	40
Heptachlor	6.36		1.27	ug/kg dry	7.64	<1.27	83.3	60-140	13.9	40
Heptachlor epoxide	6.12		1.27	ug/kg dry	7.64	<1.27	80.1	60-140	18.4	40
Methoxychlor	6.09		1.27	ug/kg dry	7.64	<1.27	79.7	60-140	10.4	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.72*	*ug/kg dry*	*7.64*		*87.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*8.07*	*ug/kg dry*	*7.64*		*106*	*60-140*		
Batch: BGA3651 - SW-3570										
Blank (BGA3651-BLK1)				Prepared: 1/27/2023 Analyzed: 2/11/2023						
PCBs, Total	<1.97	U	1.97	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.583*	*ug/kg wet*	*0.592*		*98.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.629*	*ug/kg wet*	*0.592*		*106*	*60-140*		
Blank (BGA3651-BLK2)				Prepared: 1/27/2023 Analyzed: 2/24/2023						
PCBs, Total	<1.97	U	1.97	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.355*	*ug/kg wet*	*0.592*		*59.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.573*	*ug/kg wet*	*0.592*		*96.8*	*60-140*		
LCS (BGA3651-BS1)				Prepared: 1/27/2023 Analyzed: 2/11/2023						
Aroclor-1016 (PCB-1016)	3.95		1.98	ug/kg wet	5.93		66.6	60-140		
Aroclor-1260 (PCB-1260)	4.12		1.98	ug/kg wet	5.93		69.6	60-140		
PCBs, Total	4.10		1.98	ug/kg wet	5.93		69.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.498*	*ug/kg wet*	*0.593*		*84.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.577*	*ug/kg wet*	*0.593*		*97.2*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3651 - SW-3570 (Continued)										
LCS (BGA3651-BS2)					Prepared: 1/27/2023 Analyzed: 2/24/2023					
Aroclor-1016 (PCB-1016)	3.71		1.98	ug/kg wet	5.93		62.6	60-140		
Aroclor-1260 (PCB-1260)	4.02		1.98	ug/kg wet	5.93		67.7	60-140		
PCBs, Total	3.96		1.98	ug/kg wet	5.93		66.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.302*	*ug/kg wet*	*0.593*		*50.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.580*	*ug/kg wet*	*0.593*		*97.8*	*60-140*		
LCS Dup (BGA3651-BSD1)					Prepared: 1/27/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	4.14		1.96	ug/kg wet	5.88		70.5	60-140	4.77	40
Aroclor-1260 (PCB-1260)	4.32		1.96	ug/kg wet	5.88		73.5	60-140	4.64	40
PCBs, Total	4.30		1.96	ug/kg wet	5.88		73.1	60-140	4.66	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.487*	*ug/kg wet*	*0.588*		*82.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.437*	*ug/kg wet*	*0.588*		*74.3*	*60-140*		
LCS Dup (BGA3651-BSD2)					Prepared: 1/27/2023 Analyzed: 2/24/2023					
Aroclor-1016 (PCB-1016)	4.82		1.96	ug/kg wet	5.88		82.0	60-140	25.9	40
Aroclor-1260 (PCB-1260)	4.91		1.96	ug/kg wet	5.88		83.6	60-140	20.1	40
PCBs, Total	4.89		1.96	ug/kg wet	5.88		83.3	60-140	21.1	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.369*	*ug/kg wet*	*0.588*		*62.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.573*	*ug/kg wet*	*0.588*		*97.5*	*60-140*		
Matrix Spike (BGA3651-MS1)		**Source: 23A1459-27**			Prepared: 1/27/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	6.23		3.01	ug/kg dry	9.02	<3.01	69.1	60-140		
Aroclor-1260 (PCB-1260)	6.60		3.01	ug/kg dry	9.02	<3.01	73.2	60-140		
PCBs, Total	6.55		3.01	ug/kg dry	9.02	<3.01	72.6	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.784*	*ug/kg dry*	*0.902*		*87.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.880*	*ug/kg dry*	*0.902*		*97.6*	*60-140*		
Matrix Spike Dup (BGA3651-MSD1)		**Source: 23A1459-27**			Prepared: 1/27/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	5.15	J1	2.94	ug/kg dry	8.83	<2.94	58.4	60-140	18.9	40
Aroclor-1260 (PCB-1260)	5.98		2.94	ug/kg dry	8.83	<2.94	67.8	60-140	9.80	40
PCBs, Total	5.87		2.94	ug/kg dry	8.83	<2.94	66.5	60-140	10.9	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.663*	*ug/kg dry*	*0.883*		*75.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.837*	*ug/kg dry*	*0.883*		*94.8*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3839 - SW-3511										
Blank (BGA3839-BLK1)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	<0.00600	U	0.00600	ug/L						
4,4'-DDE	<0.00600	U	0.00600	ug/L						
4,4'-DDT	<0.00600	U	0.00600	ug/L						
Aldrin	<0.00600	U	0.00600	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
Chlordane (tech.)	<0.00600	U	0.00600	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00600	U	0.00600	ug/L						
delta-BHC	<0.00600	U	0.00600	ug/L						
Dieldrin	<0.00600	U	0.00600	ug/L						
Endosulfan I	<0.00600	U	0.00600	ug/L						
Endosulfan II	<0.00600	U	0.00600	ug/L						
Endosulfan sulfate	<0.00600	U	0.00600	ug/L						
Endrin	<0.00600	U	0.00600	ug/L						
Endrin aldehyde	<0.00600	U	0.00600	ug/L						
Endrin ketone	<0.00600	U	0.00600	ug/L						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00600	U	0.00600	ug/L						
gamma-Chlordane	<0.00600	U	0.00600	ug/L						
Heptachlor	<0.00600	U	0.00600	ug/L						
Heptachlor epoxide	<0.00600	U	0.00600	ug/L						
Methoxychlor	<0.00600	U	0.00600	ug/L						
Toxaphene (Chlorinated Camphene)	<0.300	U	0.300	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.123*	*ug/L*	*0.120*		*103*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.107*	*ug/L*	*0.120*		*89.4*	*60-140*		
LCS (BGA3839-BS1)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
Toxaphene (Chlorinated Camphene)	0.982		0.300	ug/L	1.20		81.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0838*	*ug/L*	*0.120*		*69.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.0987*	*ug/L*	*0.120*		*82.2*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3839 - SW-3511 (Continued)										
LCS (BGA3839-BS2)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	0.0901		0.00600	ug/L	0.120		75.1	60-140		
4,4'-DDE	0.0879		0.00600	ug/L	0.120		73.3	60-140		
4,4'-DDT	0.0864		0.00600	ug/L	0.120		72.0	60-140		
Aldrin	0.0902		0.00600	ug/L	0.120		75.2	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.120		0.00600	ug/L	0.120		100	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.0971		0.00600	ug/L	0.120		80.9	60-140		
Chlordane (tech.)	0.363		0.00600	ug/L	0.480		75.7	60-140		
cis-Chlordane (alpha-Chlordane)	0.0925		0.00600	ug/L	0.120		77.1	60-140		
delta-BHC	0.101		0.00600	ug/L	0.120		84.2	60-140		
Dieldrin	0.0940		0.00600	ug/L	0.120		78.3	60-140		
Endosulfan I	0.0853		0.00600	ug/L	0.120		71.0	60-140		
Endosulfan II	0.0903		0.00600	ug/L	0.120		75.2	60-140		
Endosulfan sulfate	0.0910		0.00600	ug/L	0.120		75.8	60-140		
Endrin	0.0830		0.00600	ug/L	0.120		69.2	60-140		
Endrin aldehyde	0.101		0.00600	ug/L	0.120		83.8	60-140		
Endrin ketone	0.0938		0.00600	ug/L	0.120		78.1	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.106		0.00600	ug/L	0.120		88.0	60-140		
gamma-Chlordane	0.0863		0.00600	ug/L	0.120		71.9	60-140		
Heptachlor	0.0908		0.00600	ug/L	0.120		75.7	60-140		
Heptachlor epoxide	0.0936		0.00600	ug/L	0.120		78.0	60-140		
Methoxychlor	0.0878		0.00600	ug/L	0.120		73.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.122*	*ug/L*	*0.120*		*102*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.106*	*ug/L*	*0.120*		*88.5*	*60-140*		
LCS Dup (BGA3839-BSD1)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
Toxaphene (Chlorinated Camphene)	1.21		0.300	ug/L	1.20		101	60-140	21.1	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.103*	*ug/L*	*0.120*		*86.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.118*	*ug/L*	*0.120*		*98.3*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3839 - SW-3511 (Continued)										
LCS Dup (BGA3839-BSD2)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	0.0863		0.00600	ug/L	0.120		72.0	60-140	4.27	40
4,4'-DDE	0.0911		0.00600	ug/L	0.120		75.9	60-140	3.58	40
4,4'-DDT	0.0877		0.00600	ug/L	0.120		73.1	60-140	1.43	40
Aldrin	0.0870		0.00600	ug/L	0.120		72.5	60-140	3.69	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.121		0.00600	ug/L	0.120		101	60-140	0.770	40
beta-BHC (beta-Hexachlorocyclohexane)	0.0975		0.00600	ug/L	0.120		81.3	60-140	0.407	40
Chlordane (tech.)	0.357		0.00600	ug/L	0.480		74.5	60-140	1.61	40
cis-Chlordane (alpha-Chlordane)	0.0907		0.00600	ug/L	0.120		75.6	60-140	1.95	40
delta-BHC	0.0996		0.00600	ug/L	0.120		83.0	60-140	1.42	40
Dieldrin	0.0955		0.00600	ug/L	0.120		79.6	60-140	1.62	40
Endosulfan I	0.0850		0.00600	ug/L	0.120		70.8	60-140	0.345	40
Endosulfan II	0.0872		0.00600	ug/L	0.120		72.6	60-140	3.50	40
Endosulfan sulfate	0.0934		0.00600	ug/L	0.120		77.8	60-140	2.63	40
Endrin	0.0840		0.00600	ug/L	0.120		70.0	60-140	1.18	40
Endrin aldehyde	0.0938		0.00600	ug/L	0.120		78.1	60-140	6.97	40
Endrin ketone	0.0904		0.00600	ug/L	0.120		75.3	60-140	3.64	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.104		0.00600	ug/L	0.120		87.1	60-140	1.02	40
gamma-Chlordane	0.0872		0.00600	ug/L	0.120		72.6	60-140	0.975	40
Heptachlor	0.0906		0.00600	ug/L	0.120		75.5	60-140	0.198	40
Heptachlor epoxide	0.0889		0.00600	ug/L	0.120		74.1	60-140	5.13	40
Methoxychlor	0.0826		0.00600	ug/L	0.120		68.8	60-140	6.08	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.123*	*ug/L*	*0.120*		*103*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.107*	*ug/L*	*0.120*		*89.1*	*60-140*		
MRL Check (BGA3839-MRL1)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
Toxaphene (Chlorinated Camphene)	<0.300	J1, U	0.300	ug/L	0.300			50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.118*	*ug/L*	*0.120*		*98.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.113*	*ug/L*	*0.120*		*93.8*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3839 - SW-3511 (Continued)										
MRL Check (BGA3839-MRL2)					Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	0.00863		0.00600	ug/L	0.0120		71.9	50-150		
4,4'-DDE	0.00848		0.00600	ug/L	0.0120		70.7	50-150		
4,4'-DDT	0.00919		0.00600	ug/L	0.0120		76.6	50-150		
Aldrin	0.00821		0.00600	ug/L	0.0120		68.4	50-150		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0112		0.00600	ug/L	0.0120		93.7	50-150		
beta-BHC (beta-Hexachlorocyclohexane)	0.0102		0.00600	ug/L	0.0120		85.4	50-150		
Chlordane (tech.)	0.0412		0.00600	ug/L	0.0480		85.9	50-150		
cis-Chlordane (alpha-Chlordane)	0.0138		0.00600	ug/L	0.0120		115	50-150		
delta-BHC	<0.00600	J1, U	0.00600	ug/L	0.0120			50-150		
Dieldrin	0.00932		0.00600	ug/L	0.0120		77.6	50-150		
Endosulfan I	0.00871		0.00600	ug/L	0.0120		72.6	50-150		
Endosulfan II	0.00826		0.00600	ug/L	0.0120		68.8	50-150		
Endosulfan sulfate	0.0104		0.00600	ug/L	0.0120		87.0	50-150		
Endrin	0.00974		0.00600	ug/L	0.0120		81.2	50-150		
Endrin aldehyde	0.00952		0.00600	ug/L	0.0120		79.4	50-150		
Endrin ketone	0.0104		0.00600	ug/L	0.0120		86.5	50-150		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0105		0.00600	ug/L	0.0120		87.2	50-150		
gamma-Chlordane	0.00840		0.00600	ug/L	0.0120		70.0	50-150		
Heptachlor	0.0103		0.00600	ug/L	0.0120		86.0	50-150		
Heptachlor epoxide	0.00875		0.00600	ug/L	0.0120		73.0	50-150		
Methoxychlor	0.00982		0.00600	ug/L	0.0120		81.8	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0993*	*ug/L*	*0.120*		*82.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.105*	*ug/L*	*0.120*		*87.5*	*60-140*		
Matrix Spike (BGA3839-MS1)		**Source: 23A1459-02**			Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	0.0701	J1	0.00600	ug/L	0.120	<0.00600	58.4	60-140		
4,4'-DDE	0.0611	J1	0.00600	ug/L	0.120	<0.00600	50.9	60-140		
4,4'-DDT	0.0348	J1	0.00600	ug/L	0.120	<0.00600	29.0	60-140		
Aldrin	0.0634	J1	0.00600	ug/L	0.120	<0.00600	52.8	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.116		0.00600	ug/L	0.120	<0.00600	96.7	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.109		0.00600	ug/L	0.120	<0.00600	90.6	60-140		
Chlordane (tech.)	0.323		0.00600	ug/L	0.480	<0.00600	67.2	60-140		
cis-Chlordane (alpha-Chlordane)	0.0743		0.00600	ug/L	0.120	<0.00600	61.9	60-140		
delta-BHC	0.111		0.00600	ug/L	0.120	<0.00600	92.4	60-140		
Dieldrin	0.0995		0.00600	ug/L	0.120	<0.00600	82.9	60-140		
Endosulfan I	0.0905		0.00600	ug/L	0.120	<0.00600	75.4	60-140		
Endosulfan II	0.102		0.00600	ug/L	0.120	<0.00600	84.7	60-140		
Endosulfan sulfate	0.108		0.00600	ug/L	0.120	<0.00600	89.6	60-140		
Endrin	0.0952		0.00600	ug/L	0.120	<0.00600	79.3	60-140		
Endrin aldehyde	0.100		0.00600	ug/L	0.120	<0.00600	83.7	60-140		
Endrin ketone	0.105		0.00600	ug/L	0.120	<0.00600	87.5	60-140		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3839 - SW-3511 (Continued)										
Matrix Spike (BGA3839-MS1)		**Source: 23A1459-02**			Prepared: 1/30/2023 Analyzed: 2/6/2023					
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.105		0.00600	ug/L	0.120	<0.00600	87.9	60-140		
gamma-Chlordane	0.0721		0.00600	ug/L	0.120	<0.00600	60.1	60-140		
Heptachlor	0.0787		0.00600	ug/L	0.120	<0.00600	65.5	60-140		
Heptachlor epoxide	0.0976		0.00600	ug/L	0.120	<0.00600	81.3	60-140		
Methoxychlor	0.0480	J1	0.00600	ug/L	0.120	<0.00600	40.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.104*	*ug/L*	*0.120*		*86.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0539*	*ug/L*	*0.120*		*44.9*	*60-140*		
Matrix Spike Dup (BGA3839-MSD1)		**Source: 23A1459-02**			Prepared: 1/30/2023 Analyzed: 2/6/2023					
4,4'-DDD	0.0588	J1	0.00600	ug/L	0.120	<0.00600	49.0	60-140	17.6	40
4,4'-DDE	0.0448	J1	0.00600	ug/L	0.120	<0.00600	37.4	60-140	30.6	40
4,4'-DDT	0.0324	J1	0.00600	ug/L	0.120	<0.00600	27.0	60-140	7.06	40
Aldrin	0.0534	J1	0.00600	ug/L	0.120	<0.00600	44.5	60-140	17.1	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.111		0.00600	ug/L	0.120	<0.00600	92.5	60-140	4.41	40
beta-BHC (beta-Hexachlorocyclohexane)	0.0972		0.00600	ug/L	0.120	<0.00600	81.0	60-140	11.2	40
Chlordane (tech.)	0.288	J1	0.00600	ug/L	0.480	<0.00600	59.9	60-140	11.5	40
cis-Chlordane (alpha-Chlordane)	0.0670	J1	0.00600	ug/L	0.120	<0.00600	55.8	60-140	10.4	40
delta-BHC	0.100		0.00600	ug/L	0.120	<0.00600	83.4	60-140	10.2	40
Dieldrin	0.0928		0.00600	ug/L	0.120	<0.00600	77.3	60-140	6.98	40
Endosulfan I	0.0843		0.00600	ug/L	0.120	<0.00600	70.3	60-140	7.08	40
Endosulfan II	0.0878		0.00600	ug/L	0.120	<0.00600	73.2	60-140	14.6	40
Endosulfan sulfate	0.0917		0.00600	ug/L	0.120	<0.00600	76.4	60-140	15.9	40
Endrin	0.0861		0.00600	ug/L	0.120	<0.00600	71.8	60-140	10.0	40
Endrin aldehyde	0.0914		0.00600	ug/L	0.120	<0.00600	76.1	60-140	9.45	40
Endrin ketone	0.0921		0.00600	ug/L	0.120	<0.00600	76.7	60-140	13.1	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0991		0.00600	ug/L	0.120	<0.00600	82.6	60-140	6.22	40
gamma-Chlordane	0.0633	J1	0.00600	ug/L	0.120	<0.00600	52.7	60-140	13.0	40
Heptachlor	0.0689	J1	0.00600	ug/L	0.120	<0.00600	57.4	60-140	13.2	40
Heptachlor epoxide	0.0885		0.00600	ug/L	0.120	<0.00600	73.7	60-140	9.82	40
Methoxychlor	0.0405	J1	0.00600	ug/L	0.120	<0.00600	33.8	60-140	17.0	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0959*	*ug/L*	*0.120*		*79.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0488*	*ug/L*	*0.120*		*40.7*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0044 - SW-3570										
Blank (BGB0044-BLK1)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
4,4'-DDD	<1.00	U	1.00	ug/kg wet						
4,4'-DDE	<1.00	U	1.00	ug/kg wet						
4,4'-DDT	<1.00	U	1.00	ug/kg wet						
Aldrin	<1.00	U	1.00	ug/kg wet						
alpha-BHC (alpha-Hexachlorocyclohexane)	<1.00	U	1.00	ug/kg wet						
beta-BHC (beta-Hexachlorocyclohexane)	<1.00	U	1.00	ug/kg wet						
Chlordane (tech.)	<1.00	U	1.00	ug/kg wet						
cis-Chlordane (alpha-Chlordane)	<1.00	U	1.00	ug/kg wet						
delta-BHC	<1.00	U	1.00	ug/kg wet						
Dieldrin	<1.00	U	1.00	ug/kg wet						
Endosulfan I	<1.00	U	1.00	ug/kg wet						
Endosulfan II	<1.00	U	1.00	ug/kg wet						
Endosulfan sulfate	<1.00	U	1.00	ug/kg wet						
Endrin	<1.00	U	1.00	ug/kg wet						
Endrin aldehyde	<1.00	U	1.00	ug/kg wet						
Endrin ketone	<1.00	U	1.00	ug/kg wet						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<1.00	U	1.00	ug/kg wet						
gamma-Chlordane	<1.00	U	1.00	ug/kg wet						
Heptachlor	<1.00	U	1.00	ug/kg wet						
Heptachlor epoxide	<1.00	U	1.00	ug/kg wet						
Methoxychlor	<1.00	U	1.00	ug/kg wet						
Toxaphene (Chlorinated Camphene)	<15.0	U	15.0	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*1.61*	*ug/kg wet*	*6.00*		*26.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.30*	*ug/kg wet*	*6.00*		*105*	*60-140*		
TOX LCS (BGB0044-BS1)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
Toxaphene (Chlorinated Camphene)	61.0		15.0	ug/kg wet	60.0		102	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.67*	*ug/kg wet*	*6.00*		*77.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.51*	*ug/kg wet*	*6.00*		*91.8*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0044 - SW-3570 (Continued)										
LCS (BGB0044-BS2)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
4,4'-DDD	5.23		1.00	ug/kg wet	6.00		87.1	60-140		
4,4'-DDE	5.67		1.00	ug/kg wet	6.00		94.6	60-140		
4,4'-DDT	3.67		1.00	ug/kg wet	6.00		61.2	60-140		
Aldrin	5.37		1.00	ug/kg wet	6.00		89.5	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.24		1.00	ug/kg wet	6.00		104	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	5.42		1.00	ug/kg wet	6.00		90.3	60-140		
Chlordane (tech.)	21.1		1.00	ug/kg wet	24.0		87.8	60-140		
cis-Chlordane (alpha-Chlordane)	5.23		1.00	ug/kg wet	6.00		87.1	60-140		
delta-BHC	5.42		1.00	ug/kg wet	6.00		90.4	60-140		
Dieldrin	5.17		1.00	ug/kg wet	6.00		86.2	60-140		
Endosulfan I	5.02		1.00	ug/kg wet	6.00		83.6	60-140		
Endosulfan II	5.12		1.00	ug/kg wet	6.00		85.3	60-140		
Endosulfan sulfate	5.04		1.00	ug/kg wet	6.00		84.0	60-140		
Endrin	5.32		1.00	ug/kg wet	6.00		88.7	60-140		
Endrin aldehyde	4.35		1.00	ug/kg wet	6.00		72.6	60-140		
Endrin ketone	5.48		1.00	ug/kg wet	6.00		91.3	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.65		1.00	ug/kg wet	6.00		94.1	60-140		
gamma-Chlordane	5.16		1.00	ug/kg wet	6.00		86.1	60-140		
Heptachlor	5.36		1.00	ug/kg wet	6.00		89.4	60-140		
Heptachlor epoxide	5.32		1.00	ug/kg wet	6.00		88.6	60-140		
Methoxychlor	4.81		1.00	ug/kg wet	6.00		80.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.46*	*ug/kg wet*	*6.00*		*91.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.45*	*ug/kg wet*	*6.00*		*108*	*60-140*		
TOX LCSD (BGB0044-BSD1)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
Toxaphene (Chlorinated Camphene)	62.7		15.0	ug/kg wet	60.0		105	60-140	2.80	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.79*	*ug/kg wet*	*6.00*		*79.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.10*	*ug/kg wet*	*6.00*		*102*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0044 - SW-3570 (Continued)										
LCS Dup (BGB0044-BSD2)					Prepared: 2/1/2023 Analyzed: 2/8/2023					
4,4'-DDD	5.38		1.00	ug/kg wet	6.00		89.6	60-140	2.80	40
4,4'-DDE	5.59		1.00	ug/kg wet	6.00		93.2	60-140	1.44	40
4,4'-DDT	3.61		1.00	ug/kg wet	6.00		60.1	60-140	1.89	40
Aldrin	6.13		1.00	ug/kg wet	6.00		102	60-140	13.2	40
alpha-BHC (alpha-Hexachlorocyclohexane)	6.80		1.00	ug/kg wet	6.00		113	60-140	8.59	40
beta-BHC (beta-Hexachlorocyclohexane)	6.35		1.00	ug/kg wet	6.00		106	60-140	15.8	40
Chlordane (tech.)	23.4		1.00	ug/kg wet	24.0		97.4	60-140	10.4	40
cis-Chlordane (alpha-Chlordane)	5.53		1.00	ug/kg wet	6.00		92.2	60-140	5.73	40
delta-BHC	6.70		1.00	ug/kg wet	6.00		112	60-140	21.1	40
Dieldrin	5.20		1.00	ug/kg wet	6.00		86.6	60-140	0.521	40
Endosulfan I	5.13		1.00	ug/kg wet	6.00		85.5	60-140	2.27	40
Endosulfan II	5.19		1.00	ug/kg wet	6.00		86.4	60-140	1.31	40
Endosulfan sulfate	5.13		1.00	ug/kg wet	6.00		85.6	60-140	1.89	40
Endrin	5.07		1.00	ug/kg wet	6.00		84.4	60-140	4.89	40
Endrin aldehyde	4.26		1.00	ug/kg wet	6.00		71.0	60-140	2.22	40
Endrin ketone	5.39		1.00	ug/kg wet	6.00		89.8	60-140	1.68	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.31		1.00	ug/kg wet	6.00		105	60-140	11.1	40
gamma-Chlordane	5.69		1.00	ug/kg wet	6.00		94.9	60-140	9.74	40
Heptachlor	6.12		1.00	ug/kg wet	6.00		102	60-140	13.2	40
Heptachlor epoxide	6.04		1.00	ug/kg wet	6.00		101	60-140	12.7	40
Methoxychlor	4.88		1.00	ug/kg wet	6.00		81.3	60-140	1.37	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.94*	*ug/kg wet*	*6.00*		*99.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.34*	*ug/kg wet*	*6.00*		*106*	*60-140*		
TOX MRL (BGB0044-MRL1)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
Toxaphene (Chlorinated Camphene)	16.8		15.0	ug/kg wet	15.0		112	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.87*	*ug/kg wet*	*6.00*		*97.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.90*	*ug/kg wet*	*6.00*		*98.3*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0044 - SW-3570 (Continued)										
MRL Check (BGB0044-MRL2)					Prepared: 2/1/2023 Analyzed: 2/7/2023					
4,4'-DDD	0.375	J	1.00	ug/kg wet	0.400		93.7			
4,4'-DDE	0.366	J	1.00	ug/kg wet	0.400		91.5			
4,4'-DDT	0.291	J	1.00	ug/kg wet	0.400		72.8			
Aldrin	0.321	J	1.00	ug/kg wet	0.400		80.2			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.470	J	1.00	ug/kg wet	0.400		117			
beta-BHC (beta-Hexachlorocyclohexane)	0.393	J	1.00	ug/kg wet	0.400		98.3			
Chlordane (tech.)	1.34		1.00	ug/kg wet	1.60		83.8	50-150		
cis-Chlordane (alpha-Chlordane)	0.356	J	1.00	ug/kg wet	0.400		89.1			
delta-BHC	<1.00	J1, U	1.00	ug/kg wet	0.400					
Dieldrin	0.296	J	1.00	ug/kg wet	0.400		74.0			
Endosulfan I	0.325	J	1.00	ug/kg wet	0.400		81.3			
Endosulfan II	0.339	J	1.00	ug/kg wet	0.400		84.8			
Endosulfan sulfate	0.352	J	1.00	ug/kg wet	0.400		88.0			
Endrin	0.259	J	1.00	ug/kg wet	0.400		64.6			
Endrin aldehyde	0.302	J	1.00	ug/kg wet	0.400		75.4			
Endrin ketone	0.410	J	1.00	ug/kg wet	0.400		103			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.385	J	1.00	ug/kg wet	0.400		96.2			
gamma-Chlordane	0.337	J	1.00	ug/kg wet	0.400		84.2			
Heptachlor	0.297	J	1.00	ug/kg wet	0.400		74.2			
Heptachlor epoxide	0.351	J	1.00	ug/kg wet	0.400		87.7			
Methoxychlor	0.336	J	1.00	ug/kg wet	0.400		83.9			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.91*	*ug/kg wet*	*6.00*		*81.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.28*	*ug/kg wet*	*6.00*		*105*	*60-140*		
Matrix Spike (BGB0044-MS1)		**Source: 23A1459-47**			Prepared: 2/1/2023 Analyzed: 2/8/2023					
4,4'-DDD	9.43		1.45	ug/kg dry	8.69	<1.45	109	60-140		
4,4'-DDE	9.60		1.45	ug/kg dry	8.69	<1.45	110	60-140		
4,4'-DDT	5.89		1.45	ug/kg dry	8.69	<1.45	67.8	60-140		
Aldrin	8.26		1.45	ug/kg dry	8.69	<1.45	95.1	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	10.2		1.45	ug/kg dry	8.69	<1.45	117	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	9.53		1.45	ug/kg dry	8.69	<1.45	110	60-140		
Chlordane (tech.)	34.3		1.45	ug/kg dry	34.8	<1.45	98.6	60-140		
cis-Chlordane (alpha-Chlordane)	8.49		1.45	ug/kg dry	8.69	<1.45	97.7	60-140		
delta-BHC	9.44		1.45	ug/kg dry	8.69	<1.45	109	60-140		
Dieldrin	8.90		1.45	ug/kg dry	8.69	<1.45	102	60-140		
Endosulfan I	8.23		1.45	ug/kg dry	8.69	<1.45	94.7	60-140		
Endosulfan II	8.73		1.45	ug/kg dry	8.69	<1.45	100	60-140		
Endosulfan sulfate	8.68		1.45	ug/kg dry	8.69	<1.45	99.8	60-140		
Endrin	8.77		1.45	ug/kg dry	8.69	<1.45	101	60-140		
Endrin aldehyde	7.51		1.45	ug/kg dry	8.69	<1.45	86.4	60-140		
Endrin ketone	7.73		1.45	ug/kg dry	8.69	<1.45	88.9	60-140		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0044 - SW-3570 (Continued)										
Matrix Spike (BGB0044-MS1)	**Source: 23A1459-47**				Prepared: 2/1/2023 Analyzed: 2/8/2023					
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	9.33		1.45	ug/kg dry	8.69	<1.45	107	60-140		
gamma-Chlordane	8.25		1.45	ug/kg dry	8.69	<1.45	94.9	60-140		
Heptachlor	8.76		1.45	ug/kg dry	8.69	<1.45	101	60-140		
Heptachlor epoxide	8.76		1.45	ug/kg dry	8.69	<1.45	101	60-140		
Methoxychlor	7.29		1.45	ug/kg dry	8.69	<1.45	83.9	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*8.62*	*ug/kg dry*	*8.69*		*99.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*9.05*	*ug/kg dry*	*8.69*		*104*	*60-140*		
Matrix Spike Dup (BGB0044-MSD1)	**Source: 23A1459-47**				Prepared: 2/1/2023 Analyzed: 2/8/2023					
4,4'-DDD	7.49		1.45	ug/kg dry	8.69	<1.45	86.2	60-140	22.9	40
4,4'-DDE	8.94		1.45	ug/kg dry	8.69	<1.45	103	60-140	7.09	40
4,4'-DDT	5.43		1.45	ug/kg dry	8.69	<1.45	62.5	60-140	8.09	40
Aldrin	7.11		1.45	ug/kg dry	8.69	<1.45	81.8	60-140	15.0	40
alpha-BHC (alpha-Hexachlorocyclohexane)	8.92		1.45	ug/kg dry	8.69	<1.45	103	60-140	13.1	40
beta-BHC (beta-Hexachlorocyclohexane)	8.09		1.45	ug/kg dry	8.69	<1.45	93.1	60-140	16.3	40
Chlordane (tech.)	29.8		1.45	ug/kg dry	34.8	<1.45	85.6	60-140	14.0	40
cis-Chlordane (alpha-Chlordane)	7.39		1.45	ug/kg dry	8.69	<1.45	85.0	60-140	13.9	40
delta-BHC	8.06		1.45	ug/kg dry	8.69	<1.45	92.7	60-140	15.8	40
Dieldrin	7.30		1.45	ug/kg dry	8.69	<1.45	84.0	60-140	19.7	40
Endosulfan I	6.97		1.45	ug/kg dry	8.69	<1.45	80.2	60-140	16.5	40
Endosulfan II	6.83		1.45	ug/kg dry	8.69	<1.45	78.6	60-140	24.4	40
Endosulfan sulfate	7.06		1.45	ug/kg dry	8.69	<1.45	81.2	60-140	20.5	40
Endrin	7.78		1.45	ug/kg dry	8.69	<1.45	89.6	60-140	12.0	40
Endrin aldehyde	6.44		1.45	ug/kg dry	8.69	<1.45	74.1	60-140	15.3	40
Endrin ketone	7.36		1.45	ug/kg dry	8.69	<1.45	84.7	60-140	4.86	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	7.84		1.45	ug/kg dry	8.69	<1.45	90.2	60-140	17.4	40
gamma-Chlordane	7.23		1.45	ug/kg dry	8.69	<1.45	83.2	60-140	13.1	40
Heptachlor	7.45		1.45	ug/kg dry	8.69	<1.45	85.8	60-140	16.1	40
Heptachlor epoxide	7.69		1.45	ug/kg dry	8.69	<1.45	88.5	60-140	13.1	40
Methoxychlor	7.02		1.45	ug/kg dry	8.69	<1.45	80.8	60-140	3.80	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*7.28*	*ug/kg dry*	*8.69*		*83.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*9.40*	*ug/kg dry*	*8.69*		*108*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0277 - SW-3511										
Blank (BGB0277-BLK1)					Prepared: 2/2/2023 Analyzed: 2/11/2023					
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.147*	*ug/L*	*0.120*		*123*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.142*	*ug/L*	*0.120*		*118*	*60-140*		
LCS (BGB0277-BS1)					Prepared: 2/2/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	<0.120	L, U	0.120	ug/L	1.20			60-140		
Aroclor-1260 (PCB-1260)	0.852		0.120	ug/L	1.20		71.0	60-140		
PCBs, Total	1.14		0.120	ug/L	1.20		94.9	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.117*	*ug/L*	*0.120*		*97.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.118*	*ug/L*	*0.120*		*98.6*	*60-140*		
LCS Dup (BGB0277-BSD1)					Prepared: 2/2/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	<0.120	L, U	0.120	ug/L	1.20			60-140		40
Aroclor-1260 (PCB-1260)	0.913		0.120	ug/L	1.20		76.1	60-140	6.89	40
PCBs, Total	1.22		0.120	ug/L	1.20		102	60-140	7.18	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.131*	*ug/L*	*0.120*		*109*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.127*	*ug/L*	*0.120*		*106*	*60-140*		
MRL Check (BGB0277-MRL1)					Prepared: 2/2/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	<0.120	J1, L, U	0.120	ug/L	0.240			50-150		
Aroclor-1221 (PCB-1221)	<0.120	U	0.120	ug/L				50-150		
Aroclor-1232 (PCB-1232)	<0.120	U	0.120	ug/L				50-150		
Aroclor-1242 (PCB-1242)	<0.120	U	0.120	ug/L				50-150		
Aroclor-1248 (PCB-1248)	<0.120	U	0.120	ug/L				50-150		
Aroclor-1254 (PCB-1254)	<0.120	U	0.120	ug/L				50-150		
Aroclor-1260 (PCB-1260)	0.206		0.120	ug/L	0.240		85.8	50-150		
PCBs, Total	0.489	J1	0.120	ug/L	0.240		204	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.133*	*ug/L*	*0.120*		*111*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.128*	*ug/L*	*0.120*		*107*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0277 - SW-3511 (Continued)										
Matrix Spike (BGB0277-MS1)		**Source: 23A1459-49**			Prepared: 2/2/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	0.709	J1	0.120	ug/L	1.20	<0.120	59.1	60-140		
Aroclor-1260 (PCB-1260)	0.549	J1	0.120	ug/L	1.20	<0.120	45.8	60-140		
PCBs, Total	0.571	J1	0.120	ug/L	1.20	<0.120	47.6	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.105*	*ug/L*	*0.120*		*87.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0685*	*ug/L*	*0.120*		*57.1*	*60-140*		
Matrix Spike Dup (BGB0277-MSD1)		**Source: 23A1459-49**			Prepared: 2/2/2023 Analyzed: 2/11/2023					
Aroclor-1016 (PCB-1016)	0.805		0.120	ug/L	1.20	<0.120	67.1	60-140	12.7	40
Aroclor-1260 (PCB-1260)	0.556	J1	0.120	ug/L	1.20	<0.120	46.3	60-140	1.17	40
PCBs, Total	0.589	J1	0.120	ug/L	1.20	<0.120	49.1	60-140	3.09	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.115*	*ug/L*	*0.120*		*95.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0649*	*ug/L*	*0.120*		*54.1*	*60-140*		
Batch: BGB0477 - SW-3570										
Blank (BGB0477-BLK1)					Prepared: 2/3/2023 Analyzed: 2/10/2023					
4,4'-DDD	<0.999	U	0.999	ug/kg wet						
4,4'-DDE	<0.999	U	0.999	ug/kg wet						
4,4'-DDT	<0.999	U	0.999	ug/kg wet						
Aldrin	<0.999	U	0.999	ug/kg wet						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.999	U	0.999	ug/kg wet						
beta-BHC (beta-Hexachlorocyclohexane)	<0.999	U	0.999	ug/kg wet						
Chlordane (tech.)	<0.999	U	0.999	ug/kg wet						
cis-Chlordane (alpha-Chlordane)	<0.999	U	0.999	ug/kg wet						
delta-BHC	<0.999	U	0.999	ug/kg wet						
Dieldrin	<0.999	U	0.999	ug/kg wet						
Endosulfan I	<0.999	U	0.999	ug/kg wet						
Endosulfan II	<0.999	U	0.999	ug/kg wet						
Endosulfan sulfate	<0.999	U	0.999	ug/kg wet						
Endrin	<0.999	U	0.999	ug/kg wet						
Endrin aldehyde	<0.999	U	0.999	ug/kg wet						
Endrin ketone	<0.999	U	0.999	ug/kg wet						
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	<0.999	U	0.999	ug/kg wet						
gamma-Chlordane	<0.999	U	0.999	ug/kg wet						
Heptachlor	<0.999	U	0.999	ug/kg wet						
Heptachlor epoxide	<0.999	U	0.999	ug/kg wet						
Methoxychlor	<0.999	U	0.999	ug/kg wet						
Toxaphene (Chlorinated Camphene)	<15.0	U	15.0	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.52*	*ug/kg wet*	*5.99*		*109*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.50*	*ug/kg wet*	*5.99*		*108*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0477 - SW-3570 (Continued)										
TOX LCS (BGB0477-BS1)					Prepared: 2/3/2023 Analyzed: 2/10/2023					
Toxaphene (Chlorinated Camphene)	62.4		14.9	ug/kg wet	59.7		104	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*3.71*	*ug/kg wet*	*5.97*		*62.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.83*	*ug/kg wet*	*5.97*		*97.6*	*60-140*		
LCS (BGB0477-BS2)					Prepared: 2/3/2023 Analyzed: 2/10/2023					
4,4'-DDD	5.52		0.991	ug/kg wet	5.95		92.9	60-140		
4,4'-DDE	4.95		0.991	ug/kg wet	5.95		83.2	60-140		
4,4'-DDT	3.58		0.991	ug/kg wet	5.95		60.2	60-140		
Aldrin	5.09		0.991	ug/kg wet	5.95		85.6	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.52		0.991	ug/kg wet	5.95		110	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	5.63		0.991	ug/kg wet	5.95		94.7	60-140		
Chlordane (tech.)	20.9		0.991	ug/kg wet	23.8		88.1	60-140		
cis-Chlordane (alpha-Chlordane)	5.27		0.991	ug/kg wet	5.95		88.6	60-140		
delta-BHC	4.67		0.991	ug/kg wet	5.95		78.5	60-140		
Dieldrin	5.11		0.991	ug/kg wet	5.95		85.9	60-140		
Endosulfan I	4.76		0.991	ug/kg wet	5.95		80.0	60-140		
Endosulfan II	5.29		0.991	ug/kg wet	5.95		88.9	60-140		
Endosulfan sulfate	5.15		0.991	ug/kg wet	5.95		86.5	60-140		
Endrin	5.00		0.991	ug/kg wet	5.95		84.0	60-140		
Endrin aldehyde	4.61		0.991	ug/kg wet	5.95		77.5	60-140		
Endrin ketone	5.87		0.991	ug/kg wet	5.95		98.7	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.95		0.991	ug/kg wet	5.95		100	60-140		
gamma-Chlordane	5.49		0.991	ug/kg wet	5.95		92.3	60-140		
Heptachlor	5.24		0.991	ug/kg wet	5.95		88.1	60-140		
Heptachlor epoxide	4.95		0.991	ug/kg wet	5.95		83.2	60-140		
Methoxychlor	5.35		0.991	ug/kg wet	5.95		89.9	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.45*	*ug/kg wet*	*5.95*		*91.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.14*	*ug/kg wet*	*5.95*		*103*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0477 - SW-3570 (Continued)										
TOX LCSD (BGB0477-BSD1)				Prepared: 2/3/2023 Analyzed: 2/10/2023						
Toxaphene (Chlorinated Camphene)	53.7		14.8	ug/kg wet	59.2		90.6	60-140	15.0	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.42*	*ug/kg wet*	*5.92*		*74.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.19*	*ug/kg wet*	*5.92*		*87.6*	*60-140*		
LCS Dup (BGB0477-BSD2)				Prepared: 2/3/2023 Analyzed: 2/10/2023						
4,4'-DDD	5.26		0.983	ug/kg wet	5.90		89.1	60-140	4.95	40
4,4'-DDE	5.43		0.983	ug/kg wet	5.90		92.1	60-140	9.29	40
4,4'-DDT	3.37	J1	0.983	ug/kg wet	5.90		57.1	60-140	6.19	40
Aldrin	4.94		0.983	ug/kg wet	5.90		83.8	60-140	2.97	40
alpha-BHC (alpha-Hexachlorocyclohexane)	5.86		0.983	ug/kg wet	5.90		99.3	60-140	10.7	40
beta-BHC (beta-Hexachlorocyclohexane)	5.27		0.983	ug/kg wet	5.90		89.3	60-140	6.67	40
Chlordane (tech.)	20.6		0.983	ug/kg wet	23.6		87.4	60-140	1.61	40
cis-Chlordane (alpha-Chlordane)	5.29		0.983	ug/kg wet	5.90		89.6	60-140	0.355	40
delta-BHC	4.25		0.983	ug/kg wet	5.90		72.1	60-140	9.35	40
Dieldrin	5.15		0.983	ug/kg wet	5.90		87.3	60-140	0.919	40
Endosulfan I	4.66		0.983	ug/kg wet	5.90		79.0	60-140	2.07	40
Endosulfan II	4.98		0.983	ug/kg wet	5.90		84.3	60-140	6.10	40
Endosulfan sulfate	4.93		0.983	ug/kg wet	5.90		83.5	60-140	4.40	40
Endrin	4.88		0.983	ug/kg wet	5.90		82.7	60-140	2.41	40
Endrin aldehyde	4.35		0.983	ug/kg wet	5.90		73.8	60-140	5.79	40
Endrin ketone	5.26		0.983	ug/kg wet	5.90		89.1	60-140	11.1	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.56		0.983	ug/kg wet	5.90		94.2	60-140	6.84	40
gamma-Chlordane	5.41		0.983	ug/kg wet	5.90		91.6	60-140	1.54	40
Heptachlor	5.10		0.983	ug/kg wet	5.90		86.4	60-140	2.74	40
Heptachlor epoxide	4.82		0.983	ug/kg wet	5.90		81.7	60-140	2.60	40
Methoxychlor	4.63		0.983	ug/kg wet	5.90		78.5	60-140	14.4	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.26*	*ug/kg wet*	*5.90*		*89.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.65*	*ug/kg wet*	*5.90*		*95.7*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0477 - SW-3570 (Continued)										
TOX MRL (BGB0477-MRL1)					Prepared: 2/3/2023 Analyzed: 2/10/2023					
Toxaphene (Chlorinated Camphene)	<14.3	J1, U	14.3	ug/kg wet	14.3			50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*3.38*	*ug/kg wet*	*5.71*		*59.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*4.97*	*ug/kg wet*	*5.71*		*87.0*	*60-140*		
MRL Check (BGB0477-MRL2)					Prepared: 2/3/2023 Analyzed: 2/10/2023					
4,4'-DDD	0.370	J	0.981	ug/kg wet	0.393		94.2			
4,4'-DDE	0.405	J	0.981	ug/kg wet	0.393		103			
4,4'-DDT	0.261	J	0.981	ug/kg wet	0.393		66.6			
Aldrin	0.337	J	0.981	ug/kg wet	0.393		86.0			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.437	J	0.981	ug/kg wet	0.393		111			
beta-BHC (beta-Hexachlorocyclohexane)	0.438	J	0.981	ug/kg wet	0.393		112			
Chlordane (tech.)	1.19		0.981	ug/kg wet	1.57		75.9	50-150		
cis-Chlordane (alpha-Chlordane)	0.176	J	0.981	ug/kg wet	0.393		44.9			
delta-BHC	<0.981	J1, U	0.981	ug/kg wet	0.393					
Dieldrin	0.286	J	0.981	ug/kg wet	0.393		72.9			
Endosulfan I	0.316	J	0.981	ug/kg wet	0.393		80.6			
Endosulfan II	0.344	J	0.981	ug/kg wet	0.393		87.6			
Endosulfan sulfate	0.321	J	0.981	ug/kg wet	0.393		81.9			
Endrin	0.279	J	0.981	ug/kg wet	0.393		71.1			
Endrin aldehyde	0.246	J	0.981	ug/kg wet	0.393		62.6			
Endrin ketone	0.413	J	0.981	ug/kg wet	0.393		105			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.402	J	0.981	ug/kg wet	0.393		103			
gamma-Chlordane	0.332	J	0.981	ug/kg wet	0.393		84.6			
Heptachlor	0.356	J	0.981	ug/kg wet	0.393		90.7			
Heptachlor epoxide	0.328	J	0.981	ug/kg wet	0.393		83.6			
Methoxychlor	0.329	J	0.981	ug/kg wet	0.393		83.9			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.75*	*ug/kg wet*	*5.89*		*80.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*5.61*	*ug/kg wet*	*5.89*		*95.3*	*60-140*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0477 - SW-3570 (Continued)										
Matrix Spike (BGB0477-MS1)	**Source: 23A1459-66**			Prepared: 2/3/2023 Analyzed: 2/10/2023						
4,4'-DDD	6.78		1.31	ug/kg dry	7.88	<1.31	86.1	60-140		
4,4'-DDE	6.51		1.31	ug/kg dry	7.88	<1.31	82.6	60-140		
4,4'-DDT	4.23	J1	1.31	ug/kg dry	7.88	<1.31	53.7	60-140		
Aldrin	6.21		1.31	ug/kg dry	7.88	<1.31	78.8	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	7.62		1.31	ug/kg dry	7.88	<1.31	96.7	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	6.85		1.31	ug/kg dry	7.88	<1.31	86.9	60-140		
Chlordane (tech.)	26.2		1.31	ug/kg dry	31.5	<1.31	83.0	60-140		
cis-Chlordane (alpha-Chlordane)	6.59		1.31	ug/kg dry	7.88	<1.31	83.6	60-140		
delta-BHC	5.41		1.31	ug/kg dry	7.88	<1.31	68.6	60-140		
Dieldrin	6.57		1.31	ug/kg dry	7.88	<1.31	83.4	60-140		
Endosulfan I	6.00		1.31	ug/kg dry	7.88	<1.31	76.2	60-140		
Endosulfan II	6.63		1.31	ug/kg dry	7.88	<1.31	84.1	60-140		
Endosulfan sulfate	6.36		1.31	ug/kg dry	7.88	<1.31	80.8	60-140		
Endrin	6.28		1.31	ug/kg dry	7.88	<1.31	79.8	60-140		
Endrin aldehyde	5.35		1.31	ug/kg dry	7.88	<1.31	67.9	60-140		
Endrin ketone	6.95		1.31	ug/kg dry	7.88	<1.31	88.2	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	7.27		1.31	ug/kg dry	7.88	<1.31	92.3	60-140		
gamma-Chlordane	6.92		1.31	ug/kg dry	7.88	<1.31	87.8	60-140		
Heptachlor	6.56		1.31	ug/kg dry	7.88	<1.31	83.3	60-140		
Heptachlor epoxide	6.10		1.31	ug/kg dry	7.88	<1.31	77.5	60-140		
Methoxychlor	6.00		1.31	ug/kg dry	7.88	<1.31	76.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.13*	*ug/kg dry*	*7.88*		*77.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.29*	*ug/kg dry*	*7.88*		*92.6*	*60-140*		
Matrix Spike Dup (BGB0477-MSD1)	**Source: 23A1459-66**			Prepared: 2/3/2023 Analyzed: 2/10/2023						
4,4'-DDD	6.39		1.26	ug/kg dry	7.54	<1.26	84.7	60-140	6.00	40
4,4'-DDE	6.49		1.26	ug/kg dry	7.54	<1.26	86.1	60-140	0.188	40
4,4'-DDT	4.46	J1	1.26	ug/kg dry	7.54	<1.26	59.1	60-140	5.23	40
Aldrin	5.93		1.26	ug/kg dry	7.54	<1.26	78.6	60-140	4.59	40
alpha-BHC (alpha-Hexachlorocyclohexane)	7.36		1.26	ug/kg dry	7.54	<1.26	97.6	60-140	3.43	40
beta-BHC (beta-Hexachlorocyclohexane)	6.60		1.26	ug/kg dry	7.54	<1.26	87.6	60-140	3.63	40
Chlordane (tech.)	25.3		1.26	ug/kg dry	30.2	<1.26	84.0	60-140	3.17	40
cis-Chlordane (alpha-Chlordane)	6.38		1.26	ug/kg dry	7.54	<1.26	84.6	60-140	3.23	40
delta-BHC	5.31		1.26	ug/kg dry	7.54	<1.26	70.4	60-140	1.85	40
Dieldrin	6.43		1.26	ug/kg dry	7.54	<1.26	85.2	60-140	2.23	40
Endosulfan I	5.75		1.26	ug/kg dry	7.54	<1.26	76.3	60-140	4.23	40
Endosulfan II	6.07		1.26	ug/kg dry	7.54	<1.26	80.5	60-140	8.73	40
Endosulfan sulfate	6.22		1.26	ug/kg dry	7.54	<1.26	82.4	60-140	2.35	40
Endrin	6.13		1.26	ug/kg dry	7.54	<1.26	81.2	60-140	2.53	40
Endrin aldehyde	5.51		1.26	ug/kg dry	7.54	<1.26	73.1	60-140	3.05	40
Endrin ketone	6.70		1.26	ug/kg dry	7.54	<1.26	88.9	60-140	3.56	40

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0477 - SW-3570 (Continued)										
Matrix Spike Dup (BGB0477-MSD1)	**Source: 23A1459-66**			Prepared: 2/3/2023 Analyzed: 2/10/2023						
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	6.97		1.26	ug/kg dry	7.54	<1.26	92.5	60-140	4.19	40
gamma-Chlordane	6.71		1.26	ug/kg dry	7.54	<1.26	89.0	60-140	2.97	40
Heptachlor	6.38		1.26	ug/kg dry	7.54	<1.26	84.7	60-140	2.74	40
Heptachlor epoxide	5.87		1.26	ug/kg dry	7.54	<1.26	77.9	60-140	3.82	40
Methoxychlor	5.94		1.26	ug/kg dry	7.54	<1.26	78.7	60-140	1.04	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.48*	*ug/kg dry*	*7.54*		*85.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.15*	*ug/kg dry*	*7.54*		*94.9*	*60-140*		
Batch: BGB1177 - SW-3570										
Blank (BGB1177-BLK1)				Prepared: 2/8/2023 Analyzed: 2/25/2023						
PCBs, Total	<1.98	U	1.98	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.493*	*ug/kg wet*	*0.593*		*83.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.609*	*ug/kg wet*	*0.593*		*103*	*60-140*		
LCS (BGB1177-BS1)				Prepared: 2/8/2023 Analyzed: 2/25/2023						
Aroclor-1016 (PCB-1016)	4.70		1.96	ug/kg wet	5.88		80.0	60-140		
Aroclor-1260 (PCB-1260)	5.37		1.96	ug/kg wet	5.88		91.4	60-140		
PCBs, Total	5.23		1.96	ug/kg wet	5.88		89.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.592*	*ug/kg wet*	*0.588*		*101*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.611*	*ug/kg wet*	*0.588*		*104*	*60-140*		
LCS Dup (BGB1177-BSD1)				Prepared: 2/8/2023 Analyzed: 2/25/2023						
Aroclor-1016 (PCB-1016)	3.63		1.96	ug/kg wet	5.87		62.0	60-140	25.6	40
Aroclor-1260 (PCB-1260)	5.70		1.96	ug/kg wet	5.87		97.2	60-140	5.97	40
PCBs, Total	5.27		1.96	ug/kg wet	5.87		89.8	60-140	0.661	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.440*	*ug/kg wet*	*0.587*		*75.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.664*	*ug/kg wet*	*0.587*		*113*	*60-140*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1177 - SW-3570 (Continued)										
MRL Check (BGB1177-MRL1)					Prepared: 2/8/2023 Analyzed: 2/25/2023					
Aroclor-1016 (PCB-1016)	0.476	J	1.98	ug/kg wet	1.19		40.1			
Aroclor-1260 (PCB-1260)	1.56	J	1.98	ug/kg wet	1.19		132			
PCBs, Total	1.34	J	1.98	ug/kg wet	1.19		113			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.409*	*ug/kg wet*	*0.593*		*69.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.637*	*ug/kg wet*	*0.593*		*107*	*60-140*		
Matrix Spike (BGB1177-MS1)		**Source: 23A1459-46**			Prepared: 2/8/2023 Analyzed: 2/25/2023					
Aroclor-1016 (PCB-1016)	6.45		2.79	ug/kg dry	8.37	<2.79	77.1	60-140		
Aroclor-1260 (PCB-1260)	10.3		2.79	ug/kg dry	8.37	<2.79	123	60-140		
PCBs, Total	9.45		2.79	ug/kg dry	8.37	<2.79	113	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*1.07*	*ug/kg dry*	*0.837*		*127*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*1.04*	*ug/kg dry*	*0.837*		*124*	*60-140*		
Matrix Spike Dup (BGB1177-MSD1)		**Source: 23A1459-46**			Prepared: 2/8/2023 Analyzed: 2/25/2023					
Aroclor-1016 (PCB-1016)	3.83	J1	2.79	ug/kg dry	8.37	<2.79	45.7	60-140	51.1	40
Aroclor-1260 (PCB-1260)	7.70		2.79	ug/kg dry	8.37	<2.79	92.0	60-140	28.6	40
PCBs, Total	6.89		2.79	ug/kg dry	8.37	<2.79	82.3	60-140	31.4	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.666*	*ug/kg dry*	*0.837*		*79.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.662*	*ug/kg dry*	*0.837*		*79.1*	*60-140*		
Batch: BGC1392 - SW-3570										
MB PCB (BGC1392-BLK1)					Prepared: 3/9/2023 Analyzed: 3/11/2023					
PCBs, Total	<1.93	U	1.93	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.619*	*ug/kg wet*	*0.580*		*107*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.639*	*ug/kg wet*	*0.580*		*110*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGC1392 - SW-3570 (Continued)										
BS PCB (BGC1392-BS1)					Prepared: 3/9/2023 Analyzed: 3/11/2023					
Aroclor-1016 (PCB-1016)	6.18		1.99	ug/kg wet	5.97		103	60-140		
Aroclor-1260 (PCB-1260)	5.89		1.99	ug/kg wet	5.97		98.6	60-140		
PCBs, Total	5.98		1.99	ug/kg wet	5.97		100	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.604*	*ug/kg wet*	*0.597*		*101*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.688*	*ug/kg wet*	*0.597*		*115*	*60-140*		
BSD PCB (BGC1392-BSD1)					Prepared: 3/9/2023 Analyzed: 3/11/2023					
Aroclor-1016 (PCB-1016)	6.06		1.94	ug/kg wet	5.83		104	60-140	1.91	40
Aroclor-1260 (PCB-1260)	5.66		1.94	ug/kg wet	5.83		97.0	60-140	3.98	40
PCBs, Total	5.78		1.94	ug/kg wet	5.83		99.1	60-140	3.40	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.616*	*ug/kg wet*	*0.583*		*106*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.663*	*ug/kg wet*	*0.583*		*114*	*60-140*		
MDL PCB (BGC1392-MRL1)					Prepared: 3/9/2023 Analyzed: 3/11/2023					
Aroclor-1016 (PCB-1016)	1.71	J	1.93	ug/kg wet	1.16		148			
Aroclor-1260 (PCB-1260)	1.27	J	1.93	ug/kg wet	1.16		110			
PCBs, Total	1.39	J	1.93	ug/kg wet	1.16		120			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.577*	*ug/kg wet*	*0.578*		*99.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.627*	*ug/kg wet*	*0.578*		*108*	*60-140*		
23A1459-24 MS (BGC1392-MS1)		**Source: 23A1459-24RE2**			Prepared: 3/9/2023 Analyzed: 3/11/2023					
Aroclor-1016 (PCB-1016)	95.7		26.9	ug/kg dry	80.7	<26.9	119	60-140		
Aroclor-1260 (PCB-1260)	54.0		26.9	ug/kg dry	80.7	<26.9	67.0	60-140		
PCBs, Total	65.0		26.9	ug/kg dry	80.7	<26.9	80.6	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*12.0*	*ug/kg dry*	*8.07*		*149*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.48*	*ug/kg dry*	*8.07*		*92.7*	*60-140*		
23A1459-24 MSD (BGC1392-MSD1)		**Source: 23A1459-24RE2**			Prepared: 3/9/2023 Analyzed: 3/11/2023					
Aroclor-1016 (PCB-1016)	78.7		26.6	ug/kg dry	79.9	<26.6	98.5	60-140	19.5	40
Aroclor-1260 (PCB-1260)	67.4		26.6	ug/kg dry	79.9	<26.6	84.3	60-140	22.0	40
PCBs, Total	70.6		26.6	ug/kg dry	79.9	<26.6	88.3	60-140	8.19	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*12.0*	*ug/kg dry*	*7.99*		*150*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.38*	*ug/kg dry*	*7.99*		*92.3*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Metals, Total

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3226 - EPA 200.8 Solid										
Blank (BGA3226-BLK1)				Prepared: 1/25/2023 Analyzed: 1/30/2023						
Antimony	<0.0888	U	0.0888	mg/kg wet						
Arsenic	<0.0443	U	0.0443	mg/kg wet						
Beryllium	<0.0177	U	0.0177	mg/kg wet						
Lead	<0.0443	U	0.0443	mg/kg wet						
Silver	<0.0443	U	0.0443	mg/kg wet						
Zinc	<0.177	U	0.177	mg/kg wet						
Blank (BGA3226-BLK2)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Cadmium	<0.0888	U	0.0888	mg/kg wet						
Chromium	<0.266	U	0.266	mg/kg wet						
Copper	0.0410	J	0.0888	mg/kg wet						
Selenium	<0.177	U	0.177	mg/kg wet						
Thallium	<0.0443	U	0.0443	mg/kg wet						
Blank (BGA3226-BLK3)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Nickel	<0.0888	U	0.0888	mg/kg wet						
LCS (BGA3226-BS1)				Prepared: 1/25/2023 Analyzed: 1/30/2023						
Antimony	9.79		0.102	mg/kg wet	10.2		96.1	85-115		
Arsenic	4.84		0.0509	mg/kg wet	5.09		95.0	85-115		
Beryllium	1.78		0.0203	mg/kg wet	2.04		87.2	85-115		
Lead	4.67		0.0509	mg/kg wet	5.09		91.7	85-115		
Silver	4.89		0.0509	mg/kg wet	5.09		96.0	85-115		
Zinc	18.6		0.203	mg/kg wet	20.4		91.4	85-115		
LCS (BGA3226-BS2)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Cadmium	10.5		0.102	mg/kg wet	10.2		103	85-115		
Chromium	31.3		0.305	mg/kg wet	30.5		102	85-115		
Copper	11.2		0.102	mg/kg wet	10.2		110	85-115		
Selenium	20.7		0.203	mg/kg wet	20.4		102	85-115		
Thallium	5.48		0.0509	mg/kg wet	5.09		108	85-115		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3226 - EPA 200.8 Solid (Continued)										
LCS (BGA3226-BS3)					Prepared: 1/25/2023 Analyzed: 1/31/2023					
Nickel	10.2		0.102	mg/kg wet	10.2		100	85-115		
Duplicate (BGA3226-DUP1)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/30/2023					
Antimony	<0.0542	U	0.0542	mg/kg dry		<0.0542				20
Arsenic	0.940		0.0270	mg/kg dry		0.891			5.35	20
Beryllium	0.0463		0.0108	mg/kg dry		0.0436			6.04	20
Lead	1.36		0.0270	mg/kg dry		1.23			10.5	20
Silver	0.00552	J	0.0270	mg/kg dry		0.00472			15.6	20
Zinc	3.63		0.108	mg/kg dry		3.48			4.10	20
Duplicate (BGA3226-DUP2)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/30/2023					
Antimony	<0.0557	U	0.0557	mg/kg dry		<0.0557				20
Arsenic	0.946		0.0278	mg/kg dry		0.867			8.69	20
Lead	1.25		0.0278	mg/kg dry		1.06			16.4	20
Silver	0.00873	J	0.0278	mg/kg dry		0.00820			6.22	20
Zinc	2.79		0.111	mg/kg dry		2.52			10.3	20
Duplicate (BGA3226-DUP3)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Cadmium	0.0141	J	0.0542	mg/kg dry		0.0132			6.61	20
Chromium	1.17		0.162	mg/kg dry		1.10			5.76	20
Copper	0.685		0.0542	mg/kg dry		0.568			18.7	20
Selenium	0.321		0.108	mg/kg dry		0.312			2.95	20
Thallium	0.0255	J	0.0270	mg/kg dry		0.0241			5.57	20
Duplicate (BGA3226-DUP4)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Cadmium	0.0292	J	0.0557	mg/kg dry		0.0319			8.85	20
Chromium	1.42	J1	0.167	mg/kg dry		1.10			25.8	20
Copper	0.945	J1	0.0557	mg/kg dry		0.652			36.7	20
Selenium	0.354		0.111	mg/kg dry		0.320			10.1	20
Thallium	0.0415	J1	0.0278	mg/kg dry		0.0311			28.6	20

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3226 - EPA 200.8 Solid (Continued)										
Duplicate (BGA3226-DUP5)		**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/31/2023						
Nickel	1.22		0.0542	mg/kg dry		0.998			19.9	20
Duplicate (BGA3226-DUP6)		**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/31/2023						
Nickel	1.01		0.0557	mg/kg dry		0.918			9.90	20
Duplicate (BGA3226-DUP7)		**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 2/1/2023						
Beryllium	0.0525	J1	0.0111	mg/kg dry		0.0412			24.2	20
MDL Check (BGA3226-MRL1)				Prepared: 1/25/2023 Analyzed: 1/30/2023						
Antimony	0.0467	J	0.0977	mg/kg wet	0.0487		95.8			
Arsenic	0.00780	J	0.0487	mg/kg wet	0.00487		160			
Beryllium	0.00166	J	0.0195	mg/kg wet	0.000975		170			
Lead	0.00556	J	0.0487	mg/kg wet	0.00487		114			
Silver	0.00234	J	0.0487	mg/kg wet	0.00244		96.0			
Zinc	0.138	J	0.195	mg/kg wet	0.0975		141			
MDL Check (BGA3226-MRL2)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Cadmium	0.00517	J	0.0977	mg/kg wet	0.00487		106			
Chromium	0.0228	J	0.292	mg/kg wet	0.0146		156			
Copper	0.104		0.0977	mg/kg wet	0.00975		NR			
Selenium	0.0887	J	0.195	mg/kg wet	0.0975		91.0			
Thallium	0.00273	J	0.0487	mg/kg wet	0.00244		112			
MDL Check (BGA3226-MRL3)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Nickel	0.00702	J	0.0977	mg/kg wet	0.00487		144			
Matrix Spike (BGA3226-MS1)		**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/30/2023						
Antimony	3.83	J1	0.0541	mg/kg dry	5.40	<0.0541	71.0	75-125		
Arsenic	3.32		0.0270	mg/kg dry	2.70	0.891	89.9	75-125		
Beryllium	1.01		0.0108	mg/kg dry	1.08	0.0436	89.3	75-125		
Lead	4.08		0.0270	mg/kg dry	2.70	1.23	106	75-125		
Silver	2.57		0.0270	mg/kg dry	2.70	0.00472	95.2	75-125		
Zinc	12.5		0.108	mg/kg dry	10.8	3.48	83.6	75-125		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3226 - EPA 200.8 Solid (Continued)										
Matrix Spike (BGA3226-MS2)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/30/2023					
Antimony	3.24	J1	0.0562	mg/kg dry	5.61	<0.0562	57.7	75-125		
Arsenic	3.91		0.0280	mg/kg dry	2.80	0.867	109	75-125		
Lead	4.46		0.0280	mg/kg dry	2.80	1.06	121	75-125		
Silver	2.81		0.0280	mg/kg dry	2.80	0.00820	100	75-125		
Zinc	13.4		0.112	mg/kg dry	11.2	2.52	97.3	75-125		
Matrix Spike (BGA3226-MS3)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Cadmium	5.76		0.0541	mg/kg dry	5.40	0.0132	106	75-125		
Chromium	16.8		0.162	mg/kg dry	16.2	1.10	96.9	75-125		
Copper	5.83		0.0541	mg/kg dry	5.40	0.568	97.5	75-125		
Selenium	10.4		0.108	mg/kg dry	10.8	0.312	93.9	75-125		
Thallium	2.73		0.0270	mg/kg dry	2.70	0.0241	100	75-125		
Matrix Spike (BGA3226-MS4)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Cadmium	5.94		0.0562	mg/kg dry	5.61	0.0319	105	75-125		
Chromium	18.3		0.168	mg/kg dry	16.8	1.10	102	75-125		
Copper	6.59		0.0562	mg/kg dry	5.61	0.652	106	75-125		
Selenium	11.0		0.112	mg/kg dry	11.2	0.320	95.3	75-125		
Thallium	2.90		0.0280	mg/kg dry	2.80	0.0311	102	75-125		
Matrix Spike (BGA3226-MS5)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Nickel	5.89		0.0541	mg/kg dry	5.40	0.998	90.7	75-125		
Matrix Spike (BGA3226-MS6)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Nickel	7.19		0.0562	mg/kg dry	5.61	0.918	112	75-125		
Matrix Spike (BGA3226-MS7)			**Source: 23A1459-30**		Prepared: 1/25/2023 Analyzed: 2/1/2023					
Beryllium	1.20		0.0112	mg/kg dry	1.12	0.0412	104	75-125		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3233 - EPA 200.8 Solid										
Blank (BGA3233-BLK1)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Antimony	<0.0996	U	0.0996	mg/kg wet						
Arsenic	<0.0497	U	0.0497	mg/kg wet						
Cadmium	<0.0996	U	0.0996	mg/kg wet						
Chromium	0.0174	J	0.298	mg/kg wet						
Lead	<0.0497	U	0.0497	mg/kg wet						
Nickel	<0.0996	U	0.0996	mg/kg wet						
Silver	<0.0497	U	0.0497	mg/kg wet						
Thallium	<0.0497	U	0.0497	mg/kg wet						
Blank (BGA3233-BLK2)				Prepared: 1/25/2023 Analyzed: 2/1/2023						
Beryllium	<0.0199	U	0.0199	mg/kg wet						
Selenium	<0.199	U	0.199	mg/kg wet						
Zinc	<0.199	U	0.199	mg/kg wet						
Blank (BGA3233-BLK3)				Prepared: 1/25/2023 Analyzed: 2/1/2023						
Copper	0.0575	J	0.0996	mg/kg wet						
LCS (BGA3233-BS1)				Prepared: 1/25/2023 Analyzed: 1/31/2023						
Antimony	10.5		0.0982	mg/kg wet	9.80		107	85-115		
Arsenic	5.28		0.0490	mg/kg wet	4.90		108	85-115		
Cadmium	10.4		0.0982	mg/kg wet	9.80		106	85-115		
Chromium	31.8		0.294	mg/kg wet	29.4		108	85-115		
Lead	5.44		0.0490	mg/kg wet	4.90		111	85-115		
Nickel	10.4		0.0982	mg/kg wet	9.80		107	85-115		
Silver	5.14		0.0490	mg/kg wet	4.90		105	85-115		
Thallium	5.32		0.0490	mg/kg wet	4.90		109	85-115		
LCS (BGA3233-BS2)				Prepared: 1/25/2023 Analyzed: 2/1/2023						
Beryllium	2.04		0.0196	mg/kg wet	1.96		104	85-115		
Selenium	20.4		0.196	mg/kg wet	19.6		104	85-115		
Zinc	21.2		0.196	mg/kg wet	19.6		108	85-115		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3233 - EPA 200.8 Solid (Continued)										
LCS (BGA3233-BS3)					Prepared: 1/25/2023 Analyzed: 2/1/2023					
Copper	11.3		0.0982	mg/kg wet	9.80		115	85-115		
Duplicate (BGA3233-DUP1)			**Source: 23A1459-43**		Prepared: 1/25/2023 Analyzed: 1/31/2023					
Antimony	<0.0485	U	0.0485	mg/kg dry		<0.0485				20
Arsenic	0.271		0.0242	mg/kg dry		0.295			8.54	20
Cadmium	0.00344	J	0.0485	mg/kg dry		0.00315			8.82	20
Chromium	1.84	J1	0.145	mg/kg dry		2.32			22.9	20
Lead	2.26		0.0242	mg/kg dry		2.27			0.399	20
Nickel	1.36		0.0485	mg/kg dry		1.64			19.1	20
Silver	<0.0242	U	0.0242	mg/kg dry		<0.0242				20
Thallium	0.0195	J	0.0242	mg/kg dry		0.0223			13.4	20
Duplicate (BGA3233-DUP2)			**Source: 23A1459-43**		Prepared: 1/25/2023 Analyzed: 2/1/2023					
Beryllium	0.213		0.00967	mg/kg dry		0.217			1.60	20
Selenium	0.355		0.0967	mg/kg dry		0.377			5.94	20
Zinc	2.85		0.0967	mg/kg dry		3.41			18.0	20
Duplicate (BGA3233-DUP3)			**Source: 23A1459-43**		Prepared: 1/25/2023 Analyzed: 2/1/2023					
Copper	0.852		0.0485	mg/kg dry		0.962			12.1	20
MDL Check (BGA3233-MRL1)					Prepared: 1/25/2023 Analyzed: 1/31/2023					
Antimony	0.0512	J	0.0996	mg/kg wet	0.0497		103			
Arsenic	0.00736	J	0.0497	mg/kg wet	0.00497		148			
Cadmium	0.00537	J	0.0996	mg/kg wet	0.00497		108			
Chromium	0.0364	J	0.298	mg/kg wet	0.0149		244			
Lead	0.00616	J	0.0497	mg/kg wet	0.00497		124			
Nickel	0.0145	J	0.0996	mg/kg wet	0.00497		292			
Silver	0.00298	J	0.0497	mg/kg wet	0.00249		120			
Thallium	0.00328	J	0.0497	mg/kg wet	0.00249		132			

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3233 - EPA 200.8 Solid (Continued)										
MDL Check (BGA3233-MRL2)					Prepared: 1/25/2023 Analyzed: 2/1/2023					
Beryllium	0.00258	J	0.0199	mg/kg wet	0.000994		260			
Selenium	0.0960	J	0.199	mg/kg wet	0.0994		96.6			
Zinc	0.170	J	0.199	mg/kg wet	0.0994		171			
MDL Check (BGA3233-MRL3)					Prepared: 1/25/2023 Analyzed: 2/1/2023					
Copper	0.0831	J	0.0996	mg/kg wet	0.00994		836			
Matrix Spike (BGA3233-MS1)		**Source: 23A1459-43**			Prepared: 1/25/2023 Analyzed: 1/31/2023					
Antimony	1.05	J1	0.0489	mg/kg dry	4.88	<0.0489	21.5	75-125		
Arsenic	2.43		0.0244	mg/kg dry	2.44	0.295	87.5	75-125		
Cadmium	4.85		0.0489	mg/kg dry	4.88	0.00315	99.4	75-125		
Chromium	16.8		0.146	mg/kg dry	14.6	2.32	99.1	75-125		
Lead	4.85		0.0244	mg/kg dry	2.44	2.27	106	75-125		
Nickel	6.26		0.0489	mg/kg dry	4.88	1.64	94.7	75-125		
Silver	2.31		0.0244	mg/kg dry	2.44	<0.0244	94.8	75-125		
Thallium	2.38		0.0244	mg/kg dry	2.44	0.0223	96.6	75-125		
Matrix Spike (BGA3233-MS2)		**Source: 23A1459-43**			Prepared: 1/25/2023 Analyzed: 2/1/2023					
Beryllium	1.25		0.00974	mg/kg dry	0.975	0.217	106	75-125		
Selenium	9.01		0.0974	mg/kg dry	9.75	0.377	88.5	75-125		
Zinc	13.1		0.0974	mg/kg dry	9.75	3.41	99.3	75-125		
Matrix Spike (BGA3233-MS3)		**Source: 23A1459-43**			Prepared: 1/25/2023 Analyzed: 2/1/2023					
Copper	5.86		0.0489	mg/kg dry	4.88	0.962	100	75-125		
Batch: BGA3813 - EPA 245.1										
Blank (BGA3813-BLK1)					Prepared & Analyzed: 1/30/2023					
Mercury	<0.200	U	0.200	ug/L						

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3813 - EPA 245.1 (Continued)										
LCS (BGA3813-BS1)					Prepared & Analyzed: 1/30/2023					
Mercury	5.05		0.200	ug/L	5.00		101	85-115		
Duplicate (BGA3813-DUP1)		**Source: 23A1459-02**			Prepared & Analyzed: 1/30/2023					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
MDL Check (BGA3813-MRL1)					Prepared & Analyzed: 1/30/2023					
Mercury	<0.200	U	0.200	ug/L	0.100					
Matrix Spike (BGA3813-MS1)		**Source: 23A1459-02**			Prepared & Analyzed: 1/30/2023					
Mercury	5.19		0.200	ug/L	5.00	<0.200	104	70-130		
Batch: BGA3843 - Cr VI										
Blank (BGA3843-BLK1)					Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	<1.96	U	1.96	mg/kg wet						
LCS (BGA3843-BS1)					Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	9.66		1.99	mg/kg wet	9.96		97.0	80-120		
Duplicate (BGA3843-DUP1)		**Source: 23A1459-16**			Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	<2.68	U	2.68	mg/kg dry		0.150			200	20
Duplicate (BGA3843-DUP2)		**Source: 23A1459-35**			Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	0.480	J	2.71	mg/kg dry		1.23			87.8	20
MRL Check (BGA3843-MRL1)					Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	1.80	J	1.98	mg/kg wet	1.98		90.9	50-150		

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3843 - Cr VI (Continued)										
SMS (BGA3843-MS1)		**Source: 23A1459-16**			Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	2.95	J1	2.69	mg/kg dry	13.4	0.150	20.9	75-125		
IMS (BGA3843-MS2)		**Source: 23A1459-16**			Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	9.49	J1	2.69	mg/kg dry	1200	0.150	0.776	75-125		
PMS (BGA3843-PS1)		**Source: 23A1459-16**			Prepared: 1/30/2023 Analyzed: 2/1/2023					
Chromium (VI)	80.8	J1		ug/L	250	2.88	31.2	85-115		
Batch: BGA3845 - Cr VI										
Blank (BGA3845-BLK1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	<5.00	U	5.00	mg/kg wet						
LCS (BGA3845-BS1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	9.40		5.00	mg/kg wet	9.88		95.1	80-120		
Duplicate (BGA3845-DUP1)		**Source: 23A1459-36**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	3.02	J1, J	5.00	mg/kg dry		1.78			51.5	20
Duplicate (BGA3845-DUP2)		**Source: 23A1459-60**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	0.238	J	5.00	mg/kg dry		0.165			36.3	20
MRL Check (BGA3845-MRL1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	1.75	J	5.00	mg/kg wet	2.00		87.7	50-150		
SMS (BGA3845-MS1)		**Source: 23A1459-60**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	11.3		5.00	mg/kg dry	12.3	0.165	90.9	75-125		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3845 - Cr VI (Continued)										
IMS (BGA3845-MS2)		**Source: 23A1459-60**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	8.67	J1	5.00	mg/kg dry	1210	0.165	0.704	75-125		
PMS (BGA3845-PS1)		**Source: 23A1459-60**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Chromium (VI)	272			ug/L	250	3.42	107	85-115		
Batch: BGA3912 - SW-7471										
MDL Check (BGA3912-MRL1)					Prepared & Analyzed: 1/31/2023					
Mercury	0.0124	J	0.0200	mg/kg wet	0.0100		124			
Matrix Spike (BGA3912-MS1)		**Source: 23A1459-16**			Prepared & Analyzed: 1/31/2023					
Mercury	0.267		0.0199	mg/kg dry	0.248	<0.0199	108	80-120		
Matrix Spike (BGA3912-MS2)		**Source: 23A1459-30**			Prepared & Analyzed: 1/31/2023					
Mercury	0.273		0.0199	mg/kg dry	0.249	<0.0199	110	80-120		
Matrix Spike Dup (BGA3912-MSD1)		**Source: 23A1459-16**			Prepared & Analyzed: 1/31/2023					
Mercury	0.236		0.0180	mg/kg dry	0.225	0.00962	100	80-120	12.4	20
Matrix Spike Dup (BGA3912-MSD2)		**Source: 23A1459-30**			Prepared & Analyzed: 1/31/2023					
Mercury	0.249		0.0182	mg/kg dry	0.228	<0.0182	109	80-120	8.99	20
Batch: BGB0014 - SW-7471										
MDL Check (BGB0014-MRL1)					Prepared & Analyzed: 2/1/2023					
Mercury	<0.0190	U	0.0190	mg/kg wet						

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0014 - SW-7471 (Continued)										
Matrix Spike (BGB0014-MS1)		**Source: 23A1459-43**			Prepared & Analyzed: 2/1/2023					
Mercury	0.283		0.0200	mg/kg dry	0.250	0.0141	108	80-120		
Matrix Spike (BGB0014-MS2)		**Source: 23A4064-01**			Prepared & Analyzed: 2/1/2023					
Mercury	0.457		0.0295	mg/kg dry	0.369	0.158	80.9	80-120		
Matrix Spike Dup (BGB0014-MSD1)		**Source: 23A1459-43**			Prepared & Analyzed: 2/1/2023					
Mercury	0.283		0.0199	mg/kg dry	0.249	0.0141	108	80-120	0.0481	20
Matrix Spike Dup (BGB0014-MSD2)		**Source: 23A4064-01**			Prepared & Analyzed: 2/1/2023					
Mercury	0.424	J1	0.0295	mg/kg dry	0.369	0.158	72.0	80-120	7.43	20
Batch: BGB0820 - EPA 200.8 Solid										
Blank (BGB0820-BLK1)					Prepared & Analyzed: 2/7/2023					
Antimony	<0.0960	U	0.0960	mg/kg wet						
Cadmium	<0.0960	U	0.0960	mg/kg wet						
Chromium	<0.287	U	0.287	mg/kg wet						
Lead	<0.0479	U	0.0479	mg/kg wet						
Nickel	<0.0960	U	0.0960	mg/kg wet						
Silver	<0.0479	U	0.0479	mg/kg wet						
Thallium	<0.0479	U	0.0479	mg/kg wet						
Zinc	<0.191	U	0.191	mg/kg wet						
Blank (BGB0820-BLK3)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Copper	0.0228	J	0.0960	mg/kg wet						
Selenium	<0.191	U	0.191	mg/kg wet						

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0820 - EPA 200.8 Solid (Continued)										
Blank (BGB0820-BLK4)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	<0.0479	U	0.0479	mg/kg wet						
Blank (BGB0820-BLK6)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	<0.0191	U	0.0191	mg/kg wet						
LCS (BGB0820-BS1)					Prepared & Analyzed: 2/7/2023					
Antimony	9.98		0.0944	mg/kg wet	9.42		106	85-115		
Cadmium	9.53		0.0944	mg/kg wet	9.42		101	85-115		
Chromium	29.7		0.282	mg/kg wet	28.2		105	85-115		
Lead	5.00		0.0471	mg/kg wet	4.71		106	85-115		
Nickel	9.58		0.0944	mg/kg wet	9.42		102	85-115		
Silver	4.57		0.0471	mg/kg wet	4.71		97.0	85-115		
Thallium	5.05		0.0471	mg/kg wet	4.71		107	85-115		
Zinc	19.4		0.188	mg/kg wet	18.8		103	85-115		
LCS (BGB0820-BS3)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Copper	9.61		0.0944	mg/kg wet	9.42		102	85-115		
Selenium	19.8		0.188	mg/kg wet	18.8		105	85-115		
LCS (BGB0820-BS4)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	5.40		0.0471	mg/kg wet	4.71		115	85-115		
LCS (BGB0820-BS6)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	1.94		0.0188	mg/kg wet	1.88		103	85-115		
Duplicate (BGB0820-DUP1)			**Source: 23A1459-46**		Prepared & Analyzed: 2/7/2023					
Antimony	<0.0577	U	0.0577	mg/kg dry		<0.0577				20
Cadmium	0.0340	J	0.0577	mg/kg dry		0.0336			1.08	20
Chromium	4.19		0.173	mg/kg dry		4.16			0.744	20
Lead	3.02		0.0288	mg/kg dry		2.94			2.54	20
Nickel	4.05	J1	0.0577	mg/kg dry		5.00			21.0	20
Silver	0.00834	J	0.0288	mg/kg dry		0.00800			4.25	20
Thallium	0.0406		0.0288	mg/kg dry		0.0397			2.31	20
Zinc	11.0		0.115	mg/kg dry		10.2			8.18	20

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0820 - EPA 200.8 Solid (Continued)										
Duplicate (BGB0820-DUP2)		**Source: 23A3576-36**			Prepared & Analyzed: 2/7/2023					
Antimony	0.0349	J	0.0657	mg/kg dry		<0.0657			200	20
Cadmium	0.215	J1	0.0657	mg/kg dry		0.125			52.7	20
Lead	10.4		0.164	mg/kg dry		9.78			5.73	20
Nickel	4.49		0.0657	mg/kg dry		4.61			2.73	20
Silver	0.0466		0.0328	mg/kg dry		0.0413			12.1	20
Thallium	0.0543		0.0328	mg/kg dry		0.0506			7.13	20
Zinc	64.6	J1	0.656	mg/kg dry		49.2			27.2	20
Duplicate (BGB0820-DUP5)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Copper	3.12	J1	0.0577	mg/kg dry		4.44			35.1	20
Selenium	0.627		0.115	mg/kg dry		0.626			0.0627	20
Duplicate (BGB0820-DUP6)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Chromium	5.33		0.197	mg/kg dry		5.52			3.55	20
Copper	10.0		0.0657	mg/kg dry		9.88			1.24	20
Selenium	1.10		0.131	mg/kg dry		1.13			3.01	20
Duplicate (BGB0820-DUP7)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	1.73		0.0288	mg/kg dry		1.71			1.14	20
Duplicate (BGB0820-DUP8)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	2.61		0.164	mg/kg dry		2.49			4.69	20
Duplicate (BGB0820-DUPB)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	0.222		0.0575	mg/kg dry		0.224			0.906	20
Duplicate (BGB0820-DUPC)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	0.462		0.0656	mg/kg dry		0.484			4.73	20

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0820 - EPA 200.8 Solid (Continued)										
MDL Check (BGB0820-MRL1)					Prepared & Analyzed: 2/7/2023					
Antimony	0.0474	J	0.0947	mg/kg wet	0.0473		100			
Cadmium	0.00435	J	0.0947	mg/kg wet	0.00473		92.0			
Chromium	0.0175	J	0.284	mg/kg wet	0.0142		123			
Lead	0.00567	J	0.0472	mg/kg wet	0.00473		120			
Nickel	0.0173	J	0.0947	mg/kg wet	0.00473		366			
Silver	0.00331	J	0.0472	mg/kg wet	0.00236		140			
Thallium	0.00246	J	0.0472	mg/kg wet	0.00236		104			
Zinc	0.145	J	0.189	mg/kg wet	0.0945		153			
MDL Check (BGB0820-MRL3)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Copper	0.0368	J	0.0947	mg/kg wet	0.00945		389			
Selenium	0.0942	J	0.189	mg/kg wet	0.0945		99.7			
MDL Check (BGB0820-MRL4)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	0.00350	J	0.0472	mg/kg wet	0.00473		74.0			
MDL Check (BGB0820-MRL6)					Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	0.00104	J	0.0189	mg/kg wet	0.000945		110			
Matrix Spike (BGB0820-MS1)		**Source: 23A1459-46**			Prepared & Analyzed: 2/7/2023					
Antimony	2.78	J1	0.286	mg/kg dry	5.71	<0.286	48.6	75-125		
Cadmium	5.47		0.286	mg/kg dry	5.71	0.0336	95.2	75-125		
Chromium	18.7		0.171	mg/kg dry	17.1	4.16	85.0	75-125		
Lead	5.52		0.0286	mg/kg dry	2.86	2.94	90.2	75-125		
Nickel	8.75	J1	0.0572	mg/kg dry	5.71	5.00	65.6	75-125		
Silver	2.64		0.0286	mg/kg dry	2.86	0.00800	92.0	75-125		
Thallium	2.51		0.0286	mg/kg dry	2.86	0.0397	86.6	75-125		
Zinc	20.4		0.114	mg/kg dry	11.4	10.2	89.8	75-125		

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0820 - EPA 200.8 Solid (Continued)										
Matrix Spike (BGB0820-MS2)		**Source: 23A3576-36**			Prepared & Analyzed: 2/7/2023					
Antimony	1.56	J1	0.0642	mg/kg dry	6.41	<0.0642	24.3	75-125		
Cadmium	6.90		0.0642	mg/kg dry	6.41	0.125	106	75-125		
Lead	13.0		0.160	mg/kg dry	3.20	9.78	99.6	75-125		
Nickel	10.2		0.0642	mg/kg dry	6.41	4.61	87.1	75-125		
Silver	3.41		0.0320	mg/kg dry	3.20	0.0413	105	75-125		
Thallium	2.93		0.0320	mg/kg dry	3.20	0.0506	89.8	75-125		
Zinc	64.6		0.640	mg/kg dry	12.8	49.2	121	75-125		
Matrix Spike (BGB0820-MS5)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Copper	7.42	J1	0.0572	mg/kg dry	5.71	4.44	52.2	75-125		
Selenium	9.13	J1	0.114	mg/kg dry	11.4	0.626	74.5	75-125		
Matrix Spike (BGB0820-MS6)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Chromium	24.8		0.961	mg/kg dry	19.2	5.52	100	75-125		
Copper	17.6		0.321	mg/kg dry	6.41	9.88	121	75-125		
Selenium	10.5	J1	0.640	mg/kg dry	12.8	1.13	72.8	75-125		
Matrix Spike (BGB0820-MS7)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	4.71		0.0286	mg/kg dry	2.86	1.71	105	75-125		
Matrix Spike (BGB0820-MS8)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Arsenic	5.57		0.0320	mg/kg dry	3.20	2.49	96.2	75-125		
Matrix Spike (BGB0820-MSB)		**Source: 23A1459-46**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	1.24		0.0571	mg/kg dry	1.14	0.224	89.0	75-125		
Matrix Spike (BGB0820-MSC)		**Source: 23A3576-36**			Prepared: 2/7/2023 Analyzed: 2/27/2023					
Beryllium	1.89		0.0640	mg/kg dry	1.28	0.484	110	75-125		

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1025 - SW-7471										
MDL Check (BGB1025-MRL1)					Prepared & Analyzed: 2/8/2023					
Mercury	<0.0191	U	0.0191	mg/kg wet	0.00955					
Matrix Spike (BGB1025-MS1)		**Source: 23A4081-01**			Prepared & Analyzed: 2/8/2023					
Mercury	0.768		0.0481	mg/kg dry	0.601	0.255	85.4	80-120		
Matrix Spike (BGB1025-MS2)		**Source: 23B0969-01**			Prepared & Analyzed: 2/8/2023					
Mercury	0.422	J1	0.0312	mg/kg dry	0.389	0.203	56.3	80-120		
Matrix Spike Dup (BGB1025-MSD1)		**Source: 23A4081-01**			Prepared & Analyzed: 2/8/2023					
Mercury	0.724	J1	0.0480	mg/kg dry	0.600	0.255	78.2	80-120	5.95	20
Matrix Spike Dup (BGB1025-MSD2)		**Source: 23B0969-01**			Prepared & Analyzed: 2/8/2023					
Mercury	0.417	J1	0.0312	mg/kg dry	0.389	0.203	55.1	80-120	1.04	20
Batch: BGB1605 - EPA 200.8										
Blank (BGB1605-BLK1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	<2.00	U	2.00	ug/L						
LCS (BGB1605-BS1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	213		2.00	ug/L	200		107	85-115		
Duplicate (BGB1605-DUP1)		**Source: 23A1459-05**			Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	<10.0	U	10.0	ug/L		<10.0				20
Duplicate (BGB1605-DUP2)		**Source: 23A3576-02**			Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	0.737	J	2.00	ug/L		0.668			9.82	20

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1605 - EPA 200.8 (Continued)										
BGB0310-LBK1 (BGB1605-LBK1)					Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	<2.00	U	2.00	ug/L						
BGA3905-LBK1 (BGB1605-LBK2)					Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	<2.00	U	2.00	ug/L						
MDL Check (BGB1605-MRL1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	0.286	J	2.00	ug/L						
Matrix Spike (BGB1605-MS1)		**Source: 23A1459-05**			Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	210		10.0	ug/L	200	<10.0	105	75-125		
Matrix Spike (BGB1605-MS2)		**Source: 23A3576-02**			Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	222		2.00	ug/L	200	0.668	111	75-125		
Batch: BGB3245 - Cr VI										
Blank (BGB3245-BLK1)					Prepared & Analyzed: 2/24/2023					
Chromium (VI)	0.104	J	5.00	mg/kg wet						
LCS (BGB3245-BS1)					Prepared & Analyzed: 2/24/2023					
Chromium (VI)	10.1		5.00	mg/kg wet	9.80		103	80-120		
Duplicate (BGB3245-DUP1)		**Source: 23A1459-66**			Prepared & Analyzed: 2/24/2023					
Chromium (VI)	<5.00	U	5.00	mg/kg dry		0.144			200	20
Duplicate (BGB3245-DUP2)		**Source: 23A4057-48**			Prepared & Analyzed: 2/24/2023					
Chromium (VI)	0.190	J	5.00	mg/kg dry		0.160			17.3	20

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB3245 - Cr VI (Continued)										
MRL Check (BGB3245-MRL1)					Prepared & Analyzed: 2/24/2023					
Chromium (VI)	2.47	J	5.00	mg/kg wet	1.99		124	50-150		
SMS (BGB3245-MS1)		**Source: 23A1459-66**			Prepared & Analyzed: 2/24/2023					
Chromium (VI)	<5.00	J1, U	5.00	mg/kg dry	13.2	0.144	NR	75-125		
IMS (BGB3245-MS2)		**Source: 23A1459-66**			Prepared & Analyzed: 2/24/2023					
Chromium (VI)	5.62	J1	5.00	mg/kg dry	1440	0.144	0.381	75-125		
PMS (BGB3245-PS1)		**Source: 23A1459-66**			Prepared & Analyzed: 2/24/2023					
Chromium (VI)	2.30	J1		ug/L	250	2.73	NR	85-115		
Batch: BGB3632 - EPA 200.8										
Blank (BGB3632-BLK1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	<2.00	U	2.00	ug/L						
LCS (BGB3632-BS1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	204		2.00	ug/L	200		102	85-115		
Duplicate (BGB3632-DUP1)		**Source: 23A1459-13**			Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	<10.0	U	10.0	ug/L		<10.0				20
MRL Check (BGB3632-MRL1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	0.320	J	2.00	ug/L	0.330		97.0			
Matrix Spike (BGB3632-MS1)		**Source: 23A1459-13**			Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	989		10.0	ug/L	1000	<10.0	98.9	75-125		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGA0369 - BGA3325										
Interference Check A (SGA0369-IFA1)					Prepared & Analyzed: 1/30/2023					
Antimony	0.183			ug/L				70-130		
Arsenic	0.328			ug/L				70-130		
Beryllium	0.00200			ug/L				70-130		
Lead	0.448			ug/L				70-130		
Silver	0.0750			ug/L				70-130		
Zinc	1.60			ug/L				70-130		
Interference Check B (SGA0369-IFB1)					Prepared & Analyzed: 1/30/2023					
Antimony	93.3			ug/L	100		93.3	70-130		
Arsenic	48.8			ug/L	50.0		97.5	70-130		
Beryllium	16.3			ug/L	20.0		81.6	70-130		
Lead	40.1			ug/L	50.0		80.1	70-130		
Silver	42.5			ug/L	50.0		85.1	70-130		
Zinc	169			ug/L	200		84.5	70-130		
Batch: SGA0382 - BGA3325										
Interference Check A (SGA0382-IFA1)					Prepared & Analyzed: 1/31/2023					
Cadmium	0.409			ug/L				70-130		
Chromium	1.26			ug/L				70-130		
Copper	0.977			ug/L				70-130		
Selenium	0.224			ug/L				70-130		
Thallium	0.00900			ug/L				70-130		
Interference Check B (SGA0382-IFB1)					Prepared & Analyzed: 1/31/2023					
Cadmium	91.8			ug/L	100		91.8	70-130		
Chromium	274			ug/L	300		91.3	70-130		
Copper	89.1			ug/L	100		89.1	70-130		
Selenium	190			ug/L	200		95.0	70-130		
Thallium	45.7			ug/L	50.0		91.5	70-130		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGA0395 - BGA3325										
Interference Check A (SGA0395-IFA1)					Prepared & Analyzed: 1/31/2023					
Antimony	0.163			ug/L				70-130		
Arsenic	0.269			ug/L				70-130		
Cadmium	0.366			ug/L				70-130		
Chromium	1.26			ug/L				70-130		
Lead	0.442			ug/L				70-130		
Nickel	0.837			ug/L				70-130		
Silver	0.0790			ug/L				70-130		
Thallium	0.0100			ug/L				70-130		
Interference Check B (SGA0395-IFB1)					Prepared & Analyzed: 1/31/2023					
Antimony	99.6			ug/L	100		99.6	70-130		
Arsenic	50.4			ug/L	50.0		101	70-130		
Cadmium	94.7			ug/L	100		94.7	70-130		
Chromium	288			ug/L	300		96.0	70-130		
Lead	46.8			ug/L	50.0		93.5	70-130		
Nickel	88.4			ug/L	100		88.4	70-130		
Silver	44.7			ug/L	50.0		89.3	70-130		
Thallium	47.0			ug/L	50.0		94.0	70-130		
Batch: SGB0004 - BGA3233										
Interference Check A (SGB0004-IFA1)					Prepared & Analyzed: 2/1/2023					
Arsenic	0.281			ug/L				70-130		
Beryllium	0.00800			ug/L				70-130		
Lead	0.493			ug/L				70-130		
Selenium	0.170			ug/L				70-130		
Zinc	1.33			ug/L				70-130		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0004 - BGA3233 (Continued)										
Interference Check B (SGB0004-IFB1)					Prepared & Analyzed: 2/1/2023					
Arsenic	50.7			ug/L	50.0		101	70-130		
Beryllium	18.1			ug/L	20.0		90.3	70-130		
Lead	48.8			ug/L	50.0		97.5	70-130		
Selenium	200			ug/L	200		100	70-130		
Zinc	184			ug/L	200		92.1	70-130		
Batch: SGB0011 - BGA3233										
Interference Check A (SGB0011-IFA1)					Prepared & Analyzed: 2/1/2023					
Copper	0.676			ug/L				70-130		
Interference Check B (SGB0011-IFB1)					Prepared & Analyzed: 2/1/2023					
Copper	93.3			ug/L	100		93.3	70-130		
Batch: SGB0018 - BGA3233										
Interference Check A (SGB0018-IFA1)					Prepared & Analyzed: 2/1/2023					
Copper	0.602			ug/L				70-130		
Interference Check B (SGB0018-IFB1)					Prepared & Analyzed: 2/1/2023					
Copper	93.8			ug/L	100		93.8	70-130		
Batch: SGB0094 - BGB0820										
Interference Check A (SGB0094-IFA1)					Prepared & Analyzed: 2/7/2023					
Antimony	0.135			ug/L				70-130		
Cadmium	0.440			ug/L				70-130		
Chromium	1.18			ug/L				70-130		
Lead	0.479			ug/L				70-130		
Nickel	0.902			ug/L				70-130		
Silver	0.0870			ug/L				70-130		
Thallium	0.00300			ug/L				70-130		
Zinc	1.17			ug/L				70-130		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0094 - BGB0820 (Continued)										
Interference Check B (SGB0094-IFB1)					Prepared & Analyzed: 2/7/2023					
Antimony	102			ug/L	100		102	70-130		
Cadmium	96.6			ug/L	100		96.6	70-130		
Chromium	283			ug/L	300		94.4	70-130		
Lead	47.2			ug/L	50.0		94.5	70-130		
Nickel	86.9			ug/L	100		86.9	70-130		
Silver	47.2			ug/L	50.0		94.4	70-130		
Thallium	45.8			ug/L	50.0		91.6	70-130		
Zinc	176			ug/L	200		88.1	70-130		
Batch: SGB0106 - BGB0820										
Interference Check A (SGB0106-IFA1)					Prepared & Analyzed: 2/8/2023					
Chromium	1.15			ug/L				70-130		
Copper	0.273			ug/L				70-130		
Selenium	0.358			ug/L				70-130		
Interference Check B (SGB0106-IFB1)					Prepared & Analyzed: 2/8/2023					
Chromium	287			ug/L	300		95.6	70-130		
Copper	89.9			ug/L	100		89.9	70-130		
Selenium	196			ug/L	200		97.9	70-130		
Batch: SGB0325 - BGB1605										
Interference Check A (SGB0325-IFA1)					Prepared & Analyzed: 2/22/2023					
Selenium	-0.00300	U		ug/L				70-130		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0325 - BGB1605 (Continued)										
Interference Check B (SGB0325-IFB1)					Prepared & Analyzed: 2/22/2023					
Selenium	194			ug/L	200		97.2	70-130		
Batch: SGB0332 - BGB1605										
Interference Check A (SGB0332-IFA1)					Prepared & Analyzed: 2/22/2023					
Selenium	0.0760			ug/L				70-130		
Interference Check B (SGB0332-IFB1)					Prepared & Analyzed: 2/22/2023					
Selenium	203			ug/L	200		102	70-130		
Batch: SGB0385 - BGB1605										
Interference Check A (SGB0385-IFA1)					Prepared & Analyzed: 2/24/2023					
Selenium	0.168			ug/L				70-130		
Interference Check B (SGB0385-IFB1)					Prepared & Analyzed: 2/24/2023					
Selenium	178			ug/L	200		89.2	70-130		
Batch: SGB0390 - BGB0820										
Interference Check A (SGB0390-IFA1)					Prepared & Analyzed: 2/27/2023					
Arsenic	0.0940			ug/L				70-130		
Interference Check B (SGB0390-IFB1)					Prepared & Analyzed: 2/27/2023					
Arsenic	52.0			ug/L	50.0		104	70-130		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0401 - BGB0820										
Interference Check A (SGB0401-IFA1)					Prepared & Analyzed: 2/27/2023					
Beryllium	0.00300			ug/L				70-130		
Interference Check B (SGB0401-IFB1)					Prepared & Analyzed: 2/27/2023					
Beryllium	19.1			ug/L	20.0		95.4	70-130		
Batch: SGC0003 - BGB3632										
Interference Check A (SGC0003-IFA1)					Prepared & Analyzed: 3/1/2023					
Selenium	0.0760			ug/L				70-130		
Interference Check B (SGC0003-IFB1)					Prepared & Analyzed: 3/1/2023					
Selenium	199			ug/L	200		99.7	70-130		

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Quality Control
(Continued)

Metals, Dissolved

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved										
Blank (BGB0721-BLK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	<0.500	U	0.500	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Copper	0.422	J	1.00	ug/L						
Lead	<0.500	U	0.500	ug/L						
Nickel	<1.00	U	1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Blank (BGB0721-BLK2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<1.00	U	1.00	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Zinc	<2.00	U	2.00	ug/L						
Blank (BGB0721-BLK3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	<0.200	U	0.200	ug/L						
LCS (BGB0721-BS1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	49.6		0.500	ug/L	50.0		99.2	85-115		
Chromium	295		3.00	ug/L	300		98.2	85-115		
Copper	104		1.00	ug/L	100		104	85-115		
Lead	51.0		0.500	ug/L	50.0		102	85-115		
Nickel	98.0		1.00	ug/L	100		98.0	85-115		
Silver	53.7		0.500	ug/L	50.0		107	85-115		
Thallium	48.9		0.500	ug/L	50.0		97.7	85-115		
LCS (BGB0721-BS2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	93.4		1.00	ug/L	100		93.4	85-115		
Cadmium	100		1.00	ug/L	100		100	85-115		
Zinc	204		2.00	ug/L	200		102	85-115		

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Quality Control
(Continued)

Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
LCS (BGB0721-BS3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	19.0		0.200	ug/L	20.0		95.0	85-115		
Duplicate (BGB0721-DUP1)			**Source: 23A1459-02**		Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	1.96	J	2.50	ug/L		1.89			3.43	20
Chromium	1.12	J	15.0	ug/L		0.979			13.1	20
Copper	2.28	J	5.00	ug/L		2.09			8.48	20
Lead	1.19	J	2.50	ug/L		1.16			1.79	20
Nickel	1.24	J	5.00	ug/L		1.03			18.2	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BGB0721-DUP2)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	<2.50	U	2.50	ug/L		0.539			200	20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BGB0721-DUP3)			**Source: 23A1459-02**		Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Zinc	4.71	J	10.0	ug/L		4.16			12.4	20
Duplicate (BGB0721-DUP4)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Copper	1.09	J	5.00	ug/L		1.31			18.5	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Zinc	<10.0	U	10.0	ug/L		<10.0				20
Duplicate (BGB0721-DUP5)			**Source: 23A1459-02**		Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20

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Quality Control
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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
Duplicate (BGB0721-DUP6)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/14/2023					
Arsenic	1.47	J	2.50	ug/L		1.23			17.3	20
Chromium	<15.0	U	15.0	ug/L		<15.0				20
Nickel	0.504	J	5.00	ug/L		0.531			5.22	20
Duplicate (BGB0721-DUPA)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
BGB0310-BLK2 (BGB0721-LBK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
BGB0310-BLK2 (BGB0721-LBK2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<1.00	U	1.00	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Copper	1.76		1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Zinc	4.82		2.00	ug/L						
BGB0310-BLK2 (BGB0721-LBK3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Chromium	0.222	J	3.00	ug/L						
Nickel	0.781	J	1.00	ug/L						
BGB0310-BLK2 (BGB0721-LBK5)					Prepared: 2/6/2023 Analyzed: 2/22/2023					
Arsenic	<0.500	U	0.500	ug/L						
BGB0310-BLK2 (BGB0721-LBK6)					Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	0.0140	J	0.200	ug/L						

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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
BGB0310-BLK2 (BGB0721-LBK7)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Silver	<0.500	U	0.500	ug/L						
MDL Check (BGB0721-MRL1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	0.124	J	0.500	ug/L	0.100		124			
Chromium	0.132	J	3.00	ug/L	0.0800		165			
Copper	0.624	J	1.00	ug/L	0.200		312			
Lead	0.102	J	0.500	ug/L	0.100		102			
Nickel	0.0230	J	1.00	ug/L	0.0500		46.0			
Silver	0.0360	J	0.500	ug/L	0.0300		120			
Thallium	0.0350	J	0.500	ug/L	0.0300		117			
MDL Check (BGB0721-MRL2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	0.215	J	1.00	ug/L	0.200		108			
Cadmium	0.0490	J	1.00	ug/L	0.0500		98.0			
Zinc	0.196	J	2.00	ug/L	0.200		98.0			
MDL Check (BGB0721-MRL3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	0.0320	J	0.200	ug/L	0.0100		320			
Matrix Spike (BGB0721-MS1)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	44.5		2.50	ug/L	50.0	1.89	85.2	75-125		
Chromium	257		15.0	ug/L	300	0.979	85.3	75-125		
Copper	77.6		5.00	ug/L	100	2.09	75.5	75-125		
Lead	39.0		2.50	ug/L	50.0	1.16	75.8	75-125		
Nickel	73.5	J1	5.00	ug/L	100	1.03	72.4	75-125		
Silver	39.9		2.50	ug/L	50.0	<2.50	79.9	75-125		
Thallium	38.7		2.50	ug/L	50.0	<2.50	77.4	75-125		

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Quality Control
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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BGB0721-MS2)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	36.0	J1	2.50	ug/L	50.0	0.539	70.9	75-125		
Thallium	38.1		2.50	ug/L	50.0	<2.50	76.3	75-125		
Matrix Spike (BGB0721-MS3)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	94.6		5.00	ug/L	100	<5.00	94.6	75-125		
Cadmium	81.8		5.00	ug/L	100	<5.00	81.8	75-125		
Zinc	167		10.0	ug/L	200	4.16	81.5	75-125		
Matrix Spike (BGB0721-MS4)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	94.0		5.00	ug/L	100	<5.00	94.0	75-125		
Cadmium	85.7		5.00	ug/L	100	<5.00	85.7	75-125		
Copper	85.0		5.00	ug/L	100	1.31	83.7	75-125		
Silver	40.7		2.50	ug/L	50.0	<2.50	81.5	75-125		
Zinc	164		10.0	ug/L	200	<10.0	81.9	75-125		
Matrix Spike (BGB0721-MS5)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	16.3		1.00	ug/L	20.0	<1.00	81.4	75-125		
Matrix Spike (BGB0721-MS6)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/14/2023					
Arsenic	51.7		2.50	ug/L	50.0	1.23	101	75-125		
Chromium	279		15.0	ug/L	300	<15.0	93.1	75-125		
Nickel	93.1		5.00	ug/L	100	0.531	92.5	75-125		
Matrix Spike (BGB0721-MSA)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	16.6		1.00	ug/L	20.0	<1.00	82.8	75-125		
Batch: BGB1125 - Cr VI										
Matrix Spike (BGB1125-MS1)		**Source: 23A1135-01**			Prepared & Analyzed: 2/8/2023					
Chromium (VI)	223		3.00	ug/L	250	6.74	86.4	70-130		

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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1125 - Cr VI (Continued)										
Matrix Spike Dup (BGB1125-MSD1)		**Source: 23A1135-01**			Prepared & Analyzed: 2/8/2023					
Chromium (VI)	258		3.00	ug/L	250	6.74	100	70-130	14.5	20
Batch: BGB1154 - Cr VI										
Matrix Spike (BGB1154-MS1)		**Source: 23A1135-01RE1**			Prepared: 2/8/2023 Analyzed: 2/10/2023					
Chromium (VI)	158	J1	3.00	ug/L	250	5.29	61.2	70-130		
Matrix Spike Dup (BGB1154-MSD1)		**Source: 23A1135-01RE1**			Prepared: 2/8/2023 Analyzed: 2/10/2023					
Chromium (VI)	156	J1	3.00	ug/L	250	5.29	60.1	70-130	1.80	20
Batch: BGB2104 - Cr VI										
BGB0310-BLK1 (BGB2104-LBK1)					Prepared & Analyzed: 2/15/2023					
Chromium (VI)	32.4		3.00	ug/L						
Matrix Spike (BGB2104-MS1)		**Source: 23A1459-01**			Prepared & Analyzed: 2/15/2023					
Chromium (VI)	257		3.00	ug/L	250	11.1	98.4	70-130		
Matrix Spike Dup (BGB2104-MSD1)		**Source: 23A1459-01**			Prepared & Analyzed: 2/15/2023					
Chromium (VI)	261		3.00	ug/L	250	11.1	99.9	70-130	1.45	20
Batch: SGB0118 - BGB0721										
Interference Check A (SGB0118-IFA1)					Prepared & Analyzed: 2/8/2023					
Arsenic	0.286			ug/L				70-130		
Chromium	1.27			ug/L				70-130		
Copper	0.807			ug/L				70-130		
Lead	0.502			ug/L				70-130		
Nickel	0.998			ug/L				70-130		
Silver	0.107			ug/L				70-130		
Thallium	0.00700			ug/L				70-130		

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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0118 - BGB0721 (Continued)										
Interference Check B (SGB0118-IFB1)					Prepared & Analyzed: 2/8/2023					
Arsenic	55.7			ug/L	50.0		111	70-130		
Chromium	315			ug/L	300		105	70-130		
Copper	105			ug/L	100		105	70-130		
Lead	51.8			ug/L	50.0		104	70-130		
Nickel	99.4			ug/L	100		99.4	70-130		
Silver	54.2			ug/L	50.0		108	70-130		
Thallium	49.3			ug/L	50.0		98.5	70-130		
Batch: SGB0138 - BGB0721										
Interference Check A (SGB0138-IFA1)					Prepared & Analyzed: 2/9/2023					
Antimony	0.231			ug/L				70-130		
Cadmium	0.447			ug/L				70-130		
Copper	0.494			ug/L				70-130		
Silver	0.0850			ug/L				70-130		
Zinc	2.14			ug/L				70-130		
Interference Check B (SGB0138-IFB1)					Prepared & Analyzed: 2/9/2023					
Antimony	103			ug/L	100		103	70-130		
Cadmium	89.9			ug/L	100		89.9	70-130		
Copper	82.9			ug/L	100		82.9	70-130		
Silver	45.3			ug/L	50.0		90.6	70-130		
Zinc	167			ug/L	200		83.3	70-130		
Batch: SGB0194 - BGB0721										
Interference Check A (SGB0194-IFA1)					Prepared & Analyzed: 2/14/2023					
Antimony	0.285			ug/L				70-130		
Arsenic	0.113			ug/L				70-130		
Beryllium	-0.00500	U		ug/L				70-130		
Cadmium	0.388			ug/L				70-130		
Chromium	3.13			ug/L				70-130		
Copper	0.170			ug/L				70-130		
Nickel	0.543			ug/L				70-130		
Silver	0.0100			ug/L				70-130		
Zinc	0.966			ug/L				70-130		

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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0194 - BGB0721 (Continued)										
Interference Check B (SGB0194-IFB1)					Prepared & Analyzed: 2/14/2023					
Antimony	104			ug/L	100		104	70-130		
Arsenic	52.3			ug/L	50.0		105	70-130		
Beryllium	17.6			ug/L	20.0		88.1	70-130		
Cadmium	103			ug/L	100		103	70-130		
Chromium	297			ug/L	300		98.9	70-130		
Copper	92.6			ug/L	100		92.6	70-130		
Nickel	91.4			ug/L	100		91.4	70-130		
Silver	49.8			ug/L	50.0		99.7	70-130		
Zinc	181			ug/L	200		90.7	70-130		
Batch: SGB0321 - BGB0721										
Interference Check A (SGB0321-IFA1)					Prepared & Analyzed: 2/22/2023					
Antimony	0.196			ug/L				70-130		
Arsenic	0.0940			ug/L				70-130		
Cadmium	0.319			ug/L				70-130		
Interference Check B (SGB0321-IFB1)					Prepared & Analyzed: 2/22/2023					
Antimony	106			ug/L	100		106	70-130		
Arsenic	48.3			ug/L	50.0		96.6	70-130		
Cadmium	96.0			ug/L	100		96.0	70-130		
Batch: SGB0424 - BGB1825										
Interference Check A (SGB0424-IFA1)					Prepared & Analyzed: 2/28/2023					
Beryllium	0.00200			ug/L				70-130		

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(Continued)

Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0424 - BGB1825 (Continued)										
Interference Check B (SGB0424-IFB1)					Prepared & Analyzed: 2/28/2023					
Beryllium	16.2			ug/L	20.0		81.0	70-130		
Batch: SGB0432 - BGB0721										
Interference Check B (SGB0432-IFB1)					Prepared & Analyzed: 2/28/2023					
Beryllium	16.4			ug/L	20.0		81.8	70-130		
Batch: SGC0006 - BGB0721										
Interference Check A (SGC0006-IFA1)					Prepared & Analyzed: 3/1/2023					
Silver	0.0110			ug/L				70-130		
Interference Check B (SGC0006-IFB1)					Prepared & Analyzed: 3/1/2023					
Silver	48.3			ug/L	50.0		96.5	70-130		

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Quality Control
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General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA2916 - Percent Solids										
Blank (BGA2916-BLK1)					Prepared: 1/23/2023 Analyzed: 1/24/2023					
% Solids	<0.100	U	0.100	%						
Duplicate (BGA2916-DUP1)			**Source: 23A1459-16**		Prepared: 1/23/2023 Analyzed: 1/24/2023					
% Solids	74.9		0.100	%		74.4			0.637	10
Duplicate (BGA2916-DUP2)			**Source: 23A1459-35**		Prepared: 1/23/2023 Analyzed: 1/24/2023					
% Solids	73.0		0.100	%		73.1			0.0739	10
Reference (BGA2916-SRM1)					Prepared: 1/23/2023 Analyzed: 1/24/2023					
% Solids	0.341			%	0.350		97.4	78.9-118		
Batch: BGA2930 - pH										
LCS (BGA2930-BS1)					Prepared & Analyzed: 1/23/2023					
pH	6.86			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BGA2930-DUP1)			**Source: 23A1459-16**		Prepared & Analyzed: 1/23/2023					
pH	8.18		0.100	pH Units @ 25 °C		8.16			0.245	200
Batch: BGA3071 - pH										
LCS (BGA3071-BS1)					Prepared & Analyzed: 1/24/2023					
pH	6.86			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BGA3071-DUP1)			**Source: 23A1459-24**		Prepared & Analyzed: 1/24/2023					
pH	8.44		0.100	pH Units @ 25 °C		8.47			0.355	200

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3093 - Percent Solids										
Blank (BGA3093-BLK1)					Prepared: 1/24/2023 Analyzed: 1/25/2023					
% Solids	<0.100	U	0.100	%						
Duplicate (BGA3093-DUP1)			**Source: 23A1459-25**		Prepared: 1/24/2023 Analyzed: 1/25/2023					
% Solids	74.1		0.100	%		74.2			0.0503	10
Reference (BGA3093-SRM1)					Prepared: 1/24/2023 Analyzed: 1/25/2023					
% Solids	0.372			%	0.350		106	78.9-118		
Batch: BGA3214 - CN-9014										
Blank (BGA3214-BLK1)					Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	<0.0485	U	0.0485	mg/kg wet						
LCS (BGA3214-BS1)					Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	0.977		0.0481	mg/kg wet	0.962		102	90-110		
QCS (BGA3214-BS2)					Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	0.970		0.0481	mg/kg wet	0.962		101	90-110		
MRL Check (BGA3214-MRL1)					Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	0.132		0.0500	mg/kg wet	0.100		132	50-150		
Matrix Spike (BGA3214-MS1)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	1.19		0.0646	mg/kg dry	1.29	<0.0646	92.2	80-120		
Matrix Spike Dup (BGA3214-MSD1)			**Source: 23A1459-16**		Prepared: 1/25/2023 Analyzed: 1/26/2023					
Total Cyanide	1.23		0.0659	mg/kg dry	1.32	<0.0659	93.7	80-120	3.66	20

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3582 - CN-9014										
Blank (BGA3582-BLK1)					Prepared & Analyzed: 1/27/2023					
Total Cyanide	<0.0485	U	0.0485	mg/kg wet						
LCS (BGA3582-BS1)					Prepared & Analyzed: 1/27/2023					
Total Cyanide	0.968		0.0495	mg/kg wet	0.990		97.7	90-110		
QCS (BGA3582-BS2)					Prepared & Analyzed: 1/27/2023					
Total Cyanide	1.02		0.0500	mg/kg wet	1.00		102	90-110		
MRL Check (BGA3582-MRL1)					Prepared & Analyzed: 1/27/2023					
Total Cyanide	0.0819		0.0500	mg/kg wet	0.100		81.9	50-150		
Matrix Spike (BGA3582-MS1)		**Source: 23A1459-36**			Prepared & Analyzed: 1/27/2023					
Total Cyanide	1.12		0.0645	mg/kg dry	1.29	<0.0645	87.2	80-120		
Matrix Spike Dup (BGA3582-MSD1)		**Source: 23A1459-36**			Prepared & Analyzed: 1/27/2023					
Total Cyanide	1.23		0.0677	mg/kg dry	1.35	<0.0677	90.6	80-120	8.67	20
Batch: BGA3833 - TSS										
Blank (BGA3833-BLK1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGA3833-BS1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	98.6		1.00	mg/L	100		98.6	85-115		
Duplicate (BGA3833-DUP1)		**Source: 23A1459-05**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	11.6	J1	1.00	mg/L		9.47			20.0	10

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3833 - TSS (Continued)										
Duplicate (BGA3833-DUP2)		**Source: 23A4289-01**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	2.95	J1	1.00	mg/L		2.53			15.4	10
Batch: BGA3841 - TSS										
Blank (BGA3841-BLK1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGA3841-BS1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	99.2		1.00	mg/L	100		99.2	85-115		
Duplicate (BGA3841-DUP1)		**Source: 23A4311-02**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	3.16	J1	1.00	mg/L		4.63			37.8	10
Duplicate (BGA3841-DUP2)		**Source: 23A4422-02**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	1.89	J1	1.00	mg/L		2.32			20.0	10
Batch: BGA3879 - TSS										
Blank (BGA3879-BLK1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGA3879-BS1)					Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	98.0		1.00	mg/L	100		98.0	85-115		
Duplicate (BGA3879-DUP1)		**Source: 23A0138-01**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	4.42		1.00	mg/L		4.21			4.88	10

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA3879 - TSS (Continued)										
Duplicate (BGA3879-DUP2)		**Source: 23A4452-02**			Prepared: 1/30/2023 Analyzed: 1/31/2023					
Residue-nonfilterable (TSS)	1.68	J1	1.00	mg/L		1.05			46.2	10
Batch: BGA3958 - pH										
LCS (BGA3958-BS1)					Prepared & Analyzed: 1/31/2023					
pH	6.86			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BGA3958-DUP1)		**Source: 23A1459-46**			Prepared & Analyzed: 1/31/2023					
pH	8.85		0.100	pH Units @ 25 °C		8.75			1.14	200
Batch: BGA3978 - Percent Solids										
Blank (BGA3978-BLK1)					Prepared: 1/31/2023 Analyzed: 2/1/2023					
% Solids	<0.100	U	0.100	%						
Duplicate (BGA3978-DUP1)		**Source: 23A0200-02**			Prepared: 1/31/2023 Analyzed: 2/1/2023					
% Solids	1.19		0.100	%		1.18			0.131	10
Duplicate (BGA3978-DUP2)		**Source: 23A4592-03**			Prepared: 1/31/2023 Analyzed: 2/1/2023					
% Solids	2.34		0.100	%		2.34			0.109	10
Reference (BGA3978-SRM1)					Prepared: 1/31/2023 Analyzed: 2/1/2023					
% Solids	0.374			%	0.350		107	78.9-118		
Batch: BGA4008 - NH3-N T										
Blank (BGA4008-BLK1)					Prepared: 1/31/2023 Analyzed: 2/1/2023					
Ammonia as N	<9.94	U	9.94	mg/kg wet						

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGA4008 - NH3-N T (Continued)										
LCS (BGA4008-BS1)					Prepared: 1/31/2023 Analyzed: 2/1/2023					
Ammonia as N	94.4		9.92	mg/kg wet	99.2		95.2	85-115		
Duplicate (BGA4008-DUP1)		**Source: 23A1459-16**			Prepared: 1/31/2023 Analyzed: 2/1/2023					
Ammonia as N	<13.4	J1, U	13.4	mg/kg dry		8.26			200	20
MRL Check (BGA4008-MRL1)					Prepared: 1/31/2023 Analyzed: 2/1/2023					
Ammonia as N	8.12	J	10.0	mg/kg wet	10.0		81.2	50-150		
Matrix Spike (BGA4008-MS1)		**Source: 23A1459-16**			Prepared: 1/31/2023 Analyzed: 2/1/2023					
Ammonia as N	134		13.4	mg/kg dry	134	8.26	94.1	85-115		
Batch: BGB0157 - CN-9014										
Blank (BGB0157-BLK1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	<0.0500	U	0.0500	mg/kg wet						
LCS (BGB0157-BS1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	0.990		0.0500	mg/kg wet	1.00		99.0	90-110		
QCS (BGB0157-BS2)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	1.02		0.0500	mg/kg wet	1.00		102	90-110		
MRL Check (BGB0157-MRL1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	0.116		0.0500	mg/kg wet	0.100		116	50-150		
Matrix Spike (BGB0157-MS1)		**Source: 23A1459-46**			Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	1.24		0.0697	mg/kg dry	1.39	<0.0697	88.8	80-120		

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0157 - CN-9014 (Continued)										
Matrix Spike Dup (BGB0157-MSD1)		**Source: 23A1459-46**			Prepared: 2/1/2023 Analyzed: 2/2/2023					
Total Cyanide	1.31		0.0697	mg/kg dry	1.39	<0.0697	93.8	80-120	5.56	20
Batch: BGB0296 - Percent Solids										
Blank (BGB0296-BLK1)					Prepared: 2/2/2023 Analyzed: 2/3/2023					
% Solids	<0.100	U	0.100	%						
Duplicate (BGB0296-DUP1)		**Source: 23B0615-03**			Prepared: 2/2/2023 Analyzed: 2/3/2023					
% Solids	1.57		0.100	%		1.57			0.126	20
Duplicate (BGB0296-DUP2)		**Source: 23B0932-04**			Prepared: 2/2/2023 Analyzed: 2/3/2023					
% Solids	1.34		0.100	%		1.33			0.940	20
Reference (BGB0296-SRM1)					Prepared: 2/2/2023 Analyzed: 2/3/2023					
% Solids	0.379			%	0.350		108	78.9-118		
Batch: BGB0479 - NH3-N SEAL-350.1										
Matrix Spike (BGB0479-MS1)		**Source: 23B1077-01**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	0.400		0.0500	mg/L	0.400	0.0214	94.8	90-110		
Matrix Spike (BGB0479-MS2)		**Source: 23B0505-02**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	2.22		1.00	mg/L	0.400	1.82	99.7	90-110		
Matrix Spike Dup (BGB0479-MSD1)		**Source: 23B1077-01**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	0.399		0.0500	mg/L	0.400	0.0214	94.5	90-110	0.300	20

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0479 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike Dup (BGB0479-MSD2)		**Source: 23B0505-02**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	2.23		1.00	mg/L	0.400	1.82	101	90-110	0.225	20
Batch: BGB0480 - NH3-N SEAL-350.1										
Matrix Spike (BGB0480-MS1)		**Source: 23B0810-01**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	0.422		0.0500	mg/L	0.400	0.0355	96.7	90-110		
Matrix Spike (BGB0480-MS2)		**Source: 23A1459-50**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	1.83		0.100	mg/L	0.400	1.45	95.2	90-110		
Matrix Spike Dup (BGB0480-MSD1)		**Source: 23B0810-01**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	0.429		0.0500	mg/L	0.400	0.0355	98.3	90-110	1.55	20
Matrix Spike Dup (BGB0480-MSD2)		**Source: 23A1459-50**			Prepared & Analyzed: 2/3/2023					
Ammonia as N	1.88		0.100	mg/L	0.400	1.45	106	90-110	2.35	20
Batch: BGB0685 - NH3-N T										
Blank (BGB0685-BLK1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Ammonia as N	<9.91	U	9.91	mg/kg wet						
LCS (BGB0685-BS1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Ammonia as N	87.2		9.92	mg/kg wet	99.2		87.9	85-115		
Duplicate (BGB0685-DUP1)		**Source: 23A1459-30**			Prepared: 2/6/2023 Analyzed: 2/7/2023					
Ammonia as N	7.56	J1, J	13.5	mg/kg dry		<13.5			200	20

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0685 - NH3-N T (Continued)										
MRL Check (BGB0685-MRL1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Ammonia as N	7.26	J	9.97	mg/kg wet	9.97		72.8	50-150		
Matrix Spike (BGB0685-MS1)		**Source: 23A1459-30**			Prepared: 2/6/2023 Analyzed: 2/7/2023					
Ammonia as N	136		13.5	mg/kg dry	135	<13.5	101	85-115		
Batch: BGB0847 - pH										
LCS (BGB0847-BS1)					Prepared & Analyzed: 2/7/2023					
pH	6.86			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BGB0847-DUP1)		**Source: 23A1459-66**			Prepared & Analyzed: 2/7/2023					
pH	8.45		0.100	pH Units @ 25 °C		8.41			0.474	200
Batch: BGB0953 - NH3-N T										
Blank (BGB0953-BLK1)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Ammonia as N	<9.99	U	9.99	mg/kg wet						
LCS (BGB0953-BS1)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Ammonia as N	97.2		10.0	mg/kg wet	100		97.2	85-115		
Duplicate (BGB0953-DUP1)		**Source: 23A1459-27**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Ammonia as N	9.00	J	15.3	mg/kg dry		9.86			9.19	20
MRL Check (BGB0953-MRL1)					Prepared: 2/7/2023 Analyzed: 2/8/2023					
Ammonia as N	8.94	J	9.98	mg/kg wet	9.98		89.6	50-150		

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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0953 - NH3-N T (Continued)										
Matrix Spike (BGB0953-MS1)		**Source: 23A1459-27**			Prepared: 2/7/2023 Analyzed: 2/8/2023					
Ammonia as N	110	J1	15.3	mg/kg dry	153	9.86	65.2	85-115		
Batch: BGB1156 - NH3-N T										
Blank (BGB1156-BLK1)					Prepared: 2/8/2023 Analyzed: 2/9/2023					
Ammonia as N	<9.96	U	9.96	mg/kg wet						
LCS (BGB1156-BS1)					Prepared: 2/8/2023 Analyzed: 2/9/2023					
Ammonia as N	94.5		9.90	mg/kg wet	99.0		95.5	85-115		
Duplicate (BGB1156-DUP1)		**Source: 23A1459-56**			Prepared: 2/8/2023 Analyzed: 2/9/2023					
Ammonia as N	<12.3	U	12.3	mg/kg dry		<12.3				20
MRL Check (BGB1156-MRL1)					Prepared: 2/8/2023 Analyzed: 2/9/2023					
Ammonia as N	8.65	J1, J	9.97	mg/kg wet	99.7		8.68	50-150		
Matrix Spike (BGB1156-MS1)		**Source: 23A1459-56**			Prepared: 2/8/2023 Analyzed: 2/9/2023					
Ammonia as N	118	J1	12.3	mg/kg dry	12.3	<12.3	958	85-115		
Batch: BGB1516 - Alkalinity										
Blank (BGB1516-BLK1)					Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units						
LCS (BGB1516-BS1)					Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units				90-110		

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1516 - Alkalinity (Continued)										
QSC (BGB1516-BS2)					Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units				90-110		
LCS (BGB1516-BS3)					Prepared & Analyzed: 2/10/2023					
Salinity	35.1			Salinity units	35.0		100	90-110		
LCS (BGB1516-BS4)					Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units				90-110		
Duplicate (BGB1516-DUP1)		**Source: 23B2331-01**			Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units		<1.00				15
Duplicate (BGB1516-DUP2)		**Source: 23B2192-08**			Prepared & Analyzed: 2/10/2023					
Salinity	<1.00	U	1.00	Salinity units		<1.00				15

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511										
Blank (BGB0925-BLK1)					Prepared: 2/7/2023 Analyzed: 2/10/2023					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L						
Benzidine	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.76*	*ug/L*	*10.0*		*97.6*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*18.1*	*ug/L*	*20.0*		*90.4*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.4*	*ug/L*	*20.0*		*107*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.2*	*ug/L*	*10.0*		*102*	*52-162*		
Surrogate: Phenol-d5-surr			*19.5*	*ug/L*	*20.0*		*97.6*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.23*	*ug/L*	*10.0*		*92.3*	*51.9-147*		
Blank (BGB0925-BLK2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
1,2,4-Trichlorobenzene	<0.562	U	0.562	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.562	U	0.562	ug/L						
1,2-Diphenylhydrazine	<0.562	U	0.562	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.562	U	0.562	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.562	U	0.562	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<0.562	U	0.562	ug/L						
2,4-Dichlorophenol	<0.562	U	0.562	ug/L						
2,4-Dimethylphenol	<1.12	U	1.12	ug/L						
2,4-Dinitrophenol	<4.50	U	4.50	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<0.562	U	0.562	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<0.562	U	0.562	ug/L						
2-Chloronaphthalene	<0.562	U	0.562	ug/L						
2-Chlorophenol	<1.12	U	1.12	ug/L						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<1.12	U	1.12	ug/L						
2-Nitrophenol	<1.12	U	1.12	ug/L						
4-Bromophenyl phenyl ether (BDE-3)	<0.562	U	0.562	ug/L						
4-Chloro-3-methylphenol	<1.12	U	1.12	ug/L						
4-Chlorophenyl phenylether	<0.562	U	0.562	ug/L						
4-Nitrophenol	<4.50	U	4.50	ug/L						
Acenaphthene	<0.562	U	0.562	ug/L						
Acenaphthylene	<0.562	U	0.562	ug/L						
Anthracene	<0.562	U	0.562	ug/L						
Benzo(a)anthracene	<0.562	U	0.562	ug/L						
Benzo(a)pyrene	<0.562	U	0.562	ug/L						
benzo(b&k)fluoranthene	<1.12	U	1.12	ug/L						
Benzo(g,h,i)perylene	<0.562	U	0.562	ug/L						
bis(2-Chloroethoxy)methane	<0.562	U	0.562	ug/L						
bis(2-Chloroethyl) ether	<0.562	U	0.562	ug/L						
Bis(2-ethylhexyl)phthalate	<0.562	U	0.562	ug/L						
Butyl benzyl phthalate	<0.562	U	0.562	ug/L						
Chrysene	<0.562	U	0.562	ug/L						

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
Blank (BGB0925-BLK2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
Dibenzo(a,h)anthracene	<0.562	U	0.562	ug/L						
Diethyl phthalate	0.852		0.562	ug/L						
Dimethyl phthalate	1.52		0.562	ug/L						
Di-n-butyl phthalate	9.16		0.562	ug/L						
Di-n-octyl phthalate	<0.562	U	0.562	ug/L						
Fluoranthene	<0.562	U	0.562	ug/L						
Fluorene	<0.562	U	0.562	ug/L						
Hexachlorobenzene	<0.562	U	0.562	ug/L						
Hexachlorobutadiene	<0.562	U	0.562	ug/L						
Hexachlorocyclopentadiene	<0.562	U	0.562	ug/L						
Hexachloroethane	<0.562	U	0.562	ug/L						
Indeno(1,2,3-cd) pyrene	<0.562	U	0.562	ug/L						
Isophorone	<0.562	U	0.562	ug/L						
Naphthalene	<0.562	U	0.562	ug/L						
Nitrobenzene	<0.562	U	0.562	ug/L						
n-Nitrosodimethylamine	<2.25	U	2.25	ug/L						
n-Nitrosodi-n-propylamine	<0.562	U	0.562	ug/L						
n-Nitrosodiphenylamine	<0.562	U	0.562	ug/L						
Pentachlorophenol	<1.12	U	1.12	ug/L						
Phenanthrene	<0.562	U	0.562	ug/L						
Phenol, Total	0.648		1.12	ug/L						
Pyrene	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.17*	*ug/L*	*10.0*		*91.7*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.9*	*ug/L*	*20.0*		*110*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*18.7*	*ug/L*	*20.0*		*93.3*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.20*	*ug/L*	*10.0*		*82.0*	*52-162*		
Surrogate: Phenol-d5-surr			*21.6*	*ug/L*	*20.0*		*108*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.58*	*ug/L*	*10.0*		*95.8*	*51.9-147*		

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Quality Control
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Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BS BENZ (BGB0925-BS1)					Prepared: 2/7/2023 Analyzed: 2/10/2023					
3,3'-Dichlorobenzidine	6.51		0.562	ug/L	10.0		65.1	22.3-156		
Benzidine	2.78		0.562	ug/L	10.0		27.8	9.32-162		
Surrogate: 2-Fluorobiphenyl-surr			*9.31*	*ug/L*	*10.0*		*93.1*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.8*	*ug/L*	*20.0*		*109*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.9*	*ug/L*	*20.0*		*99.7*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.5*	*ug/L*	*10.0*		*105*	*52-162*		
Surrogate: Phenol-d5-surr			*20.2*	*ug/L*	*20.0*		*101*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.57*	*ug/L*	*10.0*		*85.7*	*51.9-147*		
BS SV (BGB0925-BS2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
1,2,4-Trichlorobenzene	9.54		0.562	ug/L	10.0		95.4	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.71		0.562	ug/L	10.0		97.1	60-140		
1,2-Diphenylhydrazine	10.6		0.562	ug/L	10.0		106	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.38		0.562	ug/L	10.0		83.8	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	9.52		0.562	ug/L	10.0		95.2	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.7		0.562	ug/L	10.0		107	60-140		
2,4-Dichlorophenol	19.5		0.562	ug/L	20.0		97.6	60-140		
2,4-Dimethylphenol	22.1		1.12	ug/L	20.0		111	35.9-153		
2,4-Dinitrophenol	51.7		4.50	ug/L	50.0		103	60-140		
2,4-Dinitrotoluene (2,4-DNT)	10.0		0.562	ug/L	10.0		100	60-140		
2,6-Dinitrotoluene (2,6-DNT)	10.8		0.562	ug/L	10.0		108	60-140		
2-Chloronaphthalene	10.2		0.562	ug/L	10.0		102	60-140		
2-Chlorophenol	12.3		1.12	ug/L	20.0		61.4	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	21.8		1.12	ug/L	20.0		109	60-140		
2-Nitrophenol	20.2		1.12	ug/L	20.0		101	60-140		
4-Bromophenyl phenyl ether (BDE-3)	9.01		0.562	ug/L	10.0		90.1	60-140		
4-Chloro-3-methylphenol	20.6		1.12	ug/L	20.0		103	60-140		
4-Chlorophenyl phenylether	8.01		0.562	ug/L	10.0		80.1	60-140		
4-Nitrophenol	49.7		4.50	ug/L	50.0		99.4	60-140		
Acenaphthene	10.0		0.562	ug/L	10.0		100	60-140		
Acenaphthylene	11.8		0.562	ug/L	10.0		118	60-140		
Anthracene	10.1		0.562	ug/L	10.0		101	60-140		
Benzo(a)anthracene	10.9		0.562	ug/L	10.0		109	60-140		
Benzo(a)pyrene	10.1		0.562	ug/L	10.0		101	60-140		
benzo(b&k)fluoranthene	21.4		1.12	ug/L	20.0		107	60-140		
Benzo(g,h,i)perylene	9.08		0.562	ug/L	10.0		90.8	60-140		
bis(2-Chloroethoxy)methane	10.7		0.562	ug/L	10.0		107	60-140		
bis(2-Chloroethyl) ether	8.84		0.562	ug/L	10.0		88.4	60-140		
Bis(2-ethylhexyl)phthalate	9.47		0.562	ug/L	10.0		94.7	60-140		
Butyl benzyl phthalate	9.76		0.562	ug/L	10.0		97.6	60-140		
Chrysene	9.02		0.562	ug/L	10.0		90.2	60-140		
Dibenzo(a,h)anthracene	9.01		0.562	ug/L	10.0		90.1	60-140		

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Quality Control
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Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BS SV (BGB0925-BS2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
Diethyl phthalate	10.3		0.562	ug/L	10.0		103	60-140		
Dimethyl phthalate	12.1		0.562	ug/L	10.0		121	60-140		
Di-n-butyl phthalate	<0.562	J1, L, U	0.562	ug/L	10.0			60-140		
Di-n-octyl phthalate	10.8		0.562	ug/L	10.0		108	60-140		
Fluoranthene	9.58		0.562	ug/L	10.0		95.8	60-140		
Fluorene	10.3		0.562	ug/L	10.0		103	60-140		
Hexachlorobenzene	8.15		0.562	ug/L	10.0		81.5	60-140		
Hexachlorobutadiene	5.55	J1	0.562	ug/L	10.0		55.5	60-140		
Hexachlorocyclopentadiene	7.59		0.562	ug/L	10.0		75.9	60-140		
Hexachloroethane	8.15		0.562	ug/L	10.0		81.5	60-140		
Indeno(1,2,3-cd) pyrene	9.03		0.562	ug/L	10.0		90.3	60-140		
Isophorone	9.52		0.562	ug/L	10.0		95.2	60-140		
Naphthalene	10.2		0.562	ug/L	10.0		102	60-140		
Nitrobenzene	11.4		0.562	ug/L	10.0		114	60-140		
n-Nitrosodimethylamine	4.16		2.25	ug/L	50.0		8.32	2.5-65.7		
n-Nitrosodi-n-propylamine	10.9		0.562	ug/L	10.0		109	60-140		
n-Nitrosodiphenylamine	5.61	J1	0.562	ug/L	10.0		56.1	60-140		
Pentachlorophenol	19.5		1.12	ug/L	20.0		97.6	36.8-149		
Phenanthrene	9.48		0.562	ug/L	10.0		94.8	60-140		
Phenol, Total	19.3		1.12	ug/L	20.0		96.3	60-140		
Pyrene	9.23		0.562	ug/L	10.0		92.3	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*9.68*	*ug/L*	*10.0*		*96.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.6*	*ug/L*	*20.0*		*118*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.3*	*ug/L*	*20.0*		*81.6*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.43*	*ug/L*	*10.0*		*84.3*	*52-162*		
Surrogate: Phenol-d5-surr			*25.7*	*ug/L*	*20.0*		*129*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.22*	*ug/L*	*10.0*		*82.2*	*51.9-147*		

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Quality Control
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Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BSD BENZ (BGB0925-BSD1)					Prepared: 2/7/2023 Analyzed: 2/10/2023					
3,3'-Dichlorobenzidine	6.90		0.562	ug/L	10.0		69.0	22.3-156	5.80	40
Benzidine	2.55		0.562	ug/L	10.0		25.5	9.32-162	8.52	40
Surrogate: 2-Fluorobiphenyl-surr			*9.80*	*ug/L*	*10.0*		*98.0*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*18.6*	*ug/L*	*20.0*		*93.1*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.9*	*ug/L*	*20.0*		*104*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.97*	*ug/L*	*10.0*		*99.7*	*52-162*		
Surrogate: Phenol-d5-surr			*18.9*	*ug/L*	*20.0*		*94.4*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.62*	*ug/L*	*10.0*		*86.2*	*51.9-147*		
BSD SV (BGB0925-BSD2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
1,2,4-Trichlorobenzene	10.7		0.562	ug/L	10.0		107	60-140	11.2	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.90		0.562	ug/L	10.0		99.0	60-140	1.85	40
1,2-Diphenylhydrazine	9.57		0.562	ug/L	10.0		95.7	60-140	9.91	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.92		0.562	ug/L	10.0		89.2	60-140	6.33	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	9.97		0.562	ug/L	10.0		99.7	60-140	4.59	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.0		0.562	ug/L	10.0		100	60-140	6.89	40
2,4-Dichlorophenol	21.9		0.562	ug/L	20.0		110	60-140	11.6	40
2,4-Dimethylphenol	22.3		1.12	ug/L	20.0		112	35.9-153	0.973	40
2,4-Dinitrophenol	54.2		4.50	ug/L	50.0		108	60-140	4.79	40
2,4-Dinitrotoluene (2,4-DNT)	10.3		0.562	ug/L	10.0		103	60-140	2.39	40
2,6-Dinitrotoluene (2,6-DNT)	12.5		0.562	ug/L	10.0		125	60-140	15.1	40
2-Chloronaphthalene	10.9		0.562	ug/L	10.0		109	60-140	6.92	40
2-Chlorophenol	14.4		1.12	ug/L	20.0		71.9	60-140	15.9	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	22.7		1.12	ug/L	20.0		114	60-140	4.27	40
2-Nitrophenol	17.8		1.12	ug/L	20.0		89.2	60-140	12.5	40
4-Bromophenyl phenyl ether (BDE-3)	10.9		0.562	ug/L	10.0		109	60-140	19.4	40
4-Chloro-3-methylphenol	20.9		1.12	ug/L	20.0		104	60-140	1.51	40
4-Chlorophenyl phenylether	10.3		0.562	ug/L	10.0		103	60-140	25.0	40
4-Nitrophenol	44.2		4.50	ug/L	50.0		88.3	60-140	11.7	40
Acenaphthene	10.6		0.562	ug/L	10.0		106	60-140	5.50	40
Acenaphthylene	12.0		0.562	ug/L	10.0		120	60-140	1.04	40
Anthracene	10.3		0.562	ug/L	10.0		103	60-140	1.99	40
Benzo(a)anthracene	10.8		0.562	ug/L	10.0		108	60-140	0.660	40
Benzo(a)pyrene	10.8		0.562	ug/L	10.0		108	60-140	6.06	40
benzo(b&k)fluoranthene	22.3		1.12	ug/L	20.0		112	60-140	4.51	40
Benzo(g,h,i)perylene	10.5		0.562	ug/L	10.0		105	60-140	14.2	40
bis(2-Chloroethoxy)methane	10.1		0.562	ug/L	10.0		101	60-140	5.07	40
bis(2-Chloroethyl) ether	11.6		0.562	ug/L	10.0		116	60-140	26.9	40
Bis(2-ethylhexyl)phthalate	11.2		0.562	ug/L	10.0		112	60-140	16.9	40
Butyl benzyl phthalate	10.6		0.562	ug/L	10.0		106	60-140	8.61	40
Chrysene	9.99		0.562	ug/L	10.0		99.9	60-140	10.3	40
Dibenzo(a,h)anthracene	10.7		0.562	ug/L	10.0		107	60-140	17.6	40

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BSD SV (BGB0925-BSD2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
Diethyl phthalate	11.7		0.562	ug/L	10.0		117	60-140	13.3	40
Dimethyl phthalate	12.8		0.562	ug/L	10.0		128	60-140	6.07	40
Di-n-butyl phthalate	<0.562	J1, L, U	0.562	ug/L	10.0			60-140		40
Di-n-octyl phthalate	11.5		0.562	ug/L	10.0		115	60-140	5.73	40
Fluoranthene	10.1		0.562	ug/L	10.0		101	60-140	5.72	40
Fluorene	10.9		0.562	ug/L	10.0		109	60-140	5.45	40
Hexachlorobenzene	11.5		0.562	ug/L	10.0		115	60-140	33.7	40
Hexachlorobutadiene	7.03		0.562	ug/L	10.0		70.3	60-140	23.5	40
Hexachlorocyclopentadiene	7.28		0.562	ug/L	10.0		72.8	60-140	4.17	40
Hexachloroethane	7.33		0.562	ug/L	10.0		73.3	60-140	10.6	40
Indeno(1,2,3-cd) pyrene	10.5		0.562	ug/L	10.0		105	60-140	15.0	40
Isophorone	8.45		0.562	ug/L	10.0		84.5	60-140	12.0	40
Naphthalene	10.8		0.562	ug/L	10.0		108	60-140	6.43	40
Nitrobenzene	10.6		0.562	ug/L	10.0		106	60-140	6.69	40
n-Nitrosodimethylamine	4.16		2.25	ug/L	50.0		8.32	2.5-65.7	0.0391	40
n-Nitrosodi-n-propylamine	9.10		0.562	ug/L	10.0		91.0	60-140	17.8	40
n-Nitrosodiphenylamine	12.5	J1	0.562	ug/L	10.0		125	60-140	76.3	40
Pentachlorophenol	23.2		1.12	ug/L	20.0		116	36.8-149	17.2	40
Phenanthrene	10.7		0.562	ug/L	10.0		107	60-140	11.9	40
Phenol, Total	21.7		1.12	ug/L	20.0		109	60-140	12.0	40
Pyrene	9.50		0.562	ug/L	10.0		95.0	60-140	2.87	40
Surrogate: 2-Fluorobiphenyl-surr			*10.3*	*ug/L*	*10.0*		*103*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.4*	*ug/L*	*20.0*		*117*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.0*	*ug/L*	*20.0*		*100*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.80*	*ug/L*	*10.0*		*88.0*	*52-162*		
Surrogate: Phenol-d5-surr			*23.5*	*ug/L*	*20.0*		*118*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.29*	*ug/L*	*10.0*		*82.9*	*51.9-147*		

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BGA3905-BLK1 (BGB0925-LBK1)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L						
Benzidine	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*14.5*	*ug/L*	*10.0*		*145*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr		*S*	*31.0*	*ug/L*	*20.0*		*155*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*38.7*	*ug/L*	*20.0*		*193*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr		*S*	*18.4*	*ug/L*	*10.0*		*184*	*52-162*		
Surrogate: Phenol-d5-surr		*S*	*35.6*	*ug/L*	*20.0*		*178*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.3*	*ug/L*	*10.0*		*103*	*51.9-147*		
BGB0310-BLK1 (BGB0925-LBK2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
3,3'-Dichlorobenzidine	<0.561	U	0.561	ug/L						
Benzidine	<0.561	U	0.561	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*13.8*	*ug/L*	*9.98*		*138*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.6*	*ug/L*	*20.0*		*123*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*38.2*	*ug/L*	*20.0*		*192*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*15.8*	*ug/L*	*9.98*		*158*	*52-162*		
Surrogate: Phenol-d5-surr			*29.3*	*ug/L*	*20.0*		*147*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*11.5*	*ug/L*	*9.98*		*116*	*51.9-147*		
BGA3905-BLK1 (BGB0925-LBK3)					Prepared: 2/7/2023 Analyzed: 2/15/2023					
1,2,4-Trichlorobenzene	<0.562	U	0.562	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.562	U	0.562	ug/L						
1,2-Diphenylhydrazine	<0.562	U	0.562	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.562	U	0.562	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.562	U	0.562	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<0.562	U	0.562	ug/L						
2,4-Dichlorophenol	<0.562	U	0.562	ug/L						
2,4-Dimethylphenol	<1.12	U	1.12	ug/L						
2,4-Dinitrophenol	<4.50	U	4.50	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<0.562	U	0.562	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<0.562	U	0.562	ug/L						
2-Chloronaphthalene	<0.562	U	0.562	ug/L						
2-Chlorophenol	<1.12	U	1.12	ug/L						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<1.12	U	1.12	ug/L						
2-Nitrophenol	<1.12	U	1.12	ug/L						
4-Bromophenyl phenyl ether (BDE-3)	<0.562	U	0.562	ug/L						
4-Chloro-3-methylphenol	<1.12	U	1.12	ug/L						
4-Chlorophenyl phenylether	<0.562	U	0.562	ug/L						
4-Nitrophenol	<4.50	U	4.50	ug/L						
Acenaphthene	<0.562	U	0.562	ug/L						
Acenaphthylene	<0.562	U	0.562	ug/L						

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BGA3905-BLK1 (BGB0925-LBK3)					Prepared: 2/7/2023 Analyzed: 2/15/2023					
Anthracene	<0.562	U	0.562	ug/L						
Benzo(a)anthracene	<0.562	U	0.562	ug/L						
Benzo(a)pyrene	<0.562	U	0.562	ug/L						
benzo(b&k)fluoranthene	<1.12	U	1.12	ug/L						
Benzo(g,h,i)perylene	<0.562	U	0.562	ug/L						
bis(2-Chloroethoxy)methane	<0.562	U	0.562	ug/L						
bis(2-Chloroethyl) ether	<0.562	U	0.562	ug/L						
Bis(2-ethylhexyl)phthalate	<0.562	U	0.562	ug/L						
Butyl benzyl phthalate	<0.562	U	0.562	ug/L						
Chrysene	<0.562	U	0.562	ug/L						
Dibenzo(a,h)anthracene	<0.562	U	0.562	ug/L						
Diethyl phthalate	0.774		0.562	ug/L						
Dimethyl phthalate	5.59		0.562	ug/L						
Di-n-butyl phthalate	<0.562	L, U	0.562	ug/L						
Di-n-octyl phthalate	<0.562	U	0.562	ug/L						
Fluoranthene	<0.562	U	0.562	ug/L						
Fluorene	<0.562	U	0.562	ug/L						
Hexachlorobenzene	<0.562	U	0.562	ug/L						
Hexachlorobutadiene	<0.562	U	0.562	ug/L						
Hexachlorocyclopentadiene	<0.562	U	0.562	ug/L						
Hexachloroethane	<0.562	U	0.562	ug/L						
Indeno(1,2,3-cd) pyrene	<0.562	U	0.562	ug/L						
Isophorone	<0.562	U	0.562	ug/L						
Naphthalene	<0.562	U	0.562	ug/L						
Nitrobenzene	<0.562	U	0.562	ug/L						
n-Nitrosodimethylamine	<2.25	U	2.25	ug/L						
n-Nitrosodi-n-propylamine	<0.562	U	0.562	ug/L						
n-Nitrosodiphenylamine	<0.562	U	0.562	ug/L						
Pentachlorophenol	<1.12	U	1.12	ug/L						
Phenanthrene	<0.562	U	0.562	ug/L						
Phenol, Total	1.43		1.12	ug/L						
Pyrene	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.70*	*ug/L*	*10.0*		*97.0*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.3*	*ug/L*	*20.0*		*111*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.9*	*ug/L*	*20.0*		*109*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*7.99*	*ug/L*	*10.0*		*79.9*	*52-162*		
Surrogate: Phenol-d5-surr			*25.7*	*ug/L*	*20.0*		*129*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.20*	*ug/L*	*10.0*		*82.0*	*51.9-147*		

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Quality Control
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Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BGB0310-BLK1 (BGB0925-LBK4)					Prepared: 2/7/2023 Analyzed: 2/15/2023					
1,2,4-Trichlorobenzene	<0.561	U	0.561	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.561	U	0.561	ug/L						
1,2-Diphenylhydrazine	<0.561	U	0.561	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.561	U	0.561	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.561	U	0.561	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<0.561	U	0.561	ug/L						
2,4-Dichlorophenol	<0.561	U	0.561	ug/L						
2,4-Dimethylphenol	<1.12	U	1.12	ug/L						
2,4-Dinitrophenol	<4.49	U	4.49	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<0.561	U	0.561	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<0.561	U	0.561	ug/L						
2-Chloronaphthalene	<0.561	U	0.561	ug/L						
2-Chlorophenol	<1.12	U	1.12	ug/L						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<1.12	U	1.12	ug/L						
2-Nitrophenol	<1.12	U	1.12	ug/L						
4-Bromophenyl phenyl ether (BDE-3)	<0.561	U	0.561	ug/L						
4-Chloro-3-methylphenol	<1.12	U	1.12	ug/L						
4-Chlorophenyl phenylether	<0.561	U	0.561	ug/L						
4-Nitrophenol	<4.49	U	4.49	ug/L						
Acenaphthene	<0.561	U	0.561	ug/L						
Acenaphthylene	<0.561	U	0.561	ug/L						
Anthracene	<0.561	U	0.561	ug/L						
Benzo(a)anthracene	<0.561	U	0.561	ug/L						
Benzo(a)pyrene	<0.561	U	0.561	ug/L						
benzo(b&k)fluoranthene	<1.12	U	1.12	ug/L						
Benzo(g,h,i)perylene	<0.561	U	0.561	ug/L						
bis(2-Chloroethoxy)methane	<0.561	U	0.561	ug/L						
bis(2-Chloroethyl) ether	<0.561	U	0.561	ug/L						
Bis(2-ethylhexyl)phthalate	<0.561	U	0.561	ug/L						
Butyl benzyl phthalate	<0.561	U	0.561	ug/L						
Chrysene	<0.561	U	0.561	ug/L						
Dibenzo(a,h)anthracene	<0.561	U	0.561	ug/L						
Diethyl phthalate	0.726		0.561	ug/L						
Dimethyl phthalate	5.78		0.561	ug/L						
Di-n-butyl phthalate	<0.561	L, U	0.561	ug/L						
Di-n-octyl phthalate	<0.561	U	0.561	ug/L						
Fluoranthene	<0.561	U	0.561	ug/L						
Fluorene	<0.561	U	0.561	ug/L						
Hexachlorobenzene	<0.561	U	0.561	ug/L						
Hexachlorobutadiene	<0.561	U	0.561	ug/L						
Hexachlorocyclopentadiene	<0.561	U	0.561	ug/L						

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
BGB0310-BLK1 (BGB0925-LBK4)					Prepared: 2/7/2023 Analyzed: 2/15/2023					
Hexachloroethane	<0.561	U	0.561	ug/L						
Indeno(1,2,3-cd) pyrene	<0.561	U	0.561	ug/L						
Isophorone	<0.561	U	0.561	ug/L						
Naphthalene	<0.561	U	0.561	ug/L						
Nitrobenzene	<0.561	U	0.561	ug/L						
n-Nitrosodimethylamine	<2.24	U	2.24	ug/L						
n-Nitrosodi-n-propylamine	<0.561	U	0.561	ug/L						
n-Nitrosodiphenylamine	<0.561	U	0.561	ug/L						
Pentachlorophenol	<1.12	U	1.12	ug/L						
Phenanthrene	<0.561	U	0.561	ug/L						
Phenol, Total	1.12		1.12	ug/L						
Pyrene	<0.561	U	0.561	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*9.73*	*ug/L*	*9.98*		*97.5*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.1*	*ug/L*	*20.0*		*111*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.6*	*ug/L*	*20.0*		*108*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*7.96*	*ug/L*	*9.98*		*79.8*	*52-162*		
Surrogate: Phenol-d5-surr			*25.5*	*ug/L*	*20.0*		*128*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.85*	*ug/L*	*9.98*		*88.7*	*51.9-147*		
MDL BENZ (BGB0925-MRL1)					Prepared: 2/7/2023 Analyzed: 2/10/2023					
3,3'-Dichlorobenzidine	0.179		0.562	ug/L	0.500		35.8			
Benzidine	0.562		0.562	ug/L	0.500		112			
Surrogate: 2-Fluorobiphenyl-surr			*9.09*	*ug/L*	*10.0*		*90.9*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.6*	*ug/L*	*20.0*		*98.0*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.9*	*ug/L*	*20.0*		*105*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.6*	*ug/L*	*10.0*		*106*	*52-162*		
Surrogate: Phenol-d5-surr			*20.7*	*ug/L*	*20.0*		*104*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.57*	*ug/L*	*10.0*		*85.7*	*51.9-147*		

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
MDL SV (BGB0925-MRL2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
1,2,4-Trichlorobenzene	0.450		0.562	ug/L	0.500		90.0			
1,2-Dichlorobenzene (o-Dichlorobenzene)	0.668		0.562	ug/L	0.500		134			
1,2-Diphenylhydrazine	0.681		0.562	ug/L	0.500		136			
1,3-Dichlorobenzene (m-Dichlorobenzene)	0.431		0.562	ug/L	0.500		86.1			
1,4-Dichlorobenzene (p-Dichlorobenzene)	0.555		0.562	ug/L	0.500		111			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	0.770		0.562	ug/L	0.500		154			
2,4-Dichlorophenol	1.23		0.562	ug/L	1.00		123	50-150		
2,4-Dimethylphenol	1.31		1.12	ug/L	1.00		131			
2,4-Dinitrophenol	1.79		4.50	ug/L	2.50		71.5			
2,4-Dinitrotoluene (2,4-DNT)	0.373		0.562	ug/L	0.500		74.7			
2,6-Dinitrotoluene (2,6-DNT)	1.26		0.562	ug/L	0.500		253			
2-Chloronaphthalene	0.568		0.562	ug/L	0.500		114			
2-Chlorophenol	0.665		1.12	ug/L	1.00		66.5			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	0.691		1.12	ug/L	1.00		69.1			
2-Nitrophenol	1.40		1.12	ug/L	1.00		140			
4-Bromophenyl phenyl ether (BDE-3)	0.346		0.562	ug/L	0.500		69.1			
4-Chloro-3-methylphenol	1.15		1.12	ug/L	1.00		115			
4-Chlorophenyl phenylether	0.365		0.562	ug/L	0.500		73.0			
4-Nitrophenol	4.31		4.50	ug/L	2.50		173			
Acenaphthene	0.546		0.562	ug/L	0.500		109			
Acenaphthylene	0.762		0.562	ug/L	0.500		152			
Anthracene	0.432		0.562	ug/L	0.500		86.4			
Benzo(a)anthracene	0.632		0.562	ug/L	0.500		126			
Benzo(a)pyrene	0.560		0.562	ug/L	0.500		112			
benzo(b&k)fluoranthene	1.08		1.12	ug/L	1.00		108			
Benzo(g,h,i)perylene	0.438		0.562	ug/L	0.500		87.5			
bis(2-Chloroethoxy)methane	0.799		0.562	ug/L	0.500		160			
bis(2-Chloroethyl) ether	0.486		0.562	ug/L	0.500		97.2			
Bis(2-ethylhexyl)phthalate	0.668		0.562	ug/L	0.500		134			
Butyl benzyl phthalate	0.623		0.562	ug/L	0.500		125			
Chrysene	0.400		0.562	ug/L	0.500		80.1			
Dibenzo(a,h)anthracene	0.322		0.562	ug/L	0.500		64.4			
Diethyl phthalate	1.62		0.562	ug/L	0.500		324			
Dimethyl phthalate	1.94		0.562	ug/L	0.500		388			
Di-n-butyl phthalate	10.4		0.562	ug/L	0.500		NR			
Di-n-octyl phthalate	0.589		0.562	ug/L	0.500		118			
Fluoranthene	0.311		0.562	ug/L	0.500		62.2			
Fluorene	0.589		0.562	ug/L	0.500		118			
Hexachlorobenzene	0.316		0.562	ug/L	0.500		63.1			
Hexachlorobutadiene	0.263		0.562	ug/L	0.500		52.6			
Hexachlorocyclopentadiene	0.705		0.562	ug/L	0.500		141			
Hexachloroethane	0.412		0.562	ug/L	0.500		82.3			

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
MDL SV (BGB0925-MRL2)					Prepared: 2/7/2023 Analyzed: 2/14/2023					
Indeno(1,2,3-cd) pyrene	0.378		0.562	ug/L	0.500		75.5			
Isophorone	0.450		0.562	ug/L	0.500		90.0			
Naphthalene	0.565		0.562	ug/L	0.500		113			
Nitrobenzene	0.630		0.562	ug/L	0.500		126			
n-Nitrosodimethylamine	0.765	J1	2.25	ug/L	2.50		30.6	50-150		
n-Nitrosodi-n-propylamine	0.848		0.562	ug/L	0.500		170			
n-Nitrosodiphenylamine	0.353		0.562	ug/L	0.500		70.6			
Pentachlorophenol	0.618		1.12	ug/L	1.00		61.8			
Phenanthrene	0.479		0.562	ug/L	0.500		95.9			
Phenol, Total	1.68		1.12	ug/L	1.00		168			
Pyrene	0.403		0.562	ug/L	0.500		80.7			
Surrogate: 2-Fluorobiphenyl-surr			*9.68*	*ug/L*	*10.0*		*96.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.3*	*ug/L*	*20.0*		*116*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.4*	*ug/L*	*20.0*		*97.0*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.46*	*ug/L*	*10.0*		*84.6*	*52-162*		
Surrogate: Phenol-d5-surr			*23.9*	*ug/L*	*20.0*		*120*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.56*	*ug/L*	*10.0*		*95.6*	*51.9-147*		
23A1459-09 MS (BGB0925-MS1)			**Source: 23A1459-09RE1**		Prepared: 2/7/2023 Analyzed: 2/14/2023					
1,2,4-Trichlorobenzene	10.2		0.562	ug/L	10.0	<0.562	102	35.3-142		
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.87		0.562	ug/L	10.0	<0.562	88.7	31.4-142		
1,2-Diphenylhydrazine	8.61		0.562	ug/L	10.0	<0.562	86.1	48.9-156		
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.06		0.562	ug/L	10.0	<0.562	80.6	30.5-135		
1,4-Dichlorobenzene (p-Dichlorobenzene)	9.35		0.562	ug/L	10.0	<0.562	93.5	37.2-133		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.81		0.562	ug/L	10.0	<0.562	98.1	41.7-151		
2,4-Dichlorophenol	21.7		0.562	ug/L	20.0	<0.562	108	42.7-158		
2,4-Dimethylphenol	21.8		1.12	ug/L	20.0	<1.12	109	38.4-170		
2,4-Dinitrophenol	55.2		4.50	ug/L	50.0	<4.50	110	60-140		
2,4-Dinitrotoluene (2,4-DNT)	9.87		0.562	ug/L	10.0	<0.562	98.7	50.3-144		
2,6-Dinitrotoluene (2,6-DNT)	12.0		0.562	ug/L	10.0	<0.562	120	43.7-157		
2-Chloronaphthalene	9.60		0.562	ug/L	10.0	<0.562	96.0	27.4-158		
2-Chlorophenol	13.1		1.12	ug/L	20.0	<1.12	65.6	49.2-150		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	24.8		1.12	ug/L	20.0	<1.12	124	41.9-153		
2-Nitrophenol	20.0		1.12	ug/L	20.0	<1.12	100	51.9-150		
4-Bromophenyl phenyl ether (BDE-3)	9.74		0.562	ug/L	10.0	<0.562	97.4	45.2-146		
4-Chloro-3-methylphenol	18.3		1.12	ug/L	20.0	<1.12	91.6	46.9-147		
4-Chlorophenyl phenylether	8.17		0.562	ug/L	10.0	<0.562	81.7	44.5-143		
4-Nitrophenol	37.5		4.50	ug/L	50.0	<4.50	75.1	2-173		
Acenaphthene	10.3		0.562	ug/L	10.0	1.29	90.5	47.3-149		
Acenaphthylene	10.5		0.562	ug/L	10.0	0.579	99.1	56.5-173		
Anthracene	10.5		0.562	ug/L	10.0	<0.562	105	49.7-160		
Benzo(a)anthracene	10.6		0.562	ug/L	10.0	<0.562	106	41.7-151		

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Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
23A1459-09 MS (BGB0925-MS1)			**Source: 23A1459-09RE1**		Prepared: 2/7/2023 Analyzed: 2/14/2023					
Benzo(a)pyrene	10.0		0.562	ug/L	10.0	<0.562	100	45.4-133		
benzo(b&k)fluoranthene	20.8		1.12	ug/L	20.0	<1.12	104	55.3-137		
Benzo(g,h,i)perylene	10.1		0.562	ug/L	10.0	<0.562	101	37.9-152		
bis(2-Chloroethoxy)methane	10.2		0.562	ug/L	10.0	<0.562	102	40.1-151		
bis(2-Chloroethyl) ether	11.9		0.562	ug/L	10.0	<0.562	119	45.9-163		
Bis(2-ethylhexyl)phthalate	9.41		0.562	ug/L	10.0	<0.562	94.1	38.3-135		
Butyl benzyl phthalate	9.46		0.562	ug/L	10.0	<0.562	94.6	41.1-148		
Chrysene	8.86		0.562	ug/L	10.0	<0.562	88.6	51-147		
Dibenzo(a,h)anthracene	10.7		0.562	ug/L	10.0	<0.562	107	27.5-156		
Diethyl phthalate	9.09		0.562	ug/L	10.0	0.898	81.9	53.4-146		
Dimethyl phthalate	8.49		0.562	ug/L	10.0	<0.562	84.9	53-151		
Di-n-butyl phthalate	18.4		0.562	ug/L	10.0	7.87	105	25.4-168		
Di-n-octyl phthalate	9.54		0.562	ug/L	10.0	<0.562	95.4	39.2-123		
Fluoranthene	9.92		0.562	ug/L	10.0	<0.562	99.2	45.3-156		
Fluorene	12.7		0.562	ug/L	10.0	3.55	91.9	56.3-145		
Hexachlorobenzene	8.96		0.562	ug/L	10.0	<0.562	89.6	56.1-137		
Hexachlorobutadiene	8.45		0.562	ug/L	10.0	<0.562	84.5	33.1-110		
Hexachlorocyclopentadiene	11.1		0.562	ug/L	10.0	<0.562	111	2-179		
Hexachloroethane	8.48		0.562	ug/L	10.0	<0.562	84.8	36.2-106		
Indeno(1,2,3-cd) pyrene	10.2		0.562	ug/L	10.0	<0.562	102	33.4-153		
Isophorone	8.27		0.562	ug/L	10.0	<0.562	82.7	43.3-154		
Naphthalene	10.4		0.562	ug/L	10.0	<0.562	104	45.1-153		
Nitrobenzene	9.96		0.562	ug/L	10.0	<0.562	99.6	54.9-156		
n-Nitrosodimethylamine	4.94		2.25	ug/L	50.0	<2.25	9.88	2-56.4		
n-Nitrosodi-n-propylamine	8.99		0.562	ug/L	10.0	<0.562	89.9	38.3-160		
n-Nitrosodiphenylamine	17.7	J1	0.562	ug/L	10.0	<0.562	177	38.1-163		
Pentachlorophenol	20.2		1.12	ug/L	20.0	<1.12	101	42.2-151		
Phenanthrene	11.4		0.562	ug/L	10.0	1.08	103	45.3-165		
Phenol, Total	22.8		1.12	ug/L	20.0	<1.12	114	39.8-164		
Pyrene	9.73		0.562	ug/L	10.0	<0.562	97.3	46.3-149		
Surrogate: 2-Fluorobiphenyl-surr			*9.49*	*ug/L*	*10.0*		*94.9*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.0*	*ug/L*	*20.0*		*115*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.0*	*ug/L*	*20.0*		*84.9*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*8.50*	*ug/L*	*10.0*		*85.0*	*52-162*		
Surrogate: Phenol-d5-surr			*23.8*	*ug/L*	*20.0*		*119*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*7.76*	*ug/L*	*10.0*		*77.6*	*51.9-147*		

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
23A1459-09 MSD (BGB0925-MSD1)	**Source: 23A1459-09RE1**			Prepared: 2/7/2023 Analyzed: 2/14/2023						
1,2,4-Trichlorobenzene	10.3		0.562	ug/L	10.0	<0.562	103	35.3-142	1.59	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.23		0.562	ug/L	10.0	<0.562	92.3	31.4-142	4.00	40
1,2-Diphenylhydrazine	9.45		0.562	ug/L	10.0	<0.562	94.5	48.9-156	9.29	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.18		0.562	ug/L	10.0	<0.562	81.8	30.5-135	1.46	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.96		0.562	ug/L	10.0	<0.562	89.6	37.2-133	4.17	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.2		0.562	ug/L	10.0	<0.562	102	41.7-151	3.64	40
2,4-Dichlorophenol	22.0		0.562	ug/L	20.0	<0.562	110	42.7-158	1.35	40
2,4-Dimethylphenol	22.8		1.12	ug/L	20.0	<1.12	114	38.4-170	4.53	40
2,4-Dinitrophenol	65.3		4.50	ug/L	50.0	<4.50	131	60-140	16.9	40
2,4-Dinitrotoluene (2,4-DNT)	10.9		0.562	ug/L	10.0	<0.562	109	50.3-144	9.47	40
2,6-Dinitrotoluene (2,6-DNT)	11.3		0.562	ug/L	10.0	<0.562	113	43.7-157	5.92	40
2-Chloronaphthalene	10.8		0.562	ug/L	10.0	<0.562	108	27.4-158	12.1	40
2-Chlorophenol	14.3		1.12	ug/L	20.0	<1.12	71.4	49.2-150	8.36	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	25.3		1.12	ug/L	20.0	<1.12	127	41.9-153	2.12	40
2-Nitrophenol	20.9		1.12	ug/L	20.0	<1.12	104	51.9-150	4.12	40
4-Bromophenyl phenyl ether (BDE-3)	9.95		0.562	ug/L	10.0	<0.562	99.5	45.2-146	2.07	40
4-Chloro-3-methylphenol	20.9		1.12	ug/L	20.0	<1.12	104	46.9-147	13.1	40
4-Chlorophenyl phenylether	9.11		0.562	ug/L	10.0	<0.562	91.1	44.5-143	10.9	40
4-Nitrophenol	39.1		4.50	ug/L	50.0	<4.50	78.1	2-173	3.97	40
Acenaphthene	11.1		0.562	ug/L	10.0	1.29	97.9	47.3-149	6.85	40
Acenaphthylene	12.0		0.562	ug/L	10.0	0.579	114	56.5-173	13.1	40
Anthracene	10.4		0.562	ug/L	10.0	<0.562	104	49.7-160	1.28	40
Benzo(a)anthracene	11.1		0.562	ug/L	10.0	<0.562	111	41.7-151	4.49	40
Benzo(a)pyrene	10.4		0.562	ug/L	10.0	<0.562	104	45.4-133	4.28	40
benzo(b&k)fluoranthene	21.5		1.12	ug/L	20.0	<1.12	108	55.3-137	3.42	40
Benzo(g,h,i)perylene	10.2		0.562	ug/L	10.0	<0.562	102	37.9-152	1.37	40
bis(2-Chloroethoxy)methane	10.4		0.562	ug/L	10.0	<0.562	104	40.1-151	1.83	40
bis(2-Chloroethyl) ether	12.2		0.562	ug/L	10.0	<0.562	122	45.9-163	2.79	40
Bis(2-ethylhexyl)phthalate	9.07		0.562	ug/L	10.0	<0.562	90.7	38.3-135	3.66	40
Butyl benzyl phthalate	10.0		0.562	ug/L	10.0	<0.562	100	41.1-148	6.03	40
Chrysene	9.19		0.562	ug/L	10.0	<0.562	91.9	51-147	3.68	40
Dibenzo(a,h)anthracene	10.6		0.562	ug/L	10.0	<0.562	106	27.5-156	0.459	40
Diethyl phthalate	10.6		0.562	ug/L	10.0	0.898	97.3	53.4-146	15.6	40
Dimethyl phthalate	10.7		0.562	ug/L	10.0	<0.562	107	53-151	22.6	40
Di-n-butyl phthalate	18.4		0.562	ug/L	10.0	7.87	106	25.4-168	0.246	40
Di-n-octyl phthalate	9.80		0.562	ug/L	10.0	<0.562	98.0	39.2-123	2.67	40
Fluoranthene	10.4		0.562	ug/L	10.0	<0.562	104	45.3-156	4.68	40
Fluorene	14.2		0.562	ug/L	10.0	3.55	107	56.3-145	11.0	40
Hexachlorobenzene	9.33		0.562	ug/L	10.0	<0.562	93.3	56.1-137	4.02	40
Hexachlorobutadiene	7.44		0.562	ug/L	10.0	<0.562	74.4	33.1-110	12.7	40
Hexachlorocyclopentadiene	11.0		0.562	ug/L	10.0	<0.562	110	2-179	0.764	40
Hexachloroethane	7.33		0.562	ug/L	10.0	<0.562	73.3	36.2-106	14.5	40

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Quality Control
(Continued)

Elutriate Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0925 - SW-3511 (Continued)										
23A1459-09 MSD (BGB0925-MSD1)			**Source: 23A1459-09RE1**		Prepared: 2/7/2023 Analyzed: 2/14/2023					
Indeno(1,2,3-cd) pyrene	10.4		0.562	ug/L	10.0	<0.562	104	33.4-153	1.51	40
Isophorone	8.72		0.562	ug/L	10.0	<0.562	87.2	43.3-154	5.34	40
Naphthalene	10.6		0.562	ug/L	10.0	<0.562	106	45.1-153	2.45	40
Nitrobenzene	11.1		0.562	ug/L	10.0	<0.562	111	54.9-156	10.9	40
n-Nitrosodimethylamine	5.48		2.25	ug/L	50.0	<2.25	11.0	2-56.4	10.3	40
n-Nitrosodi-n-propylamine	9.28		0.562	ug/L	10.0	<0.562	92.8	38.3-160	3.25	40
n-Nitrosodiphenylamine	13.1		0.562	ug/L	10.0	<0.562	131	38.1-163	29.8	40
Pentachlorophenol	21.8		1.12	ug/L	20.0	<1.12	109	42.2-151	7.59	40
Phenanthrene	11.5		0.562	ug/L	10.0	1.08	104	45.3-165	1.49	40
Phenol, Total	23.3		1.12	ug/L	20.0	<1.12	116	39.8-164	2.29	40
Pyrene	10.0		0.562	ug/L	10.0	<0.562	100	46.3-149	3.01	40
Surrogate: 2-Fluorobiphenyl-surr			*10.2*	*ug/L*	*10.0*		*102*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.1*	*ug/L*	*20.0*		*121*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*18.4*	*ug/L*	*20.0*		*92.2*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.53*	*ug/L*	*10.0*		*95.3*	*52-162*		
Surrogate: Phenol-d5-surr			*26.0*	*ug/L*	*20.0*		*130*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.66*	*ug/L*	*10.0*		*86.6*	*51.9-147*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	04/03/2023 14:08

Quality Control
(Continued)

Elutriate Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511										
Blank (BGB0543-BLK1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	<0.00600	U	0.00600	ug/L						
4,4'-DDE	<0.00600	U	0.00600	ug/L						
4,4'-DDT	<0.00600	U	0.00600	ug/L						
Aldrin	<0.00600	U	0.00600	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
Chlordane (tech.)	<0.00600	U	0.00600	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00600	U	0.00600	ug/L						
delta-BHC	<0.00600	U	0.00600	ug/L						
Dieldrin	<0.00600	U	0.00600	ug/L						
Endosulfan I	<0.00600	U	0.00600	ug/L						
Endosulfan II	<0.00600	U	0.00600	ug/L						
Endosulfan sulfate	<0.00600	U	0.00600	ug/L						
Endrin	<0.00600	U	0.00600	ug/L						
Endrin aldehyde	<0.00600	U	0.00600	ug/L						
Endrin ketone	<0.00600	U	0.00600	ug/L						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00600	U	0.00600	ug/L						
gamma-Chlordane	<0.00600	U	0.00600	ug/L						
Heptachlor	<0.00600	U	0.00600	ug/L						
Heptachlor epoxide	<0.00600	U	0.00600	ug/L						
Methoxychlor	<0.00600	U	0.00600	ug/L						
Toxaphene (Chlorinated Camphene)	<0.300	U	0.300	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.127*	*ug/L*	*0.120*		*106*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.123*	*ug/L*	*0.120*		*102*	*60-140*		
LCS (BGB0543-BS1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
Toxaphene (Chlorinated Camphene)	1.33		0.300	ug/L	1.20		111	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.105*	*ug/L*	*0.120*		*87.3*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.118*	*ug/L*	*0.120*		*98.7*	*60-140*		

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Terracon_Houston	Project: PCCA HI & CDP Resampling 2023	
11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
LCS (BGB0543-BS2)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	0.0992		0.00600	ug/L	0.120		82.6	60-140		
4,4'-DDE	0.0973		0.00600	ug/L	0.120		81.0	60-140		
4,4'-DDT	0.102		0.00600	ug/L	0.120		85.2	60-140		
Aldrin	0.0847		0.00600	ug/L	0.120		70.6	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.108		0.00600	ug/L	0.120		89.8	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.0957		0.00600	ug/L	0.120		79.7	60-140		
Chlordane (tech.)	0.348		0.00600	ug/L	0.480		72.5	60-140		
cis-Chlordane (alpha-Chlordane)	0.0881		0.00600	ug/L	0.120		73.5	60-140		
delta-BHC	0.101		0.00600	ug/L	0.120		83.8	60-140		
Dieldrin	0.102		0.00600	ug/L	0.120		85.2	60-140		
Endosulfan I	0.0856		0.00600	ug/L	0.120		71.3	60-140		
Endosulfan II	0.0996		0.00600	ug/L	0.120		83.0	60-140		
Endosulfan sulfate	0.103		0.00600	ug/L	0.120		85.5	60-140		
Endrin	0.0992		0.00600	ug/L	0.120		82.6	60-140		
Endrin aldehyde	0.105		0.00600	ug/L	0.120		87.4	60-140		
Endrin ketone	0.110		0.00600	ug/L	0.120		92.0	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0981		0.00600	ug/L	0.120		81.8	60-140		
gamma-Chlordane	0.0846		0.00600	ug/L	0.120		70.5	60-140		
Heptachlor	0.0892		0.00600	ug/L	0.120		74.3	60-140		
Heptachlor epoxide	0.0861		0.00600	ug/L	0.120		71.8	60-140		
Methoxychlor	0.103		0.00600	ug/L	0.120		85.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0939*	*ug/L*	*0.120*		*78.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.117*	*ug/L*	*0.120*		*97.3*	*60-140*		
LCS Dup (BGB0543-BSD1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
Toxaphene (Chlorinated Camphene)	1.33		0.300	ug/L	1.20		111	60-140	0.0862	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.103*	*ug/L*	*0.120*		*85.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.117*	*ug/L*	*0.120*		*97.6*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
LCS Dup (BGB0543-BSD2)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	0.104		0.00600	ug/L	0.120		86.8	60-140	4.86	40
4,4'-DDE	0.110		0.00600	ug/L	0.120		92.1	60-140	12.7	40
4,4'-DDT	0.103		0.00600	ug/L	0.120		85.4	60-140	0.240	40
Aldrin	0.0999		0.00600	ug/L	0.120		83.3	60-140	16.5	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.123		0.00600	ug/L	0.120		102	60-140	13.1	40
beta-BHC (beta-Hexachlorocyclohexane)	0.110		0.00600	ug/L	0.120		91.6	60-140	13.9	40
Chlordane (tech.)	0.395		0.00600	ug/L	0.480		82.3	60-140	12.6	40
cis-Chlordane (alpha-Chlordane)	0.100		0.00600	ug/L	0.120		83.7	60-140	13.0	40
delta-BHC	0.113		0.00600	ug/L	0.120		94.2	60-140	11.6	40
Dieldrin	0.110		0.00600	ug/L	0.120		91.8	60-140	7.37	40
Endosulfan I	0.0948		0.00600	ug/L	0.120		79.0	60-140	10.2	40
Endosulfan II	0.101		0.00600	ug/L	0.120		84.1	60-140	1.33	40
Endosulfan sulfate	0.0997		0.00600	ug/L	0.120		83.1	60-140	2.88	40
Endrin	0.102		0.00600	ug/L	0.120		84.8	60-140	2.53	40
Endrin aldehyde	0.116		0.00600	ug/L	0.120		97.0	60-140	10.4	40
Endrin ketone	0.0966		0.00600	ug/L	0.120		80.5	60-140	13.3	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.116		0.00600	ug/L	0.120		96.8	60-140	16.9	40
gamma-Chlordane	0.0961		0.00600	ug/L	0.120		80.1	60-140	12.7	40
Heptachlor	0.102		0.00600	ug/L	0.120		85.4	60-140	13.8	40
Heptachlor epoxide	0.0960		0.00600	ug/L	0.120		80.0	60-140	10.8	40
Methoxychlor	0.103		0.00600	ug/L	0.120		85.8	60-140	0.163	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.119*	*ug/L*	*0.120*		*99.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.104*	*ug/L*	*0.120*		*87.1*	*60-140*		
BGA3905-BLK1 (BGB0543-LBK1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	<0.00600	U	0.00600	ug/L						
4,4'-DDE	<0.00600	U	0.00600	ug/L						
4,4'-DDT	<0.00600	U	0.00600	ug/L						
Aldrin	<0.00600	U	0.00600	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00600	U	0.00600	ug/L						
Chlordane (tech.)	<0.00600	U	0.00600	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00600	U	0.00600	ug/L						
delta-BHC	<0.00600	U	0.00600	ug/L						
Dieldrin	<0.00600	U	0.00600	ug/L						
Endosulfan I	<0.00600	U	0.00600	ug/L						
Endosulfan II	<0.00600	U	0.00600	ug/L						
Endosulfan sulfate	<0.00600	U	0.00600	ug/L						
Endrin	<0.00600	U	0.00600	ug/L						
Endrin aldehyde	<0.00600	U	0.00600	ug/L						
Endrin ketone	<0.00600	U	0.00600	ug/L						

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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
BGA3905-BLK1 (BGB0543-LBK1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00600	U	0.00600	ug/L						
gamma-Chlordane	<0.00600	U	0.00600	ug/L						
Heptachlor	<0.00600	U	0.00600	ug/L						
Heptachlor epoxide	<0.00600	U	0.00600	ug/L						
Methoxychlor	<0.00600	U	0.00600	ug/L						
Toxaphene (Chlorinated Camphene)	<0.300	U	0.300	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.108*	*ug/L*	*0.120*		*90.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0246*	*ug/L*	*0.120*		*20.5*	*60-140*		
BGB0310-BLK1 (BGB0543-LBK2)					Prepared: 2/3/2023 Analyzed: 2/9/2023					
4,4'-DDD	<0.00598	U	0.00598	ug/L						
4,4'-DDE	<0.00598	U	0.00598	ug/L						
4,4'-DDT	<0.00598	U	0.00598	ug/L						
Aldrin	<0.00598	U	0.00598	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00598	U	0.00598	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00598	U	0.00598	ug/L						
Chlordane (tech.)	<0.00598	U	0.00598	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00598	U	0.00598	ug/L						
delta-BHC	0.00803		0.00598	ug/L						
Dieldrin	<0.00598	U	0.00598	ug/L						
Endosulfan I	<0.00598	U	0.00598	ug/L						
Endosulfan II	<0.00598	U	0.00598	ug/L						
Endosulfan sulfate	<0.00598	U	0.00598	ug/L						
Endrin	<0.00598	U	0.00598	ug/L						
Endrin aldehyde	<0.00598	U	0.00598	ug/L						
Endrin ketone	<0.00598	U	0.00598	ug/L						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00598	U	0.00598	ug/L						
gamma-Chlordane	<0.00598	U	0.00598	ug/L						
Heptachlor	<0.00598	U	0.00598	ug/L						
Heptachlor epoxide	<0.00598	U	0.00598	ug/L						
Methoxychlor	<0.00598	U	0.00598	ug/L						
Toxaphene (Chlorinated Camphene)	<0.299	U	0.299	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.125*	*ug/L*	*0.120*		*105*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0384*	*ug/L*	*0.120*		*32.1*	*60-140*		

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Quality Control
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Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
MRL Check (BGB0543-MRL1)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
Toxaphene (Chlorinated Camphene)	<0.300	J1, U	0.300	ug/L	0.300			50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0979*	*ug/L*	*0.120*		*81.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.113*	*ug/L*	*0.120*		*94.3*	*60-140*		
MRL Check (BGB0543-MRL2)					Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	0.00942		0.00600	ug/L	0.0120		78.5	50-150		
4,4'-DDE	0.0103		0.00600	ug/L	0.0120		86.1	50-150		
4,4'-DDT	0.0102		0.00600	ug/L	0.0120		85.0	50-150		
Aldrin	0.00929		0.00600	ug/L	0.0120		77.4	50-150		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0117		0.00600	ug/L	0.0120		97.2	50-150		
beta-BHC (beta-Hexachlorocyclohexane)	0.0105		0.00600	ug/L	0.0120		87.2	50-150		
Chlordane (tech.)	0.0392		0.00600	ug/L	0.0480		81.6	50-150		
cis-Chlordane (alpha-Chlordane)	0.0118		0.00600	ug/L	0.0120		98.6	50-150		
delta-BHC	<0.00600	J1, U	0.00600	ug/L	0.0120			50-150		
Dieldrin	0.00965		0.00600	ug/L	0.0120		80.4	50-150		
Endosulfan I	0.00907		0.00600	ug/L	0.0120		75.6	50-150		
Endosulfan II	0.00939		0.00600	ug/L	0.0120		78.2	50-150		
Endosulfan sulfate	0.0100		0.00600	ug/L	0.0120		83.6	50-150		
Endrin	0.00904		0.00600	ug/L	0.0120		75.4	50-150		
Endrin aldehyde	0.0105		0.00600	ug/L	0.0120		87.1	50-150		
Endrin ketone	0.0104		0.00600	ug/L	0.0120		86.8	50-150		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0101		0.00600	ug/L	0.0120		83.9	50-150		
gamma-Chlordane	0.00822		0.00600	ug/L	0.0120		68.5	50-150		
Heptachlor	0.00988		0.00600	ug/L	0.0120		82.4	50-150		
Heptachlor epoxide	0.00923		0.00600	ug/L	0.0120		77.0	50-150		
Methoxychlor	0.0124		0.00600	ug/L	0.0120		103	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.122*	*ug/L*	*0.120*		*102*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.113*	*ug/L*	*0.120*		*94.3*	*60-140*		

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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
Matrix Spike (BGB0543-MS1)	**Source: 23A3576-10**				Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	0.0525	J1	0.00600	ug/L	0.120	<0.00600	43.8	60-140		
4,4'-DDE	0.0353	J1	0.00600	ug/L	0.120	<0.00600	29.4	60-140		
4,4'-DDT	0.0248	J1	0.00600	ug/L	0.120	<0.00600	20.7	60-140		
Aldrin	0.0441	J1	0.00600	ug/L	0.120	<0.00600	36.7	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0953		0.00600	ug/L	0.120	<0.00600	79.5	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.0956		0.00600	ug/L	0.120	<0.00600	79.6	60-140		
Chlordane (tech.)	0.239	J1	0.00600	ug/L	0.480	<0.00600	49.7	60-140		
cis-Chlordane (alpha-Chlordane)	0.0559	J1	0.00600	ug/L	0.120	<0.00600	46.6	60-140		
delta-BHC	0.104		0.00600	ug/L	0.120	<0.00600	86.6	60-140		
Dieldrin	0.0842		0.00600	ug/L	0.120	<0.00600	70.2	60-140		
Endosulfan I	0.0723		0.00600	ug/L	0.120	<0.00600	60.2	60-140		
Endosulfan II	0.0812		0.00600	ug/L	0.120	<0.00600	67.6	60-140		
Endosulfan sulfate	0.0907		0.00600	ug/L	0.120	<0.00600	75.6	60-140		
Endrin	0.0811		0.00600	ug/L	0.120	<0.00600	67.6	60-140		
Endrin aldehyde	0.0884		0.00600	ug/L	0.120	<0.00600	73.7	60-140		
Endrin ketone	0.0921		0.00600	ug/L	0.120	<0.00600	76.7	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0899		0.00600	ug/L	0.120	<0.00600	74.9	60-140		
gamma-Chlordane	0.0479	J1	0.00600	ug/L	0.120	<0.00600	39.9	60-140		
Heptachlor	0.0610	J1	0.00600	ug/L	0.120	<0.00600	50.8	60-140		
Heptachlor epoxide	0.0739		0.00600	ug/L	0.120	<0.00600	61.6	60-140		
Methoxychlor	0.0260	J1	0.00600	ug/L	0.120	<0.00600	21.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0862*	*ug/L*	*0.120*		*71.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0236*	*ug/L*	*0.120*		*19.7*	*60-140*		
Matrix Spike Dup (BGB0543-MSD1)	**Source: 23A3576-10**				Prepared: 2/3/2023 Analyzed: 2/8/2023					
4,4'-DDD	0.0464	J1	0.00600	ug/L	0.120	<0.00600	38.7	60-140	12.3	40
4,4'-DDE	0.0305	J1	0.00600	ug/L	0.120	<0.00600	25.4	60-140	14.8	40
4,4'-DDT	0.0249	J1	0.00600	ug/L	0.120	<0.00600	20.7	60-140	0.193	40
Aldrin	0.0401	J1	0.00600	ug/L	0.120	<0.00600	33.4	60-140	9.39	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0975		0.00600	ug/L	0.120	<0.00600	81.2	60-140	2.23	40
beta-BHC (beta-Hexachlorocyclohexane)	0.0959		0.00600	ug/L	0.120	<0.00600	79.9	60-140	0.382	40
Chlordane (tech.)	0.226	J1	0.00600	ug/L	0.480	<0.00600	47.2	60-140	5.26	40
cis-Chlordane (alpha-Chlordane)	0.0524	J1	0.00600	ug/L	0.120	<0.00600	43.7	60-140	6.42	40
delta-BHC	0.103		0.00600	ug/L	0.120	<0.00600	85.9	60-140	0.794	40
Dieldrin	0.0813		0.00600	ug/L	0.120	<0.00600	67.7	60-140	3.57	40
Endosulfan I	0.0735		0.00600	ug/L	0.120	<0.00600	61.3	60-140	1.75	40
Endosulfan II	0.0836		0.00600	ug/L	0.120	<0.00600	69.7	60-140	2.95	40
Endosulfan sulfate	0.0932		0.00600	ug/L	0.120	<0.00600	77.6	60-140	2.68	40
Endrin	0.0814		0.00600	ug/L	0.120	<0.00600	67.9	60-140	0.413	40
Endrin aldehyde	0.0951		0.00600	ug/L	0.120	<0.00600	79.3	60-140	7.34	40
Endrin ketone	0.0947		0.00600	ug/L	0.120	<0.00600	79.0	60-140	2.85	40

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0543 - SW-3511 (Continued)										
Matrix Spike Dup (BGB0543-MSD1)	**Source: 23A3576-10**				Prepared: 2/3/2023 Analyzed: 2/8/2023					
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	0.0937		0.00600	ug/L	0.120	<0.00600	78.0	60-140	4.11	40
gamma-Chlordane	0.0446	J1	0.00600	ug/L	0.120	<0.00600	37.1	60-140	7.17	40
Heptachlor	0.0563	J1	0.00600	ug/L	0.120	<0.00600	46.9	60-140	8.05	40
Heptachlor epoxide	0.0732		0.00600	ug/L	0.120	<0.00600	61.0	60-140	0.971	40
Methoxychlor	0.0311	J1	0.00600	ug/L	0.120	<0.00600	25.9	60-140	17.8	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0804*	*ug/L*	*0.120*		*67.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0196*	*ug/L*	*0.120*		*16.4*	*60-140*		
Batch: BGB1127 - SW-3511										
Blank (BGB1127-BLK1)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.161*	*ug/L*	*0.120*		*134*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.123*	*ug/L*	*0.120*		*103*	*60-140*		
LCS (BGB1127-BS1)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	1.28		0.120	ug/L	1.20		106	60-140		
Aroclor-1260 (PCB-1260)	0.977		0.120	ug/L	1.20		81.4	60-140		
PCBs, Total	1.00		0.120	ug/L	1.20		83.5	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.152*	*ug/L*	*0.120*		*126*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.118*	*ug/L*	*0.120*		*98.7*	*60-140*		
LCS Dup (BGB1127-BSD1)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	1.19		0.120	ug/L	1.20		99.1	60-140	7.19	40
Aroclor-1260 (PCB-1260)	0.989		0.120	ug/L	1.20		82.4	60-140	1.18	40
PCBs, Total	1.01		0.120	ug/L	1.20		83.9	60-140	0.378	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.150*	*ug/L*	*0.120*		*125*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.130*	*ug/L*	*0.120*		*108*	*60-140*		

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Quality Control
(Continued)

Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1127 - SW-3511 (Continued)										
BGA3905-BLK1 (BGB1127-LBK1)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	<0.120	U	0.120	ug/L						
Aroclor-1221 (PCB-1221)	<0.120	U	0.120	ug/L						
Aroclor-1232 (PCB-1232)	<0.120	U	0.120	ug/L						
Aroclor-1242 (PCB-1242)	<0.120	U	0.120	ug/L						
Aroclor-1248 (PCB-1248)	<0.120	U	0.120	ug/L						
Aroclor-1254 (PCB-1254)	<0.120	U	0.120	ug/L						
Aroclor-1260 (PCB-1260)	<0.120	U	0.120	ug/L						
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.166*	*ug/L*	*0.120*		*138*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0291*	*ug/L*	*0.120*		*24.2*	*60-140*		
BGB0310-BLK1 (BGB1127-LBK2)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	<0.120	U	0.120	ug/L						
Aroclor-1221 (PCB-1221)	<0.120	U	0.120	ug/L						
Aroclor-1232 (PCB-1232)	<0.120	U	0.120	ug/L						
Aroclor-1242 (PCB-1242)	<0.120	U	0.120	ug/L						
Aroclor-1248 (PCB-1248)	<0.120	U	0.120	ug/L						
Aroclor-1254 (PCB-1254)	<0.120	U	0.120	ug/L						
Aroclor-1260 (PCB-1260)	<0.120	U	0.120	ug/L						
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.174*	*ug/L*	*0.120*		*146*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0495*	*ug/L*	*0.120*		*41.4*	*60-140*		
MRL Check (BGB1127-MRL1)					Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	0.381	J1	0.120	ug/L	0.240		159	50-150		
Aroclor-1260 (PCB-1260)	0.207		0.120	ug/L	0.240		86.4	50-150		
PCBs, Total	0.225		0.120	ug/L	0.240		93.6	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.151*	*ug/L*	*0.120*		*126*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.125*	*ug/L*	*0.120*		*104*	*60-140*		

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Quality Control
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Elutriate Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1127 - SW-3511 (Continued)										
Matrix Spike (BGB1127-MS1)		**Source: 23A3576-11**			Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	1.12		0.120	ug/L	1.20	<0.120	93.3	60-140		
Aroclor-1260 (PCB-1260)	0.340	J1	0.120	ug/L	1.20	<0.120	28.3	60-140		
PCBs, Total	0.409	J1	0.120	ug/L	1.20	<0.120	34.1	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.115*	*ug/L*	*0.120*		*95.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0406*	*ug/L*	*0.120*		*33.9*	*60-140*		
Matrix Spike Dup (BGB1127-MSD1)		**Source: 23A3576-11**			Prepared: 2/8/2023 Analyzed: 2/17/2023					
Aroclor-1016 (PCB-1016)	1.01		0.120	ug/L	1.20	<0.120	84.4	60-140	10.1	40
Aroclor-1260 (PCB-1260)	0.303	J1	0.120	ug/L	1.20	<0.120	25.2	60-140	11.6	40
PCBs, Total	0.367	J1	0.120	ug/L	1.20	<0.120	30.5	60-140	10.9	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.108*	*ug/L*	*0.120*		*90.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0391*	*ug/L*	*0.120*		*32.6*	*60-140*		

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Quality Control
(Continued)

Elutriate Metals, Dissolved

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0720 - EPA 200.8 Dissolved										
Blank (BGB0720-BLK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Lead	<0.500	U	0.500	ug/L						
Nickel	<1.00	U	1.00	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Zinc	<2.00	U	2.00	ug/L						
Blank (BGB0720-BLK2)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	<1.00	U	1.00	ug/L						
Blank (BGB0720-BLK4)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<1.00	U	1.00	ug/L						
Blank (BGB0720-BLK5)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	0.0130	J	0.200	ug/L						
Silver	<0.500	U	0.500	ug/L						
LCS (BGB0720-BS1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	49.7		0.500	ug/L	50.0		99.3	85-115		
Cadmium	102		1.00	ug/L	100		102	85-115		
Chromium	277		3.00	ug/L	300		92.5	85-115		
Lead	48.1		0.500	ug/L	50.0		96.2	85-115		
Nickel	96.6		1.00	ug/L	100		96.6	85-115		
Thallium	49.1		0.500	ug/L	50.0		98.2	85-115		
Zinc	202		2.00	ug/L	200		101	85-115		
LCS (BGB0720-BS2)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	101		1.00	ug/L	100		101	85-115		

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Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0720 - EPA 200.8 Dissolved (Continued)										
LCS (BGB0720-BS4)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	105		1.00	ug/L	100		105	85-115		
LCS (BGB0720-BS5)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	19.8		0.200	ug/L	20.0		99.2	85-115		
Silver	50.5		0.500	ug/L	50.0		101	85-115		
Duplicate (BGB0720-DUP1)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	1.34	J	2.50	ug/L		1.23			9.26	20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	<15.0	U	15.0	ug/L		<15.0				20
Lead	<2.50	U	2.50	ug/L		<2.50				20
Nickel	0.949	J	5.00	ug/L		0.954			0.525	20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Zinc	3.28	J	10.0	ug/L		2.35			32.8	20
Duplicate (BGB0720-DUP2)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	2.13	J	5.00	ug/L		1.89			12.0	20
Duplicate (BGB0720-DUP4)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Duplicate (BGB0720-DUP5)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
Silver	<2.50	U	2.50	ug/L		<2.50				20
BGA3905-BLK2 (BGB0720-LBK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Lead	<0.500	U	0.500	ug/L						
Nickel	0.381	J	1.00	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Zinc	4.90		2.00	ug/L						

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Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0720 - EPA 200.8 Dissolved (Continued)										
BGA3905-BLK2 (BGB0720-LBK2)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	2.25		1.00	ug/L						
BGA3905-BLK2 (BGB0720-LBK4)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	0.293	J	1.00	ug/L						
BGA3905-BLK2 (BGB0720-LBK5)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	0.0130	J	0.200	ug/L						
Silver	<0.500	U	0.500	ug/L						
MDL Check (BGB0720-MRL1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	0.124	J	0.500	ug/L	0.100		124			
Cadmium	0.0600	J	1.00	ug/L	0.0500		120			
Chromium	0.122	J	3.00	ug/L	0.0800		152			
Lead	0.125	J	0.500	ug/L	0.100		125			
Nickel	0.0250	J	1.00	ug/L	0.0500		50.0			
Thallium	0.0360	J	0.500	ug/L	0.0300		120			
Zinc	0.363	J	2.00	ug/L	0.200		182			
MDL Check (BGB0720-MRL2)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	0.457	J	1.00	ug/L	0.200		228			
MDL Check (BGB0720-MRL4)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	0.239	J	1.00	ug/L	0.200		120			
MDL Check (BGB0720-MRL5)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	0.0160	J	0.200	ug/L	0.0100		160			
Silver	0.0340	J	0.500	ug/L	0.0300		113			

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Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0720 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BGB0720-MS1)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	46.0		2.50	ug/L	50.0	1.23	89.5	75-125		
Cadmium	90.1		5.00	ug/L	100	<5.00	90.1	75-125		
Chromium	282		15.0	ug/L	300	<15.0	93.8	75-125		
Lead	48.4		2.50	ug/L	50.0	<2.50	96.9	75-125		
Nickel	88.3		5.00	ug/L	100	0.954	87.4	75-125		
Thallium	49.5		2.50	ug/L	50.0	<2.50	99.0	75-125		
Zinc	178		10.0	ug/L	200	2.35	87.9	75-125		
Matrix Spike (BGB0720-MS2)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Copper	88.7		5.00	ug/L	100	1.89	86.8	75-125		
Matrix Spike (BGB0720-MS3)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	94.9		5.00	ug/L	100	<5.00	94.9	75-125		
Matrix Spike (BGB0720-MS4)		**Source: 23A3576-02**			Prepared: 2/6/2023 Analyzed: 3/1/2023					
Beryllium	20.2		1.00	ug/L	20.0	<1.00	101	75-125		
Silver	44.7		2.50	ug/L	50.0	<2.50	89.3	75-125		
Batch: BGB0721 - EPA 200.8 Dissolved										
Blank (BGB0721-BLK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	<0.500	U	0.500	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Copper	0.422	J	1.00	ug/L						
Lead	<0.500	U	0.500	ug/L						
Nickel	<1.00	U	1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
Blank (BGB0721-BLK2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<1.00	U	1.00	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Zinc	<2.00	U	2.00	ug/L						
Blank (BGB0721-BLK3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	<0.200	U	0.200	ug/L						
LCS (BGB0721-BS1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	49.6		0.500	ug/L	50.0		99.2	85-115		
Chromium	295		3.00	ug/L	300		98.2	85-115		
Copper	104		1.00	ug/L	100		104	85-115		
Lead	51.0		0.500	ug/L	50.0		102	85-115		
Nickel	98.0		1.00	ug/L	100		98.0	85-115		
Silver	53.7		0.500	ug/L	50.0		107	85-115		
Thallium	48.9		0.500	ug/L	50.0		97.7	85-115		
LCS (BGB0721-BS2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	93.4		1.00	ug/L	100		93.4	85-115		
Cadmium	100		1.00	ug/L	100		100	85-115		
Zinc	204		2.00	ug/L	200		102	85-115		
LCS (BGB0721-BS3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	19.0		0.200	ug/L	20.0		95.0	85-115		
Duplicate (BGB0721-DUP1)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	1.96	J	2.50	ug/L		1.89			3.43	20
Chromium	1.12	J	15.0	ug/L		0.979			13.1	20
Copper	2.28	J	5.00	ug/L		2.09			8.48	20
Lead	1.19	J	2.50	ug/L		1.16			1.79	20
Nickel	1.24	J	5.00	ug/L		1.03			18.2	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20

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Quality Control
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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
Duplicate (BGB0721-DUP2)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	<2.50	U	2.50	ug/L		0.539			200	20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BGB0721-DUP3)			**Source: 23A1459-02**		Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Zinc	4.71	J	10.0	ug/L		4.16			12.4	20
Duplicate (BGB0721-DUP4)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Copper	1.09	J	5.00	ug/L		1.31			18.5	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Zinc	<10.0	U	10.0	ug/L		<10.0				20
Duplicate (BGB0721-DUP5)			**Source: 23A1459-02**		Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
Duplicate (BGB0721-DUP6)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/14/2023					
Arsenic	1.47	J	2.50	ug/L		1.23			17.3	20
Chromium	<15.0	U	15.0	ug/L		<15.0				20
Nickel	0.504	J	5.00	ug/L		0.531			5.22	20
Duplicate (BGB0721-DUPA)			**Source: 23A1459-49**		Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
BGB0310-BLK2 (BGB0721-LBK1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						

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Quality Control
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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
BGB0310-BLK2 (BGB0721-LBK2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	<1.00	U	1.00	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Copper	1.76		1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Zinc	4.82		2.00	ug/L						
BGB0310-BLK2 (BGB0721-LBK3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Chromium	0.222	J	3.00	ug/L						
Nickel	0.781	J	1.00	ug/L						
BGB0310-BLK2 (BGB0721-LBK5)					Prepared: 2/6/2023 Analyzed: 2/22/2023					
Arsenic	<0.500	U	0.500	ug/L						
BGB0310-BLK2 (BGB0721-LBK6)					Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	0.0140	J	0.200	ug/L						
BGB0310-BLK2 (BGB0721-LBK7)					Prepared: 2/6/2023 Analyzed: 3/1/2023					
Copper	2.02		1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
MDL Check (BGB0721-MRL1)					Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	0.124	J	0.500	ug/L	0.100		124			
Chromium	0.132	J	3.00	ug/L	0.0800		165			
Copper	0.624	J	1.00	ug/L	0.200		312			
Lead	0.102	J	0.500	ug/L	0.100		102			
Nickel	0.0230	J	1.00	ug/L	0.0500		46.0			
Silver	0.0360	J	0.500	ug/L	0.0300		120			
Thallium	0.0350	J	0.500	ug/L	0.0300		117			

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
MDL Check (BGB0721-MRL2)					Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	0.215	J	1.00	ug/L	0.200		108			
Cadmium	0.0490	J	1.00	ug/L	0.0500		98.0			
Zinc	0.196	J	2.00	ug/L	0.200		98.0			
MDL Check (BGB0721-MRL3)					Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	0.0320	J	0.200	ug/L	0.0100		320			
Matrix Spike (BGB0721-MS1)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Arsenic	44.5		2.50	ug/L	50.0	1.89	85.2	75-125		
Chromium	257		15.0	ug/L	300	0.979	85.3	75-125		
Copper	77.6		5.00	ug/L	100	2.09	75.5	75-125		
Lead	39.0		2.50	ug/L	50.0	1.16	75.8	75-125		
Nickel	73.5	J1	5.00	ug/L	100	1.03	72.4	75-125		
Silver	39.9		2.50	ug/L	50.0	<2.50	79.9	75-125		
Thallium	38.7		2.50	ug/L	50.0	<2.50	77.4	75-125		
Matrix Spike (BGB0721-MS2)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/8/2023					
Lead	36.0	J1	2.50	ug/L	50.0	0.539	70.9	75-125		
Thallium	38.1		2.50	ug/L	50.0	<2.50	76.3	75-125		
Matrix Spike (BGB0721-MS3)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	94.6		5.00	ug/L	100	<5.00	94.6	75-125		
Cadmium	81.8		5.00	ug/L	100	<5.00	81.8	75-125		
Zinc	167		10.0	ug/L	200	4.16	81.5	75-125		
Matrix Spike (BGB0721-MS4)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/9/2023					
Antimony	94.0		5.00	ug/L	100	<5.00	94.0	75-125		
Cadmium	85.7		5.00	ug/L	100	<5.00	85.7	75-125		
Copper	85.0		5.00	ug/L	100	1.31	83.7	75-125		
Silver	40.7		2.50	ug/L	50.0	<2.50	81.5	75-125		
Zinc	164		10.0	ug/L	200	<10.0	81.9	75-125		

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0721 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BGB0721-MS5)		**Source: 23A1459-02**			Prepared: 2/6/2023 Analyzed: 2/14/2023					
Beryllium	16.3		1.00	ug/L	20.0	<1.00	81.4	75-125		
Matrix Spike (BGB0721-MS6)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/14/2023					
Arsenic	51.7		2.50	ug/L	50.0	1.23	101	75-125		
Chromium	279		15.0	ug/L	300	<15.0	93.1	75-125		
Nickel	93.1		5.00	ug/L	100	0.531	92.5	75-125		
Matrix Spike (BGB0721-MSA)		**Source: 23A1459-49**			Prepared: 2/6/2023 Analyzed: 2/28/2023					
Beryllium	16.6		1.00	ug/L	20.0	<1.00	82.8	75-125		
Batch: BGB1125 - Cr VI										
Matrix Spike (BGB1125-MS1)		**Source: 23A1135-01**			Prepared & Analyzed: 2/8/2023					
Chromium (VI)	0.223		0.00300	mg/L	0.250	0.00674	86.4	70-130		
Matrix Spike Dup (BGB1125-MSD1)		**Source: 23A1135-01**			Prepared & Analyzed: 2/8/2023					
Chromium (VI)	0.258		0.00300	mg/L	0.250	0.00674	100	70-130	14.5	20
Batch: BGB1154 - Cr VI										
Matrix Spike (BGB1154-MS1)		**Source: 23A1135-01RE1**			Prepared: 2/8/2023 Analyzed: 2/10/2023					
Chromium (VI)	0.158	J1	0.00300	mg/L	0.250	0.00529	61.2	70-130		
Matrix Spike Dup (BGB1154-MSD1)		**Source: 23A1135-01RE1**			Prepared: 2/8/2023 Analyzed: 2/10/2023					
Chromium (VI)	0.156	J1	0.00300	mg/L	0.250	0.00529	60.1	70-130	1.80	20

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB2104 - Cr VI										
BGB0310-BLK1 (BGB2104-LBK1)					Prepared & Analyzed: 2/15/2023					
Chromium (VI)	0.0324		0.00300	mg/L						
Matrix Spike (BGB2104-MS1)		**Source: 23A1459-01**			Prepared & Analyzed: 2/15/2023					
Chromium (VI)	0.257		0.00300	mg/L	0.250	0.0111	98.4	70-130		
Matrix Spike Dup (BGB2104-MSD1)		**Source: 23A1459-01**			Prepared & Analyzed: 2/15/2023					
Chromium (VI)	0.261		0.00300	mg/L	0.250	0.0111	99.9	70-130	1.45	20
Batch: SGB0107 - BGB0720										
Interference Check A (SGB0107-IFA1)					Prepared & Analyzed: 2/8/2023					
Arsenic	0.278			ug/L				70-130		
Cadmium	0.416			ug/L				70-130		
Chromium	1.37			ug/L				70-130		
Lead	0.528			ug/L				70-130		
Nickel	0.930			ug/L				70-130		
Thallium	0.00500			ug/L				70-130		
Zinc	1.26			ug/L				70-130		
Interference Check B (SGB0107-IFB1)					Prepared & Analyzed: 2/8/2023					
Arsenic	52.5			ug/L	50.0		105	70-130		
Cadmium	107			ug/L	100		107	70-130		
Chromium	297			ug/L	300		99.0	70-130		
Lead	55.0			ug/L	50.0		110	70-130		
Nickel	97.5			ug/L	100		97.5	70-130		
Thallium	50.6			ug/L	50.0		101	70-130		
Zinc	194			ug/L	200		97.0	70-130		

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0112 - BGB0720										
Interference Check A (SGB0112-IFA1)					Prepared & Analyzed: 2/8/2023					
Copper	0.742			ug/L				70-130		
Interference Check B (SGB0112-IFB1)					Prepared & Analyzed: 2/8/2023					
Copper	94.1			ug/L	100		94.1	70-130		
Batch: SGB0118 - BGB0721										
Interference Check A (SGB0118-IFA1)					Prepared & Analyzed: 2/8/2023					
Arsenic	0.286			ug/L				70-130		
Chromium	1.27			ug/L				70-130		
Copper	0.807			ug/L				70-130		
Lead	0.502			ug/L				70-130		
Nickel	0.998			ug/L				70-130		
Silver	0.107			ug/L				70-130		
Thallium	0.00700			ug/L				70-130		
Interference Check B (SGB0118-IFB1)					Prepared & Analyzed: 2/8/2023					
Arsenic	55.7			ug/L	50.0		111	70-130		
Chromium	315			ug/L	300		105	70-130		
Copper	105			ug/L	100		105	70-130		
Lead	51.8			ug/L	50.0		104	70-130		
Nickel	99.4			ug/L	100		99.4	70-130		
Silver	54.2			ug/L	50.0		108	70-130		
Thallium	49.3			ug/L	50.0		98.5	70-130		
Batch: SGB0135 - BGB0720										
Interference Check A (SGB0135-IFA1)					Prepared & Analyzed: 2/9/2023					
Antimony	0.253			ug/L				70-130		

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0135 - BGB0720 (Continued)										
Interference Check B (SGB0135-IFB1)					Prepared & Analyzed: 2/9/2023					
Antimony	103			ug/L	100		103	70-130		
Batch: SGB0138 - BGB0721										
Interference Check A (SGB0138-IFA1)					Prepared & Analyzed: 2/9/2023					
Antimony	0.231			ug/L				70-130		
Cadmium	0.447			ug/L				70-130		
Copper	0.494			ug/L				70-130		
Silver	0.0850			ug/L				70-130		
Zinc	2.14			ug/L				70-130		
Interference Check B (SGB0138-IFB1)					Prepared & Analyzed: 2/9/2023					
Antimony	103			ug/L	100		103	70-130		
Cadmium	89.9			ug/L	100		89.9	70-130		
Copper	82.9			ug/L	100		82.9	70-130		
Silver	45.3			ug/L	50.0		90.6	70-130		
Zinc	167			ug/L	200		83.3	70-130		
Batch: SGB0194 - BGB0721										
Interference Check A (SGB0194-IFA1)					Prepared & Analyzed: 2/14/2023					
Antimony	0.285			ug/L				70-130		
Arsenic	0.113			ug/L				70-130		
Beryllium	-0.00500	U		ug/L				70-130		
Cadmium	0.388			ug/L				70-130		
Chromium	3.13			ug/L				70-130		
Copper	0.170			ug/L				70-130		
Nickel	0.543			ug/L				70-130		
Silver	0.0100			ug/L				70-130		
Zinc	0.966			ug/L				70-130		

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Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0194 - BGB0721 (Continued)										
Interference Check B (SGB0194-IFB1)					Prepared & Analyzed: 2/14/2023					
Antimony	104			ug/L	100		104	70-130		
Arsenic	52.3			ug/L	50.0		105	70-130		
Beryllium	17.6			ug/L	20.0		88.1	70-130		
Cadmium	103			ug/L	100		103	70-130		
Chromium	297			ug/L	300		98.9	70-130		
Copper	92.6			ug/L	100		92.6	70-130		
Nickel	91.4			ug/L	100		91.4	70-130		
Silver	49.8			ug/L	50.0		99.7	70-130		
Zinc	181			ug/L	200		90.7	70-130		
Batch: SGB0321 - BGB0721										
Interference Check A (SGB0321-IFA1)					Prepared & Analyzed: 2/22/2023					
Antimony	0.196			ug/L				70-130		
Arsenic	0.0940			ug/L				70-130		
Cadmium	0.319			ug/L				70-130		
Chromium	3.57			ug/L				70-130		
Nickel	0.557			ug/L				70-130		
Thallium	0.0110			ug/L				70-130		
Interference Check B (SGB0321-IFB1)					Prepared & Analyzed: 2/22/2023					
Antimony	106			ug/L	100		106	70-130		
Arsenic	48.3			ug/L	50.0		96.6	70-130		
Cadmium	96.0			ug/L	100		96.0	70-130		
Chromium	284			ug/L	300		94.7	70-130		
Nickel	87.7			ug/L	100		87.7	70-130		
Thallium	45.8			ug/L	50.0		91.7	70-130		

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Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0420 - BGB1825										
Interference Check A (SGB0420-IFA1)					Prepared & Analyzed: 2/28/2023					
Beryllium	0.00300			ug/L				70-130		
Interference Check B (SGB0420-IFB1)					Prepared & Analyzed: 2/28/2023					
Beryllium	15.0			ug/L	20.0		75.0	70-130		
Batch: SGB0424 - BGB1825										
Interference Check A (SGB0424-IFA1)					Prepared & Analyzed: 2/28/2023					
Beryllium	0.00200			ug/L				70-130		
Interference Check B (SGB0424-IFB1)					Prepared & Analyzed: 2/28/2023					
Beryllium	16.2			ug/L	20.0		81.0	70-130		
Batch: SGB0432 - BGB0721										
Interference Check B (SGB0432-IFB1)					Prepared & Analyzed: 2/28/2023					
Beryllium	16.4			ug/L	20.0		81.8	70-130		
Batch: SGC0006 - BGB0721										
Interference Check A (SGC0006-IFA1)					Prepared & Analyzed: 3/1/2023					
Copper	0.134			ug/L				70-130		
Silver	0.0110			ug/L				70-130		
Interference Check B (SGC0006-IFB1)					Prepared & Analyzed: 3/1/2023					
Copper	95.0			ug/L	100		95.0	70-130		
Silver	48.3			ug/L	50.0		96.5	70-130		

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Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGC0014 - BGB0720										
Interference Check A (SGC0014-IFA1)					Prepared & Analyzed: 3/1/2023					
Beryllium	0.00600			ug/L				70-130		
Silver	0.00800			ug/L				70-130		
Interference Check B (SGC0014-IFB1)					Prepared & Analyzed: 3/1/2023					
Beryllium	17.2			ug/L	20.0		86.2	70-130		
Silver	45.5			ug/L	50.0		91.0	70-130		
Batch: SGC0057 - BGB0721										
Interference Check A (SGC0057-IFA1)					Prepared & Analyzed: 3/3/2023					
Copper	0.102			ug/L				70-130		
Interference Check B (SGC0057-IFB1)					Prepared & Analyzed: 3/3/2023					
Copper	84.8			ug/L	100		84.8	70-130		

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Quality Control
(Continued)

Elutriate Metals, Total

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0678 - EPA 245.1										
Blank (BGB0678-BLK1)					Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L						
LCS (BGB0678-BS1)					Prepared & Analyzed: 2/6/2023					
Mercury	5.07		0.200	ug/L	5.00		101	85-115		
Duplicate (BGB0678-DUP1)		**Source: 22I2894-01**			Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
Duplicate (BGB0678-DUP2)		**Source: 23A1459-52**			Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
BGB0310-LBK1 (BGB0678-LBK1)					Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L						
BGA3905-LBK1 (BGB0678-LBK2)					Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L						
MDL Check (BGB0678-MRL1)					Prepared & Analyzed: 2/6/2023					
Mercury	<0.200	U	0.200	ug/L	0.100					
Matrix Spike (BGB0678-MS1)		**Source: 22I2894-01**			Prepared & Analyzed: 2/6/2023					
Mercury	5.21		0.200	ug/L	5.00	<0.200	104	70-130		
Matrix Spike (BGB0678-MS2)		**Source: 23A1459-52**			Prepared & Analyzed: 2/6/2023					
Mercury	5.32		0.200	ug/L	5.00	<0.200	106	70-130		
Batch: BGB1605 - EPA 200.8										
Blank (BGB1605-BLK1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	<2.00	U	2.00	ug/L						

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11555 Clay Road	Project Number:	**Reported:**
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Quality Control
(Continued)

Elutriate Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB1605 - EPA 200.8 (Continued)										
LCS (BGB1605-BS1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	213		2.00	ug/L	200		107	85-115		
Duplicate (BGB1605-DUP1)		**Source: 23A1459-05**			Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	<10.0	U	10.0	ug/L		<10.0				20
Duplicate (BGB1605-DUP2)		**Source: 23A3576-02**			Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	0.737	J	2.00	ug/L		0.668			9.82	20
BGB0310-LBK1 (BGB1605-LBK1)					Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	<2.00	U	2.00	ug/L						
BGA3905-LBK1 (BGB1605-LBK2)					Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	<2.00	U	2.00	ug/L						
MDL Check (BGB1605-MRL1)					Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	0.286	J	2.00	ug/L						
Matrix Spike (BGB1605-MS1)		**Source: 23A1459-05**			Prepared: 2/10/2023 Analyzed: 2/22/2023					
Selenium	210		10.0	ug/L	200	<10.0	105	75-125		
Matrix Spike (BGB1605-MS2)		**Source: 23A3576-02**			Prepared: 2/10/2023 Analyzed: 2/24/2023					
Selenium	222		2.00	ug/L	200	0.668	111	75-125		
Batch: BGB3632 - EPA 200.8										
Blank (BGB3632-BLK1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	<2.00	U	2.00	ug/L						

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Quality Control
(Continued)

Elutriate Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB3632 - EPA 200.8 (Continued)										
LCS (BGB3632-BS1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	204		2.00	ug/L	200		102	85-115		
Duplicate (BGB3632-DUP1)		**Source: 23A1459-13**			Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	<10.0	U	10.0	ug/L		<10.0				20
MRL Check (BGB3632-MRL1)					Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	0.320	J	2.00	ug/L	0.330		97.0			
Matrix Spike (BGB3632-MS1)		**Source: 23A1459-13**			Prepared: 2/24/2023 Analyzed: 3/1/2023					
Selenium	989		10.0	ug/L	1000	<10.0	98.9	75-125		
Batch: SGB0325 - BGB1605										
Interference Check A (SGB0325-IFA1)					Prepared & Analyzed: 2/22/2023					
Selenium	-0.00300	U		ug/L				70-130		
Interference Check B (SGB0325-IFB1)					Prepared & Analyzed: 2/22/2023					
Selenium	194			ug/L	200		97.2	70-130		
Batch: SGB0332 - BGB1605										
Interference Check A (SGB0332-IFA1)					Prepared & Analyzed: 2/22/2023					
Selenium	0.0760			ug/L				70-130		
Interference Check B (SGB0332-IFB1)					Prepared & Analyzed: 2/22/2023					
Selenium	203			ug/L	200		102	70-130		

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Quality Control
(Continued)

Elutriate Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SGB0385 - BGB1605										
Interference Check A (SGB0385-IFA1)					Prepared & Analyzed: 2/24/2023					
Selenium	0.168			ug/L				70-130		
Interference Check B (SGB0385-IFB1)					Prepared & Analyzed: 2/24/2023					
Selenium	178			ug/L	200		89.2	70-130		
Batch: SGC0003 - BGB3632										
Interference Check A (SGC0003-IFA1)					Prepared & Analyzed: 3/1/2023					
Selenium	0.0760			ug/L				70-130		
Interference Check B (SGC0003-IFB1)					Prepared & Analyzed: 3/1/2023					
Selenium	199			ug/L	200		99.7	70-130		

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Quality Control
(Continued)

Elutriate General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0150 - TSS										
Blank (BGB0150-BLK1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGB0150-BS1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Residue-nonfilterable (TSS)	98.5		1.00	mg/L	100		98.5	85-115		
Duplicate (BGB0150-DUP1)		**Source: 23A1459-09**			Prepared: 2/1/2023 Analyzed: 2/2/2023					
Residue-nonfilterable (TSS)	5.26	J1	1.00	mg/L		5.89			11.3	10
BGA3905-BLK1 (BGB0150-LBK1)					Prepared: 2/1/2023 Analyzed: 2/2/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
Batch: BGB0805 - TSS										
Blank (BGB0805-BLK1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGB0805-BS1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Residue-nonfilterable (TSS)	99.0		1.00	mg/L	100		99.0	85-115		
Duplicate (BGB0805-DUP1)		**Source: 23A1459-14**			Prepared: 2/6/2023 Analyzed: 2/7/2023					
Residue-nonfilterable (TSS)	6.35		1.00	mg/L		6.59			3.64	10
BGB0310-BLK1 (BGB0805-LBK1)					Prepared: 2/6/2023 Analyzed: 2/7/2023					
Residue-nonfilterable (TSS)	6.38		1.00	mg/L						
Batch: BGB0807 - NH3-N SEAL-350.1										
BGB0310-BLK1 (BGB0807-LBK1)					Prepared & Analyzed: 2/7/2023					
Ammonia as N	<0.0500	U	0.0500	mg/L						

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Quality Control
(Continued)

Elutriate General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0807 - NH3-N SEAL-350.1 (Continued)										
MRL Check (BGB0807-MRL1)					Prepared & Analyzed: 2/7/2023					
Ammonia as N	0.0469			mg/L	0.0500		93.8	50-150		
Matrix Spike (BGB0807-MS1)		**Source: 23A1459-08RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	0.571	J1	0.0500	mg/L	0.400	0.456	28.8	90-110		
Matrix Spike (BGB0807-MS2)		**Source: 23B1245-02RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	2.45		0.250	mg/L	0.400	2.06	98.7	90-110		
Matrix Spike Dup (BGB0807-MSD1)		**Source: 23A1459-08RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	1.05	J1	0.0500	mg/L	0.400	0.456	148	90-110	58.9	20
Matrix Spike Dup (BGB0807-MSD2)		**Source: 23B1245-02RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	2.45		0.250	mg/L	0.400	2.06	97.6	90-110	0.176	20
Batch: BGB0808 - NH3-N SEAL-350.1										
BGA3905-BLK1 (BGB0808-LBK1)					Prepared & Analyzed: 2/7/2023					
Ammonia as N	<0.0500	U	0.0500	mg/L						
Matrix Spike (BGB0808-MS1)		**Source: 23B1393-01RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	0.404		0.0500	mg/L	0.400	0.0313	93.1	90-110		
Matrix Spike (BGB0808-MS2)		**Source: 23B0935-03RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	73.9		5.00	mg/L	0.400	73.4	110	90-110		
Matrix Spike Dup (BGB0808-MSD1)		**Source: 23B1393-01RE1**			Prepared & Analyzed: 2/7/2023					
Ammonia as N	0.402		0.0500	mg/L	0.400	0.0313	92.6	90-110	0.497	20

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Quality Control
(Continued)

Elutriate General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGB0808 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike Dup (BGB0808-MSD2)			**Source: 23B0935-03RE1**		Prepared & Analyzed: 2/7/2023					
Ammonia as N	73.8		5.00	mg/L	0.400	73.4	94.8	90-110	0.0812	20

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Sample Condition Checklist

Work Order: 23A1459

Check Points	
Yes	Custody Seals
Yes	Containers Intact
Yes	COC/Labels Agree
Yes	Received On Ice
Yes	Appropriate Containers
Yes	Appropriate Sample Volume
Yes	Coolers Intact
Yes	Samples Accepted

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Term and Qualifier Definitions

Item	Definition
A	Detection limit elevated due to abundance of non-target analyte.
B	Analyte was found in the associated method blank.
B2	The analyte was detected in the associated leach blank.
C+	The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.
CQ	Internal Standard response less than 50% calibration response
H	The parameter was analyzed outside the method specified holding time.
HP	The time between preparation and analysis was outside the method specified holding time this for parameter.
J	Estimated value - The reported value is between the detection limit and reporting limit.
J1	Estimated value - The reported value is outside the established quality control criteria for accuracy and/or precision.
L	Off scale high - The concentration of the analyte exceeds the linear range.
P	Difference between GC column results greater than the method requirement. Higher result reported.
S	The surrogate recovery was outside the established laboratory recovery limit.
U	Non-detected compound.
V	Analyte was detected in both sample and method blank.
V2	The analyte was detected in the sample and the associated leach blank.
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated
*	A = Accredited, N = Not Accredited or Accreditation not available
DF	Dilution Factor - the factor applied to the reported data due to sample preparation, dilution, or moisture content
MDL	Method Detection Limit - The minimum concentration of a substance (or analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. Based on standard deviation of replicate spiked samples take through all steps of the analytical procedure following 40 CFR Part 136 Appendix B.
SDL	Sample Detection Limit - The minimum concentration of a substance (analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The SDL is an adjusted limit thus sample specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments. If there are no sample specific parameters, the MDL = SDL.
MRL	Method Reporting Limit - Analyte concentration that corresponds to the lowest level lab reports with confidence in accuracy of quantitation and without qualification (i.e. J-flagged). The MRL is at or above the lowest calibration standard.
LRL	Laboratory Reporting Limit - Analyte concentration that corresponds to the lowest level lab reports with confidence in accuracy of quantitation and without qualification (i.e. J-flagged). The LRL is an adjusted limit thus sample specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments. If there are no sample specific parameters, the MRL = LRL.

March 6, 2023

Ms. Monica Martin

Re: North Water District Laboratory Services, Inc. (NWDLS)
NWDLS Geosciences Lab Testing – Task Order #13
Project #23A1459

The Taylor Engineering Coastal & Marine Geosciences Laboratory is pleased to submit the following sediment data for NWDLS project #23A1459. Taylor Engineering received 33 samples for analysis in Jacksonville, Florida on February 1st, 2023. Laboratory testing for project #23A1459 included sieve and hydrometer analysis according to ASTM D-422. Attached to this letter are the individual test results for each sample.

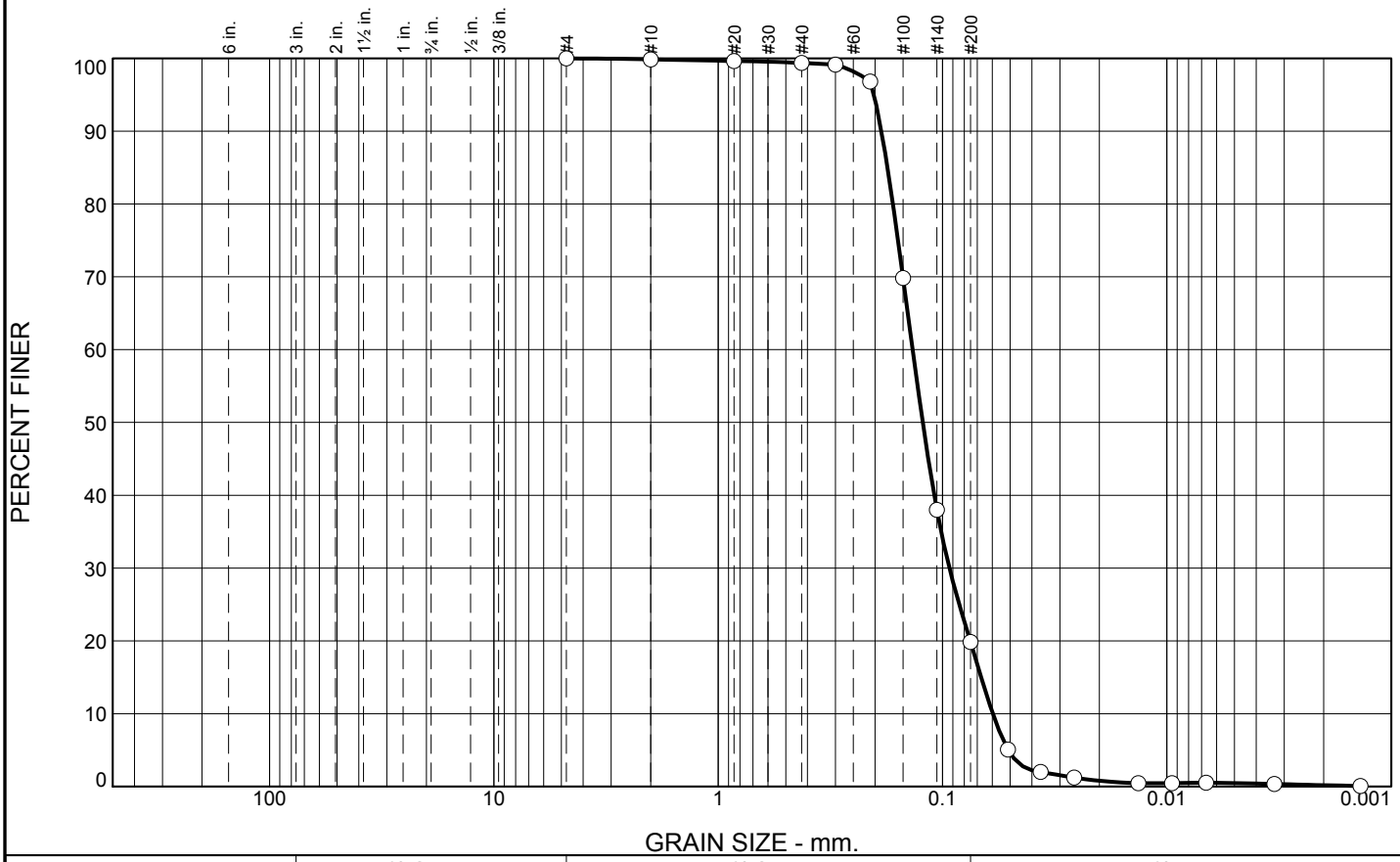
If any additional information is needed or if you have any questions, please contact me at (904) 731-7040 or nlamb@taylorengineering.com.

Sincerely,

Natalie Lamb

Natalie Lamb, G.I.T.
Staff Geologist
Coastal & Marine Geosciences Lab Assistant Manager

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.5	79.6	19.4	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.6		
#40	99.4		
#50	99.1		
#70	96.8		
#100	69.8		
#140	38.0		
#200	19.8		
0.0511 mm.	5.1		
0.0365 mm.	2.0		
0.0259 mm.	1.2		
0.0134 mm.	0.4		
0.0095 mm.	0.4		
0.0067 mm.	0.5		
0.0033 mm.	0.3		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1872 D_{85}= 0.1759 D_{60}= 0.1360
D_{50}= 0.1225 D_{30}= 0.0932 D_{15}= 0.0673
D_{10}= 0.0597 C_u= 2.28 C_c= 1.07

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 16

Date: 3/6/2023

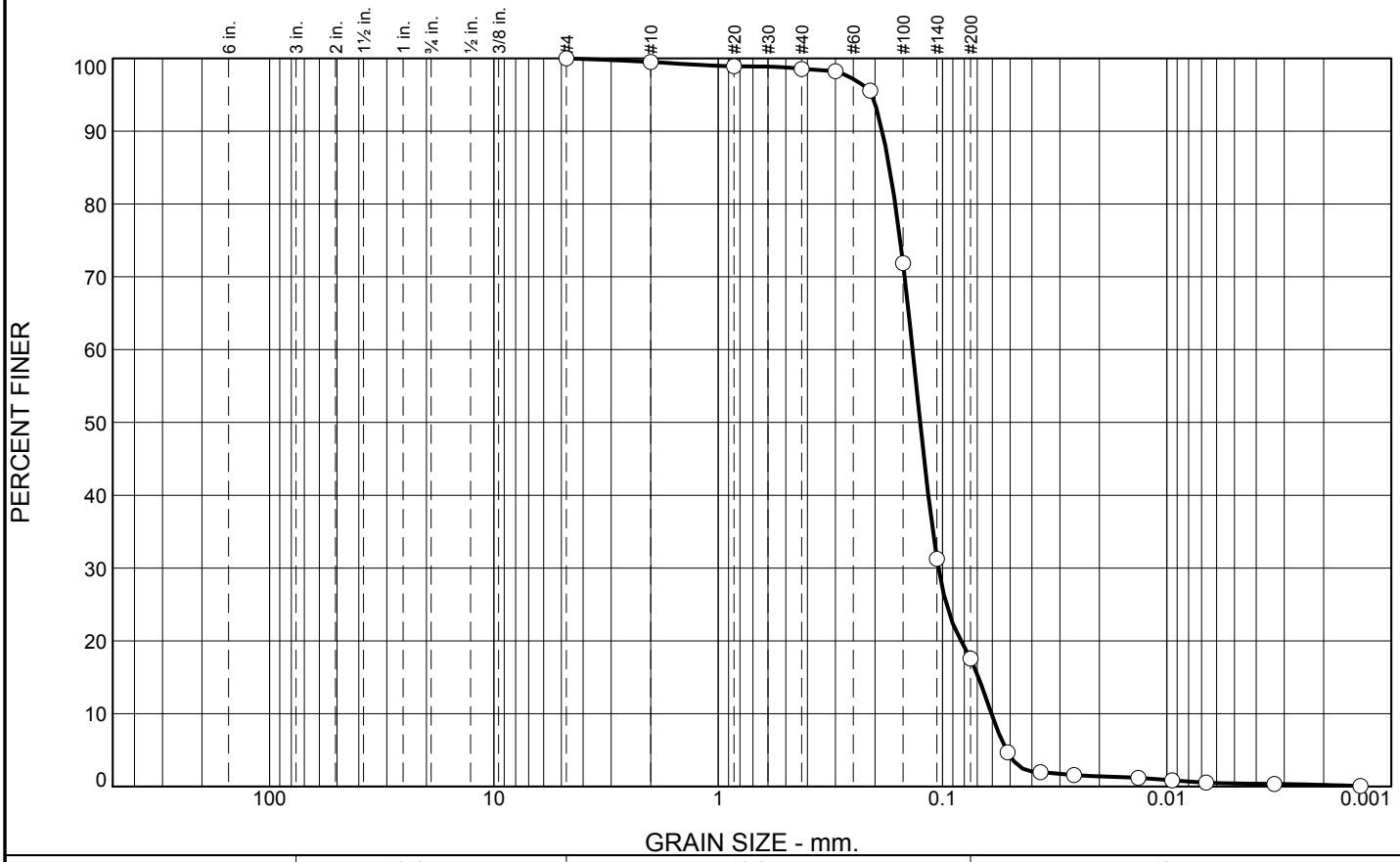
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	0.9	81.0	17.2	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#20	98.9		
#40	98.6		
#50	98.2		
#70	95.6		
#100	71.9		
#140	31.3		
#200	17.6		
0.0513 mm.	4.7		
0.0366 mm.	2.0		
0.0259 mm.	1.6		
0.0134 mm.	1.2		
0.0095 mm.	0.8		
0.0067 mm.	0.5		
0.0033 mm.	0.3		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1856 D_{85}= 0.1725 D_{60}= 0.1360
D_{50}= 0.1258 D_{30}= 0.1043 D_{15}= 0.0692
D_{10}= 0.0606 C_u= 2.25 C_c= 1.32

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 17

Date: 3/6/2023

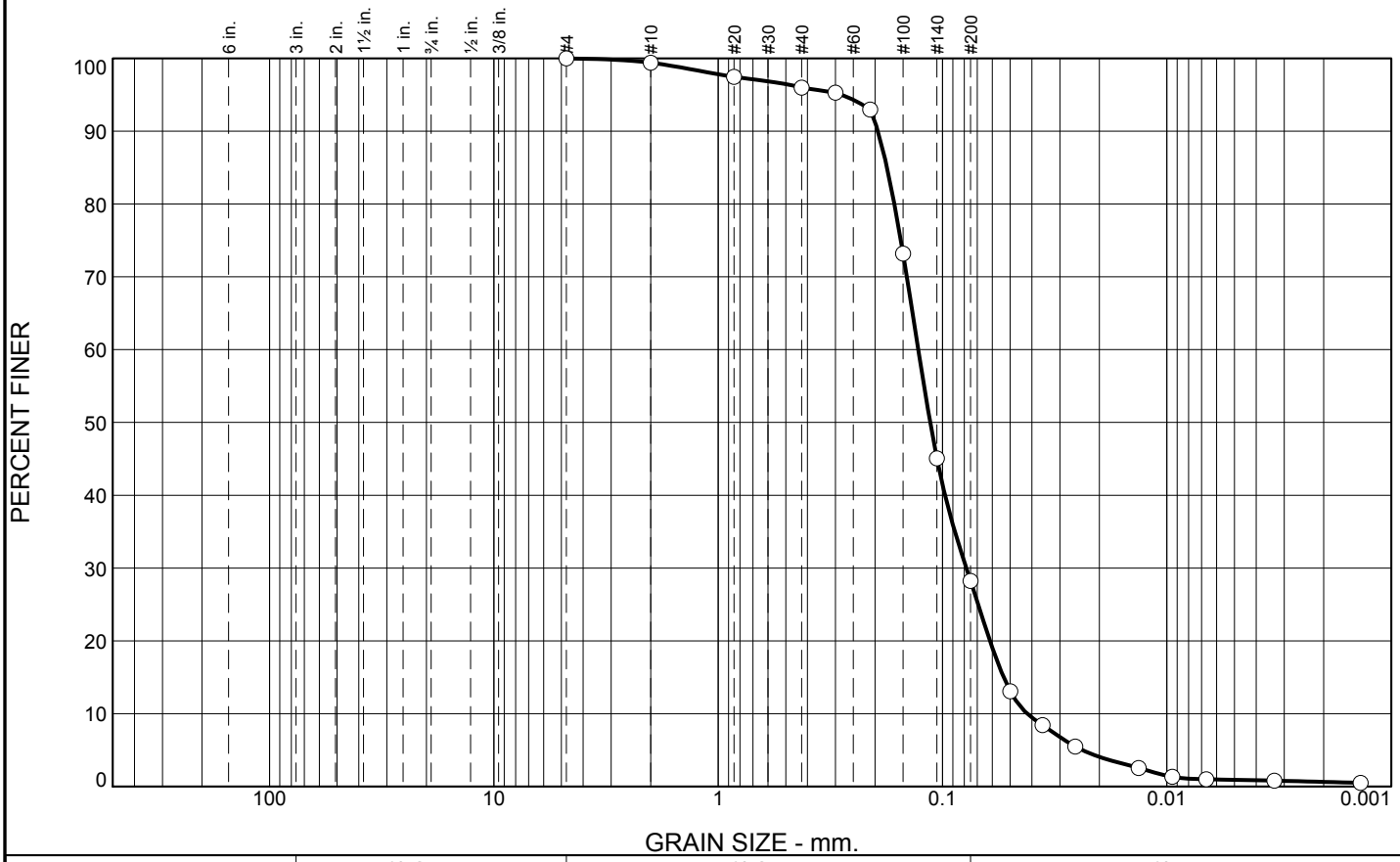
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	3.4	67.8	27.3	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	97.5		
#40	96.0		
#50	95.3		
#70	93.0		
#100	73.2		
#140	45.1		
#200	28.2		
0.0499 mm.	13.1		
0.0359 mm.	8.4		
0.0256 mm.	5.5		
0.0134 mm.	2.5		
0.0095 mm.	1.3		
0.0067 mm.	1.0		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1941 D_{85}= 0.1768 D_{60}= 0.1283
D_{50}= 0.1135 D_{30}= 0.0783 D_{15}= 0.0535
D_{10}= 0.0420 C_u= 3.05 C_c= 1.14

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 18

Date: 3/6/2023

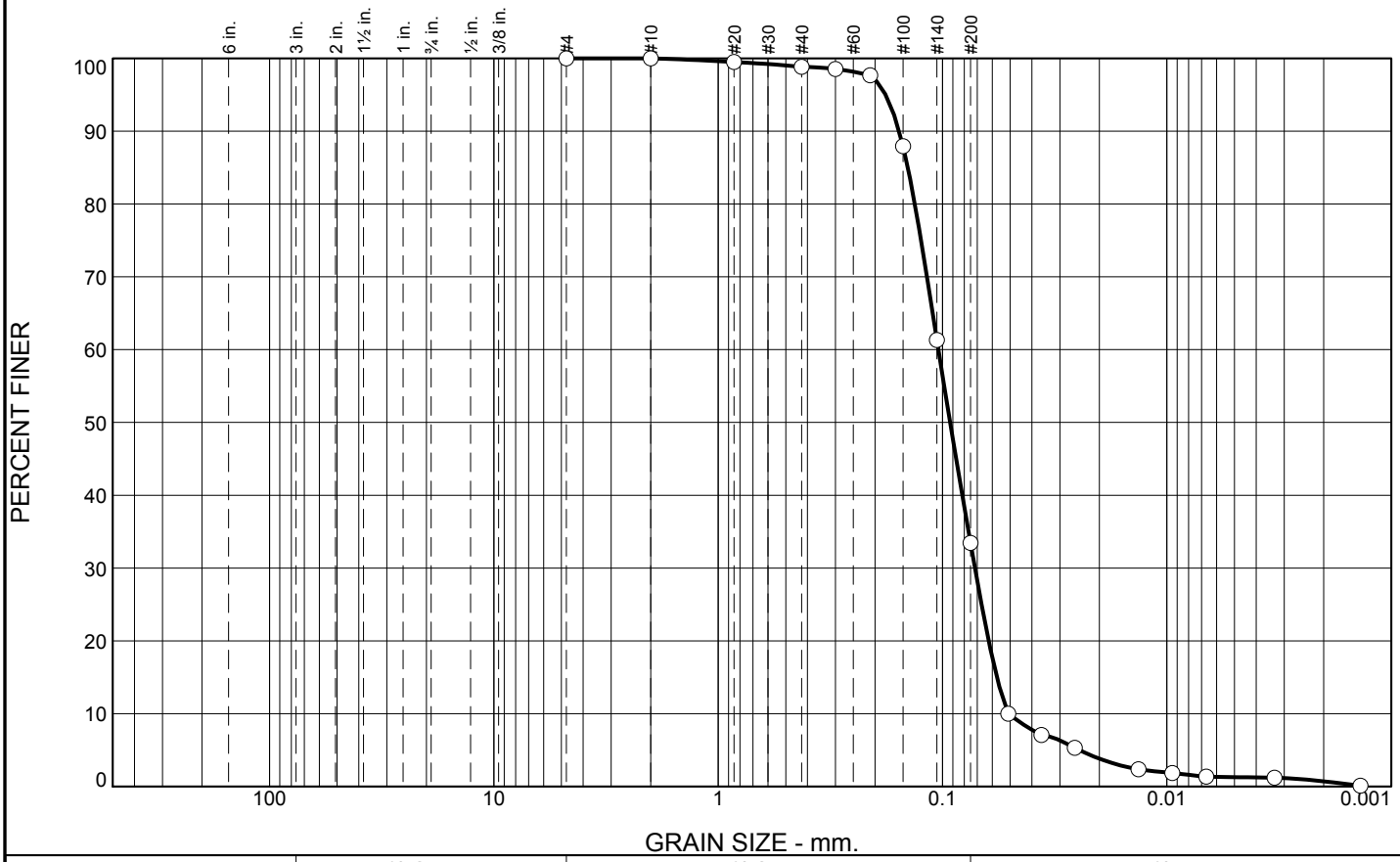
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	65.3	32.2	1.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.5		
#40	98.8		
#50	98.5		
#70	97.7		
#100	88.0		
#140	61.3		
#200	33.5		
0.0509 mm.	10.0		
0.0363 mm.	7.1		
0.0258 mm.	5.3		
0.0134 mm.	2.4		
0.0095 mm.	1.9		
0.0067 mm.	1.3		
0.0033 mm.	1.2		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1561 D_{85}= 0.1428 D_{60}= 0.1043
D_{50}= 0.0925 D_{30}= 0.0717 D_{15}= 0.0572
D_{10}= 0.0509 C_u= 2.05 C_c= 0.97

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 20

Date: 3/6/2023

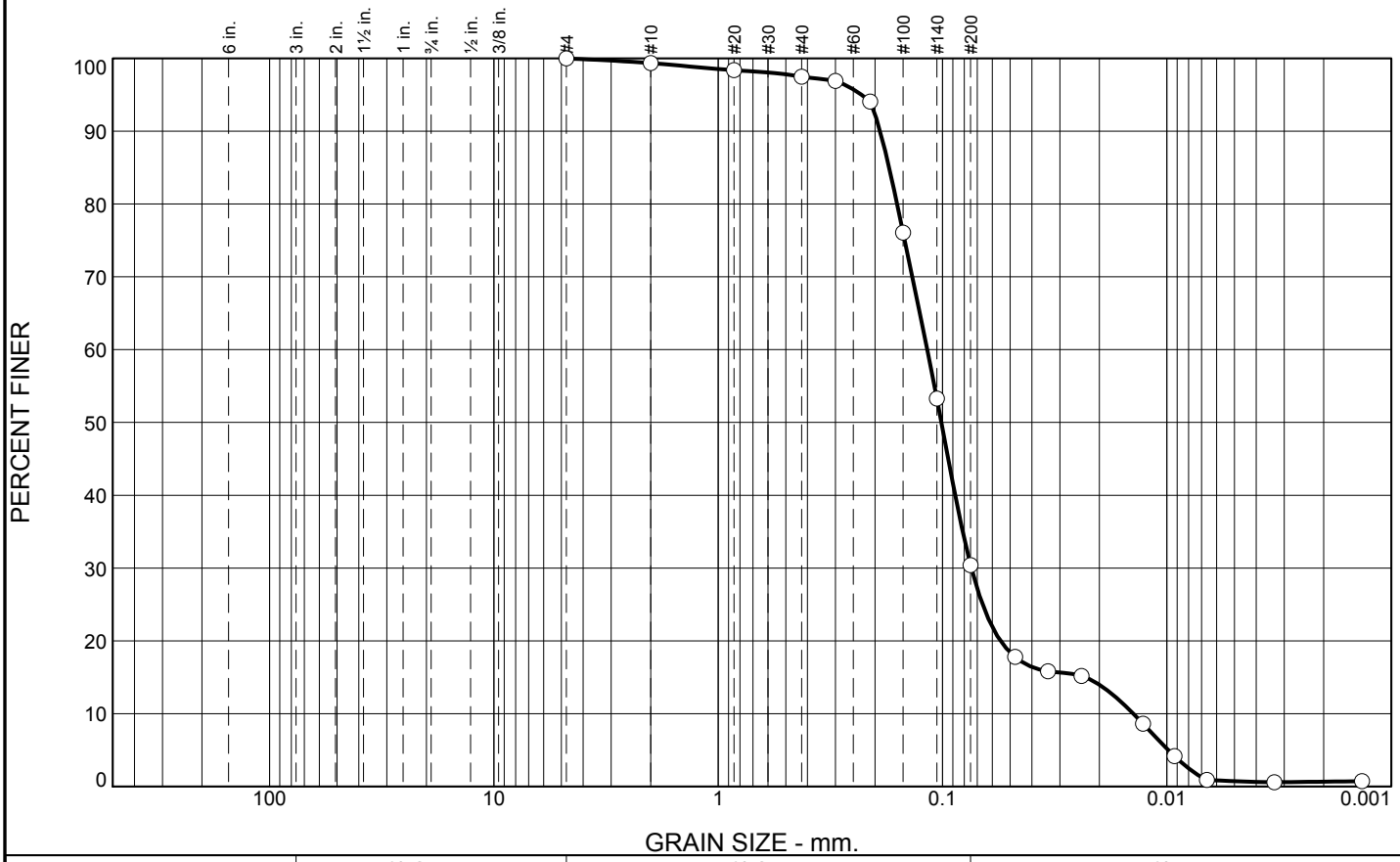
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	1.9	67.1	29.7	0.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	98.4		
#40	97.5		
#50	96.9		
#70	94.1		
#100	76.1		
#140	53.3		
#200	30.4		
0.0475 mm.	17.8		
0.0339 mm.	15.8		
0.0240 mm.	15.2		
0.0128 mm.	8.6		
0.0093 mm.	4.2		
0.0066 mm.	0.9		
0.0033 mm.	0.6		
0.0014 mm.	0.7		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1897 D_{85}= 0.1730 D_{60}= 0.1170
D_{50}= 0.1012 D_{30}= 0.0744 D_{15}= 0.0232
D_{10}= 0.0141 C_u= 8.28 C_c= 3.35

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 21

Date: 3/6/2023

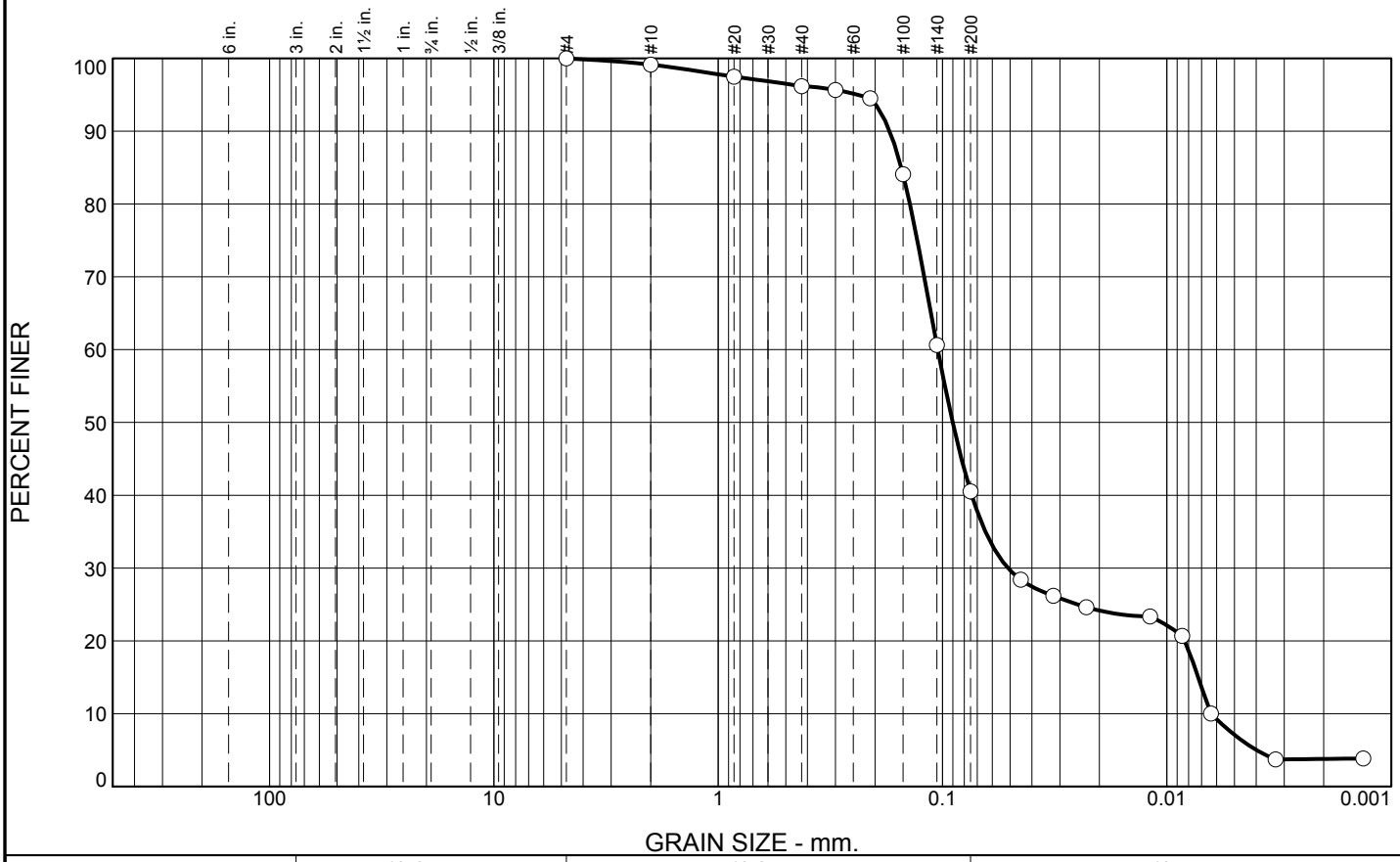
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.8	3.0	55.7	33.4	7.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.2		
#20	97.5		
#40	96.2		
#50	95.7		
#70	94.5		
#100	84.1		
#140	60.6		
#200	40.5		
0.0448 mm.	28.4		
0.0321 mm.	26.2		
0.0229 mm.	24.6		
0.0119 mm.	23.3		
0.0085 mm.	20.7		
0.0064 mm.	10.0		
0.0033 mm.	3.7		
0.0013 mm.	3.8		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1720 D_{85}= 0.1527 D_{60}= 0.1050
D_{50}= 0.0900 D_{30}= 0.0511 D_{15}= 0.0073
D_{10}= 0.0064 C_u= 16.51 C_c= 3.91

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 22

Date: 3/6/2023

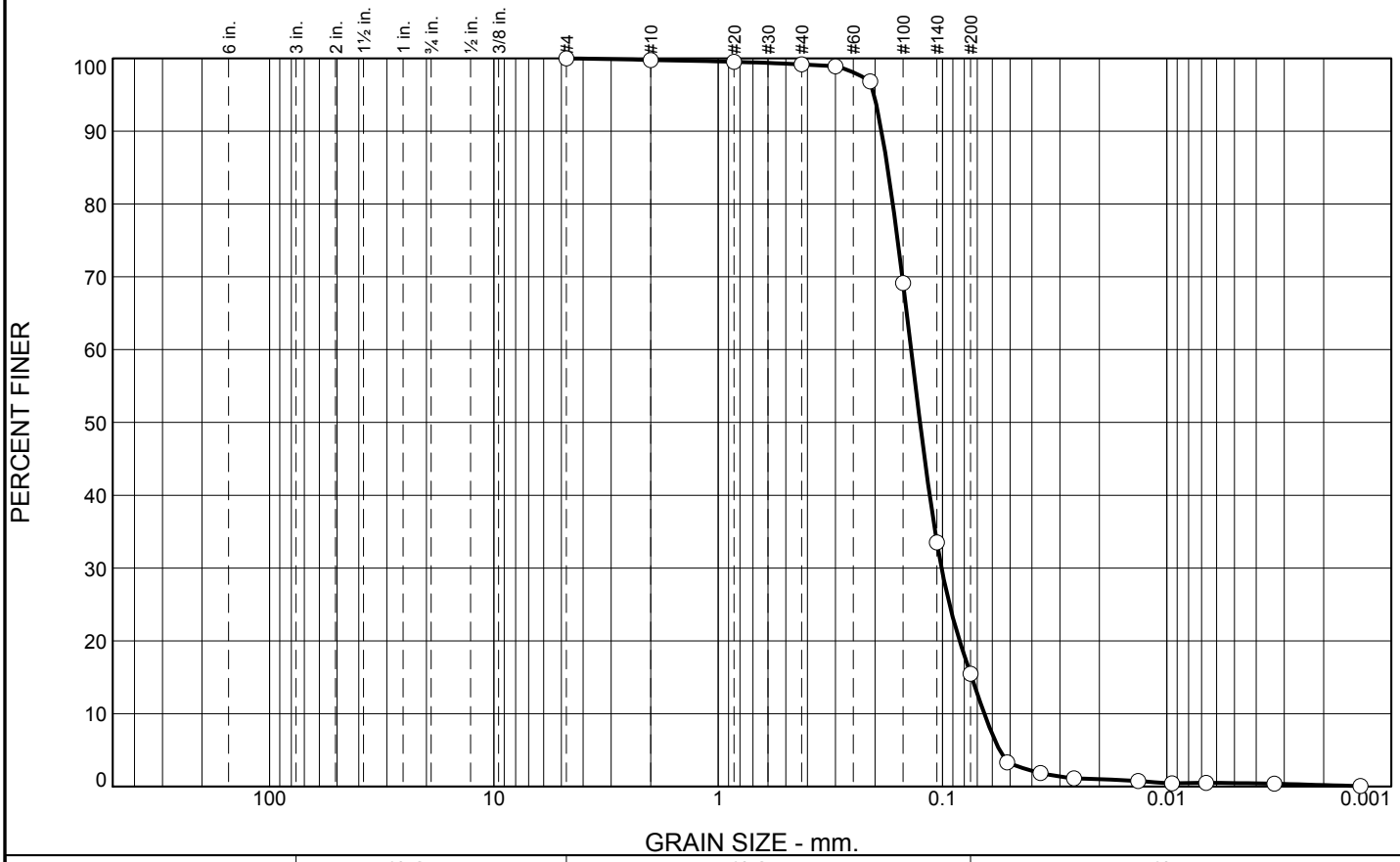
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	0.6	83.7	15.0	0.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	99.5		
#40	99.2		
#50	98.9		
#70	96.8		
#100	69.1		
#140	33.5		
#200	15.5		
0.0515 mm.	3.3		
0.0366 mm.	1.8		
0.0260 mm.	1.1		
0.0134 mm.	0.7		
0.0095 mm.	0.4		
0.0067 mm.	0.5		
0.0033 mm.	0.4		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1869 D_{85}= 0.1758 D_{60}= 0.1381
D_{50}= 0.1260 D_{30}= 0.1011 D_{15}= 0.0741
D_{10}= 0.0651 C_u= 2.12 C_c= 1.14

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 24

Date: 3/6/2023

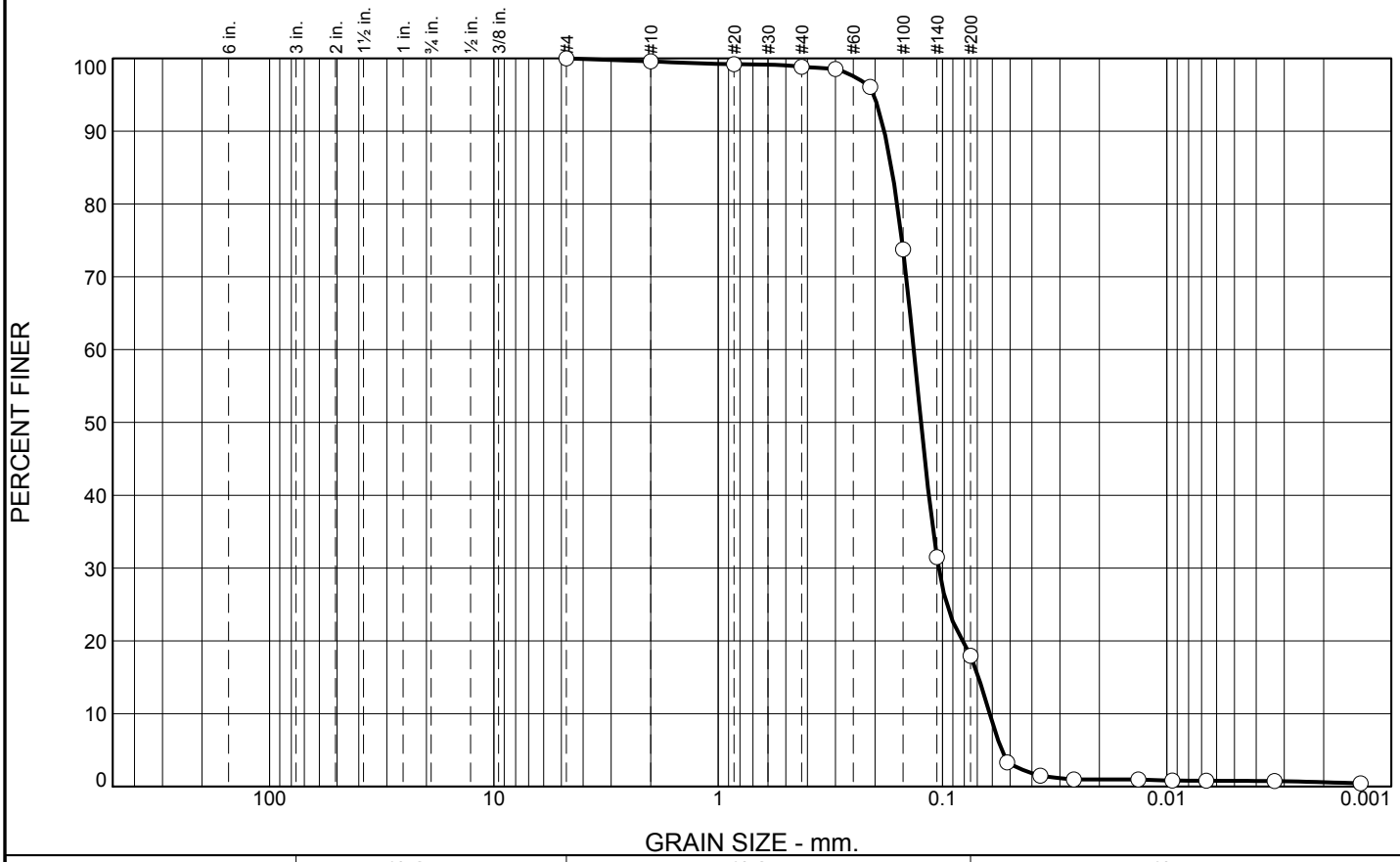
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	0.8	80.9	17.1	0.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#20	99.2		
#40	98.8		
#50	98.6		
#70	96.1		
#100	73.8		
#140	31.5		
#200	17.9		
0.0515 mm.	3.3		
0.0367 mm.	1.5		
0.0260 mm.	1.0		
0.0134 mm.	1.0		
0.0095 mm.	0.8		
0.0067 mm.	0.8		
0.0033 mm.	0.7		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1819 D_{85}= 0.1689 D_{60}= 0.1344
D_{50}= 0.1247 D_{30}= 0.1040 D_{15}= 0.0691
D_{10}= 0.0616 C_u= 2.18 C_c= 1.31

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 25

Date: 3/6/2023

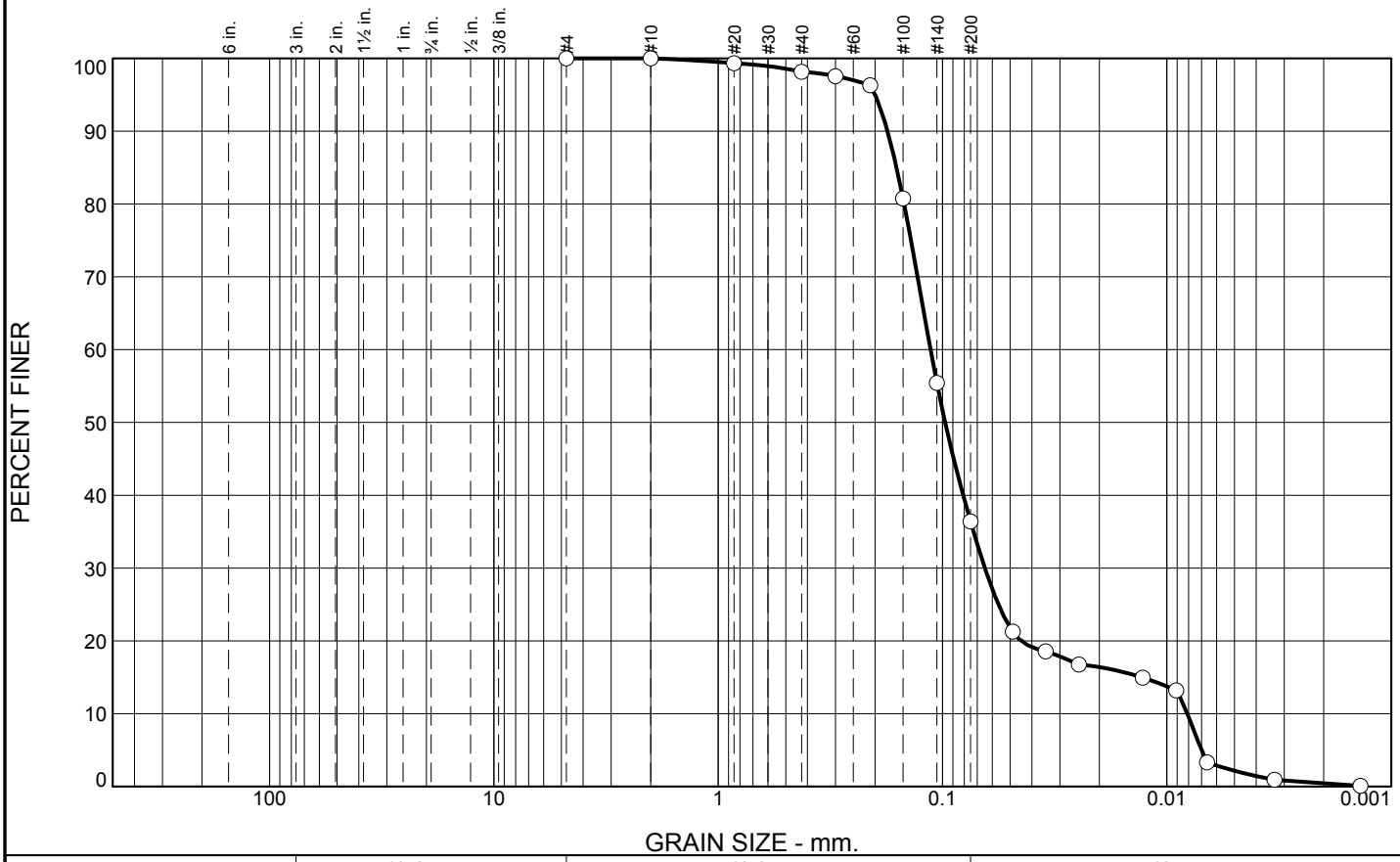
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.8	61.8	34.2	2.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.4		
#40	98.2		
#50	97.6		
#70	96.3		
#100	80.8		
#140	55.4		
#200	36.4		
0.0486 mm.	21.3		
0.0347 mm.	18.6		
0.0247 mm.	16.7		
0.0128 mm.	14.9		
0.0091 mm.	13.2		
0.0066 mm.	3.3		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1759 D_{85}= 0.1604 D_{60}= 0.1131
D_{50}= 0.0974 D_{30}= 0.0647 D_{15}= 0.0130
D_{10}= 0.0081 C_u= 13.94 C_c= 4.57

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 27

Date: 3/6/2023

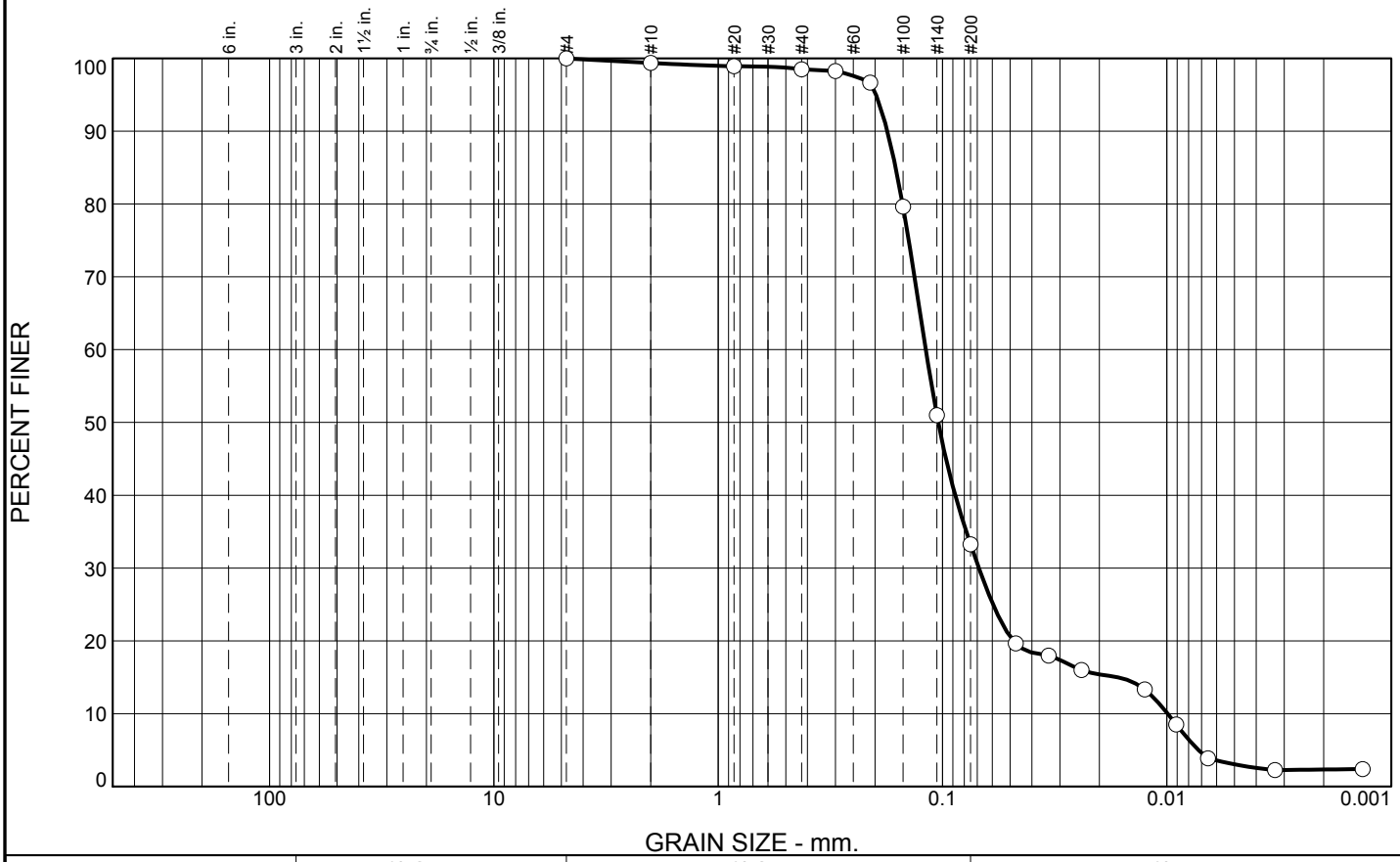
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	0.9	65.2	30.3	3.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	98.9		
#40	98.5		
#50	98.3		
#70	96.7		
#100	79.7		
#140	51.0		
#200	33.3		
0.0472 mm.	19.6		
0.0336 mm.	18.0		
0.0240 mm.	16.0		
0.0125 mm.	13.3		
0.0091 mm.	8.5		
0.0066 mm.	3.9		
0.0033 mm.	2.2		
0.0013 mm.	2.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1762 D_{85}= 0.1618 D_{60}= 0.1188
D_{50}= 0.1045 D_{30}= 0.0689 D_{15}= 0.0167
D_{10}= 0.0099 C_u= 11.96 C_c= 4.02

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 28

Date: 3/6/2023

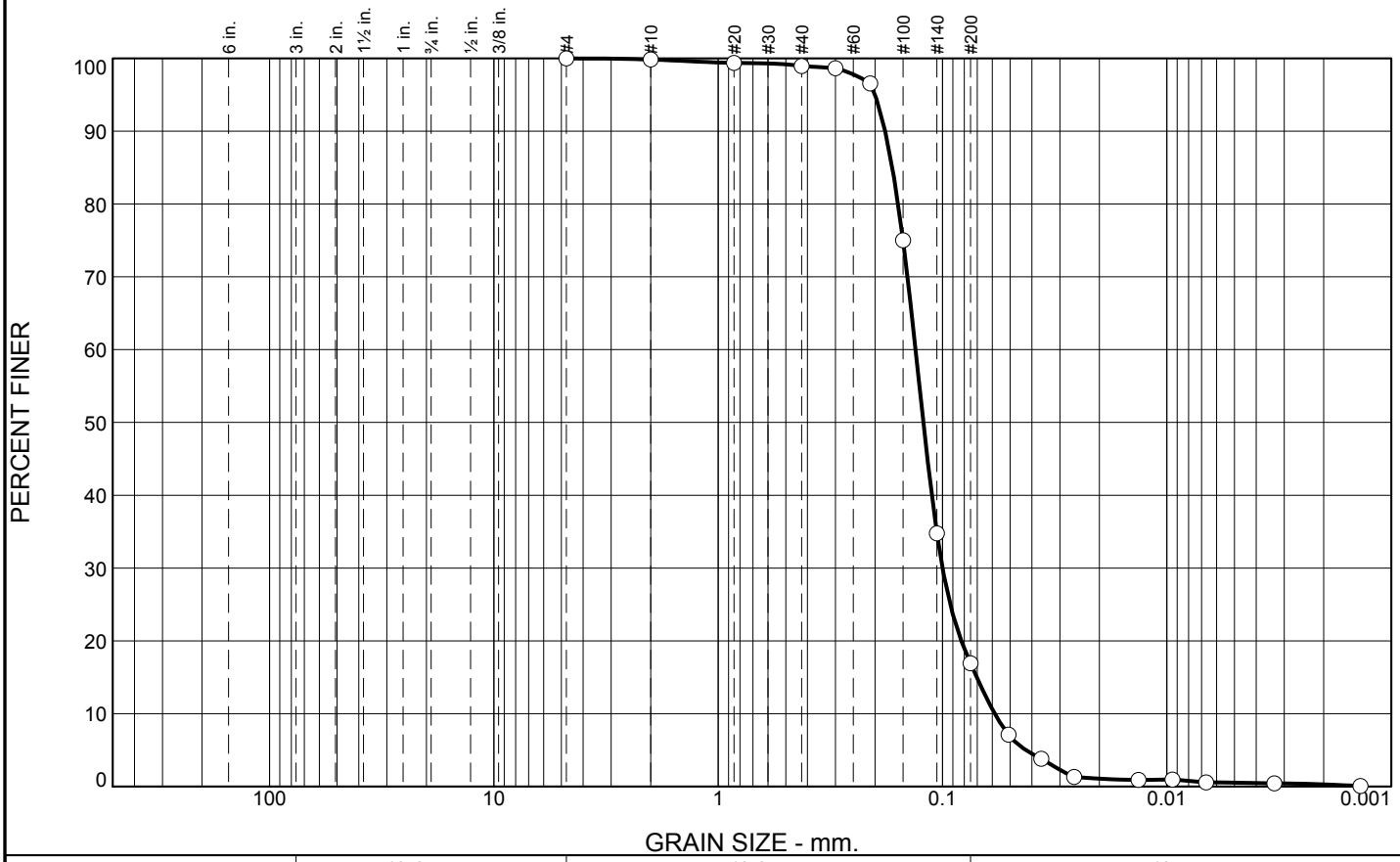
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.9	82.1	16.4	0.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.4		
#40	99.0		
#50	98.7		
#70	96.6		
#100	75.0		
#140	34.8		
#200	16.9		
0.0508 mm.	7.1		
0.0363 mm.	3.8		
0.0259 mm.	1.3		
0.0134 mm.	0.9		
0.0094 mm.	0.9		
0.0067 mm.	0.6		
0.0033 mm.	0.4		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1802 D_{85}= 0.1675 D_{60}= 0.1319
D_{50}= 0.1218 D_{30}= 0.1000 D_{15}= 0.0704
D_{10}= 0.0586 C_u= 2.25 C_c= 1.29

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 30

Date: 3/6/2023

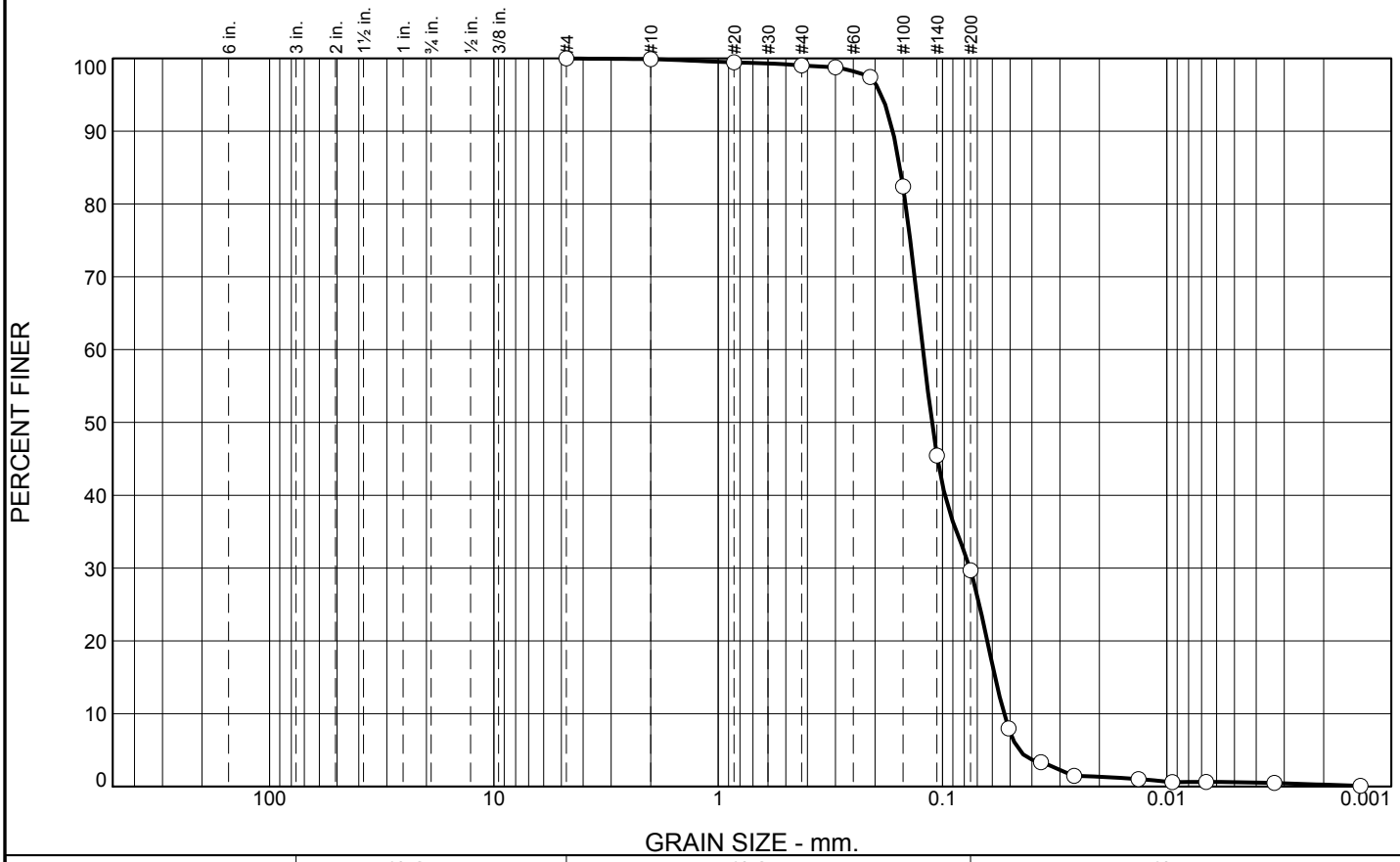
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.9	69.3	29.1	0.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.5		
#40	99.0		
#50	98.8		
#70	97.5		
#100	82.4		
#140	45.5		
#200	29.7		
0.0508 mm.	8.0		
0.0364 mm.	3.3		
0.0259 mm.	1.5		
0.0134 mm.	1.0		
0.0095 mm.	0.6		
0.0067 mm.	0.6		
0.0033 mm.	0.5		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1666 D_{85}= 0.1547 D_{60}= 0.1223
D_{50}= 0.1115 D_{30}= 0.0755 D_{15}= 0.0583
D_{10}= 0.0532 C_u= 2.30 C_c= 0.88

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 31

Date: 3/6/2023

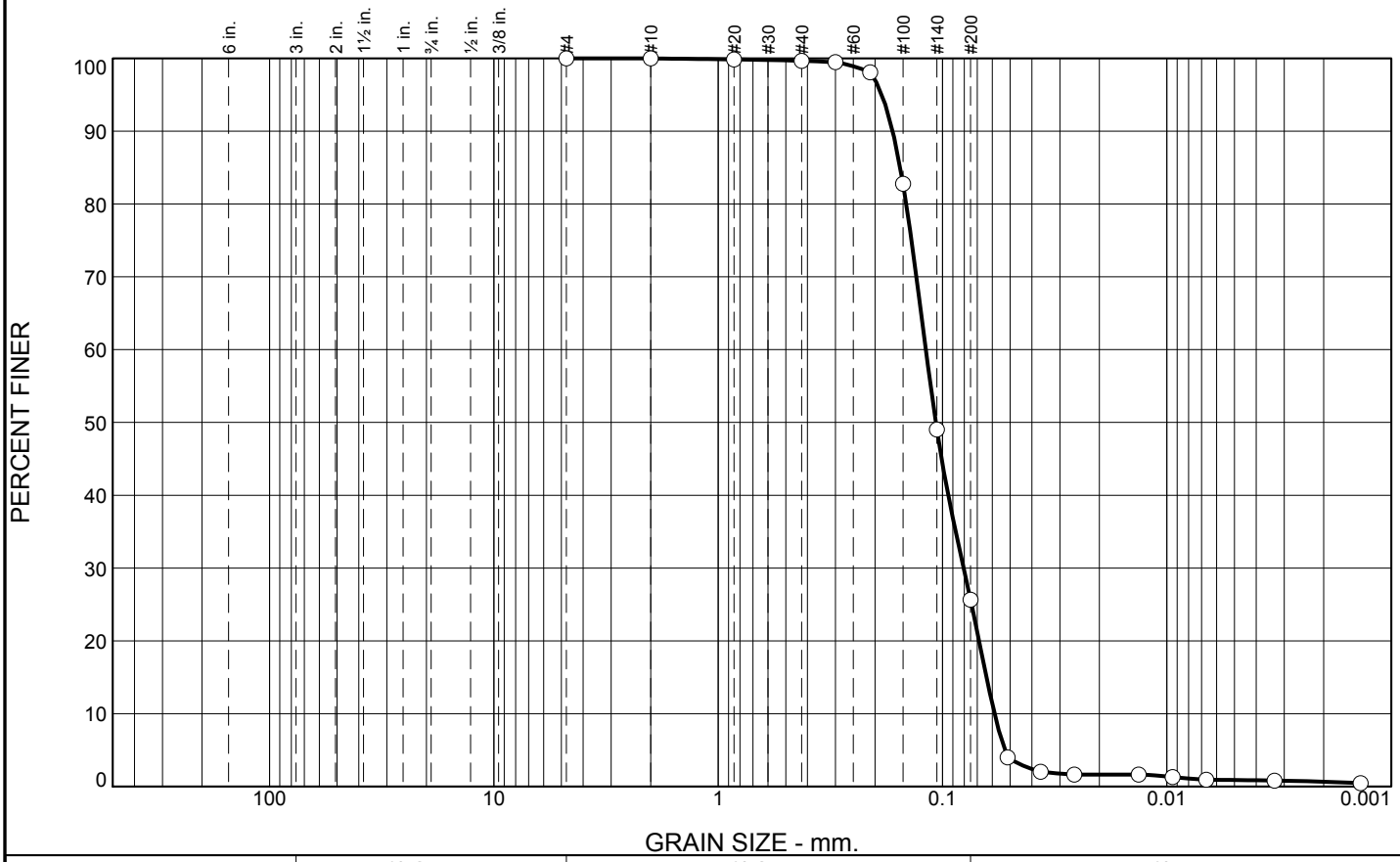
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	74.0	24.8	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.7		
#50	99.5		
#70	98.1		
#100	82.8		
#140	49.0		
#200	25.7		
0.0513 mm.	4.0		
0.0365 mm.	2.0		
0.0259 mm.	1.6		
0.0134 mm.	1.6		
0.0094 mm.	1.3		
0.0067 mm.	0.9		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1669 D_{85}= 0.1544 D_{60}= 0.1188
D_{50}= 0.1072 D_{30}= 0.0805 D_{15}= 0.0638
D_{10}= 0.0587 C_u= 2.02 C_c= 0.93

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 32

Date: 3/6/2023

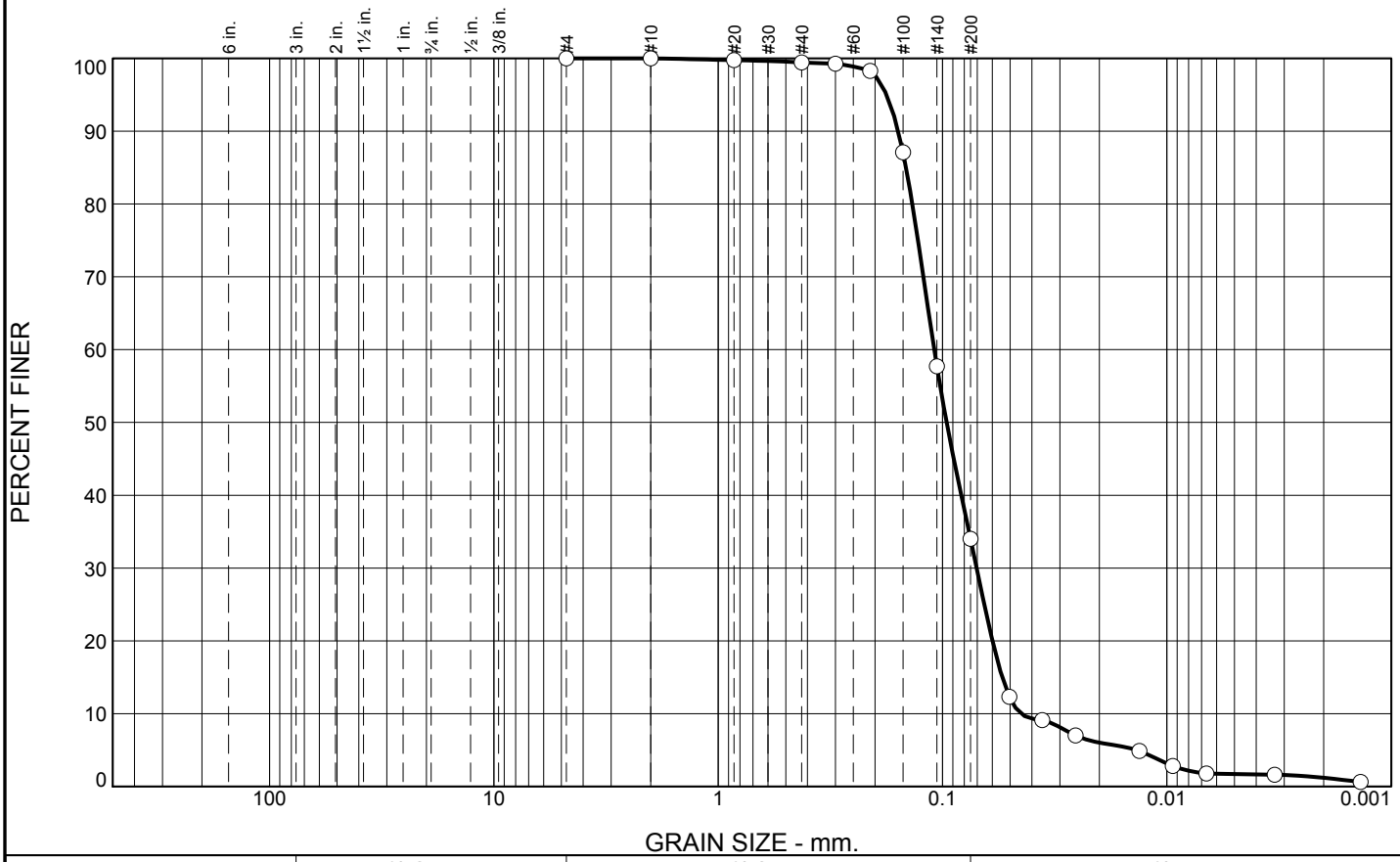
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	65.4	32.3	1.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.4		
#50	99.3		
#70	98.3		
#100	87.1		
#140	57.7		
#200	34.0		
0.0504 mm.	12.3		
0.0359 mm.	9.1		
0.0255 mm.	7.0		
0.0133 mm.	4.9		
0.0094 mm.	2.8		
0.0067 mm.	1.8		
0.0033 mm.	1.6		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1575 D_{85}= 0.1454 D_{60}= 0.1089
D_{50}= 0.0959 D_{30}= 0.0705 D_{15}= 0.0542
D_{10}= 0.0448 C_u= 2.43 C_c= 1.02

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 34

Date: 3/6/2023

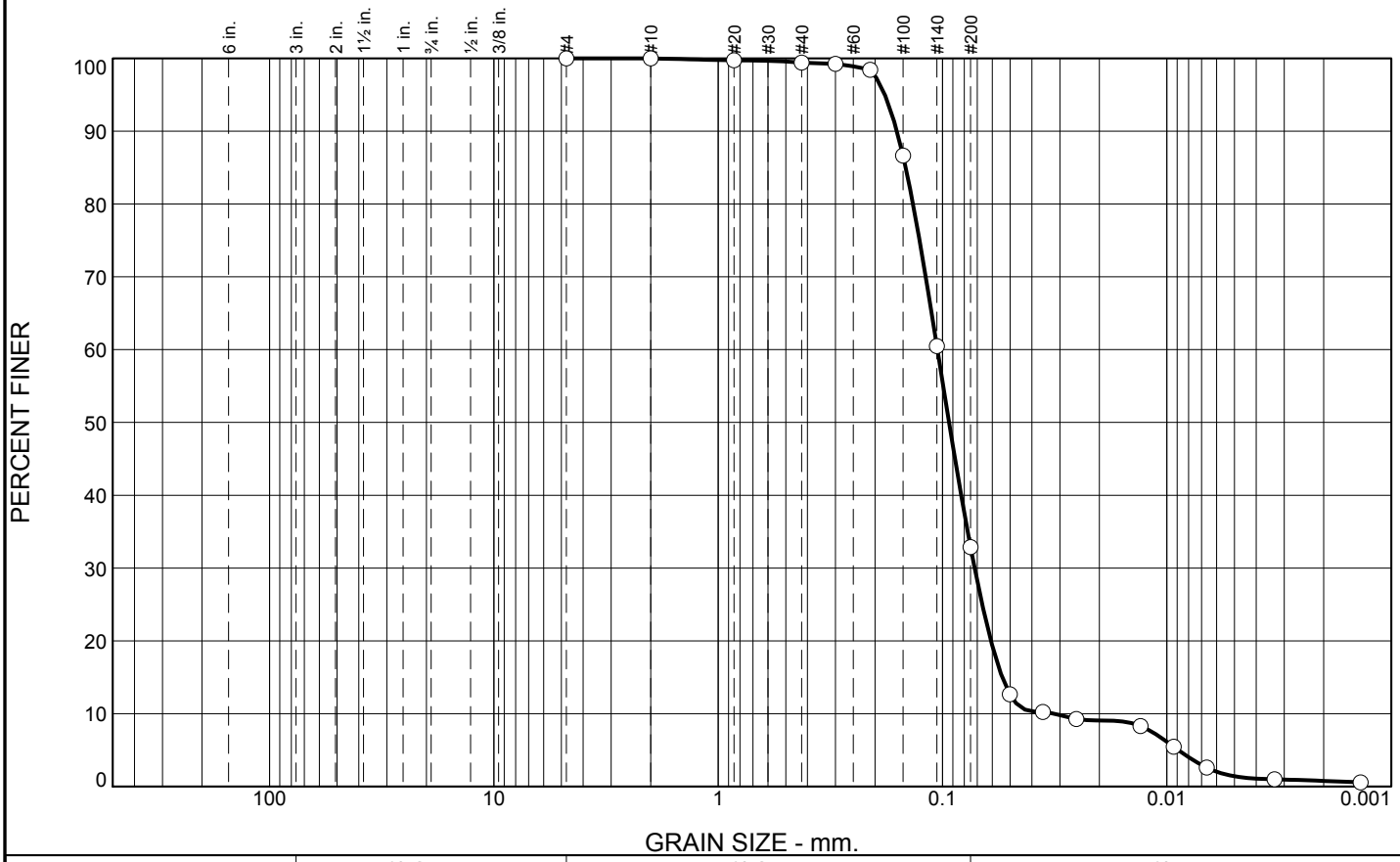
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	66.5	31.5	1.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.7		
#40	99.4		
#50	99.2		
#70	98.4		
#100	86.6		
#140	60.5		
#200	32.9		
0.0502 mm.	12.7		
0.0357 mm.	10.2		
0.0253 mm.	9.3		
0.0131 mm.	8.3		
0.0093 mm.	5.5		
0.0066 mm.	2.6		
0.0033 mm.	1.0		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1597 D_{85}= 0.1459 D_{60}= 0.1054
D_{50}= 0.0935 D_{30}= 0.0720 D_{15}= 0.0543
D_{10}= 0.0319 C_u= 3.30 C_c= 1.54

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 35

Date: 3/6/2023

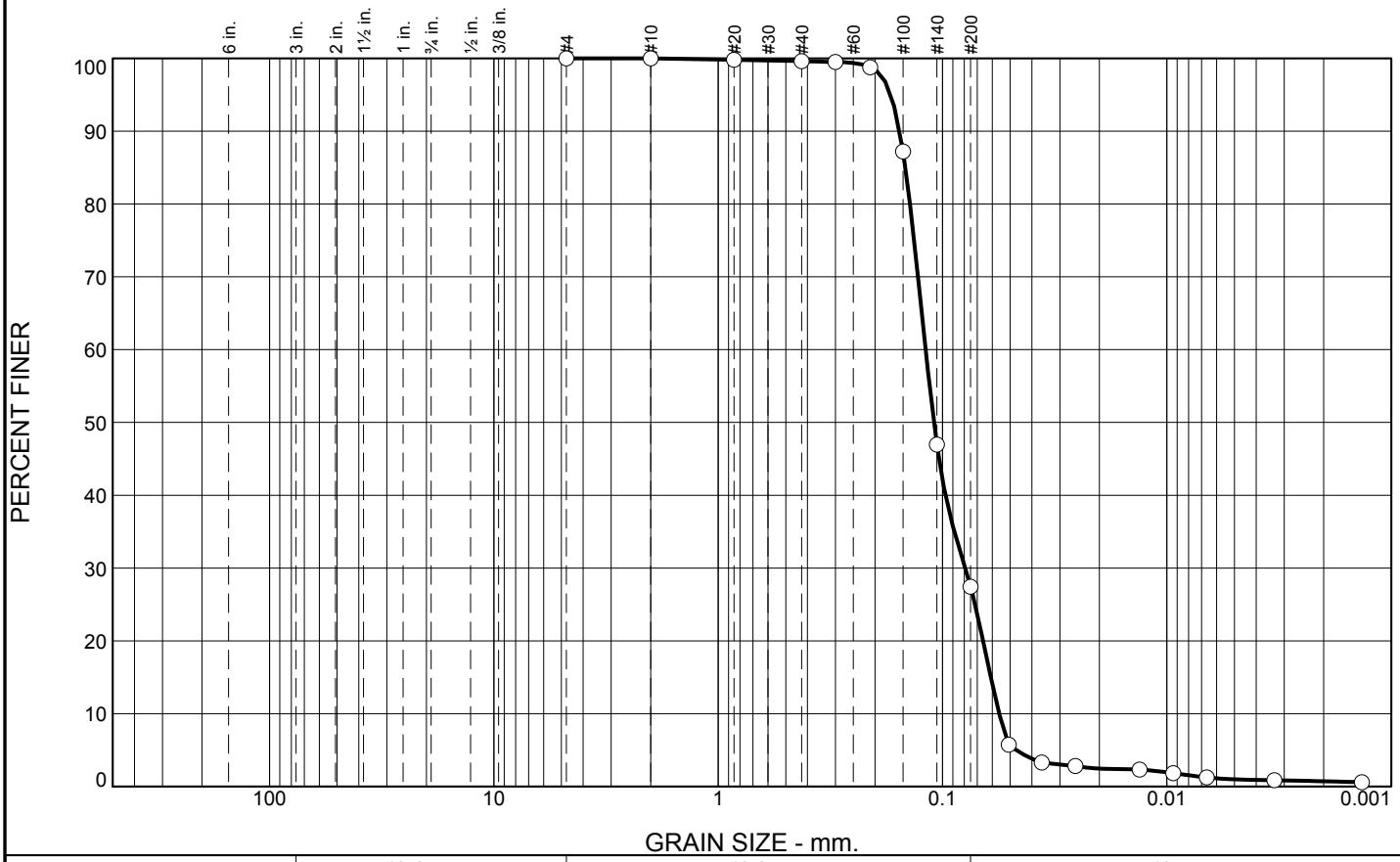
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	72.2	26.4	1.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.6		
#50	99.5		
#70	98.8		
#100	87.2		
#140	47.0		
#200	27.4		
0.0507 mm.	5.7		
0.0361 mm.	3.3		
0.0256 mm.	2.8		
0.0132 mm.	2.3		
0.0094 mm.	1.8		
0.0066 mm.	1.2		
0.0033 mm.	0.9		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1554 D_{85}= 0.1465 D_{60}= 0.1190
D_{50}= 0.1093 D_{30}= 0.0791 D_{15}= 0.0610
D_{10}= 0.0559 C_u= 2.13 C_c= 0.94

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 36

Date: 3/6/2023

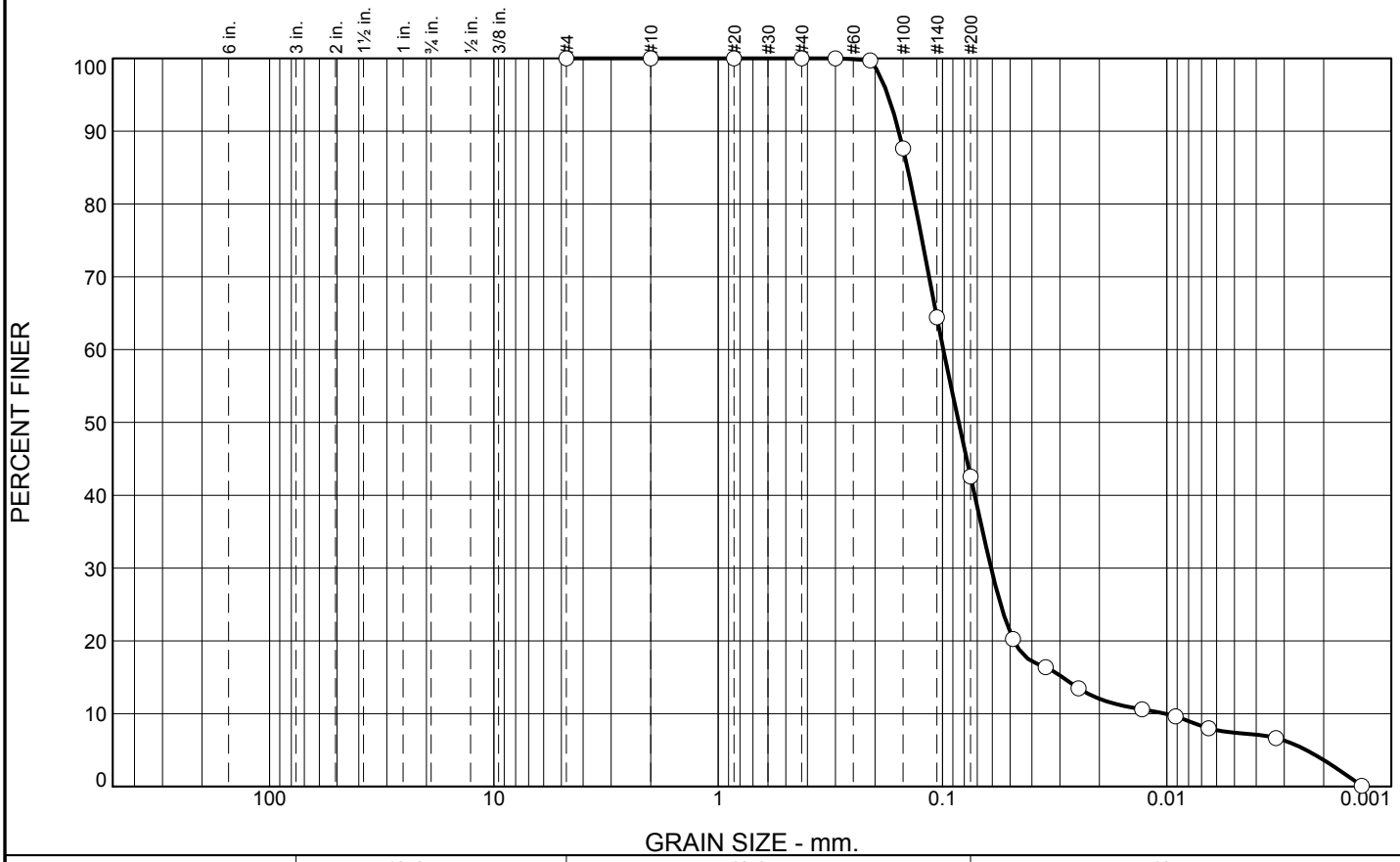
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	57.4	35.2	7.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#50	100.0		
#70	99.7		
#100	87.6		
#140	64.4		
#200	42.6		
0.0485 mm.	20.3		
0.0347 mm.	16.4		
0.0248 mm.	13.5		
0.0129 mm.	10.6		
0.0091 mm.	9.6		
0.0065 mm.	8.0		
0.0033 mm.	6.6		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, few clay, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1567 D_{85}= 0.1434 D_{60}= 0.0992
D_{50}= 0.0846 D_{30}= 0.0608 D_{15}= 0.0292
D_{10}= 0.0102 C_u= 9.74 C_c= 3.66

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 38

Date: 3/6/2023

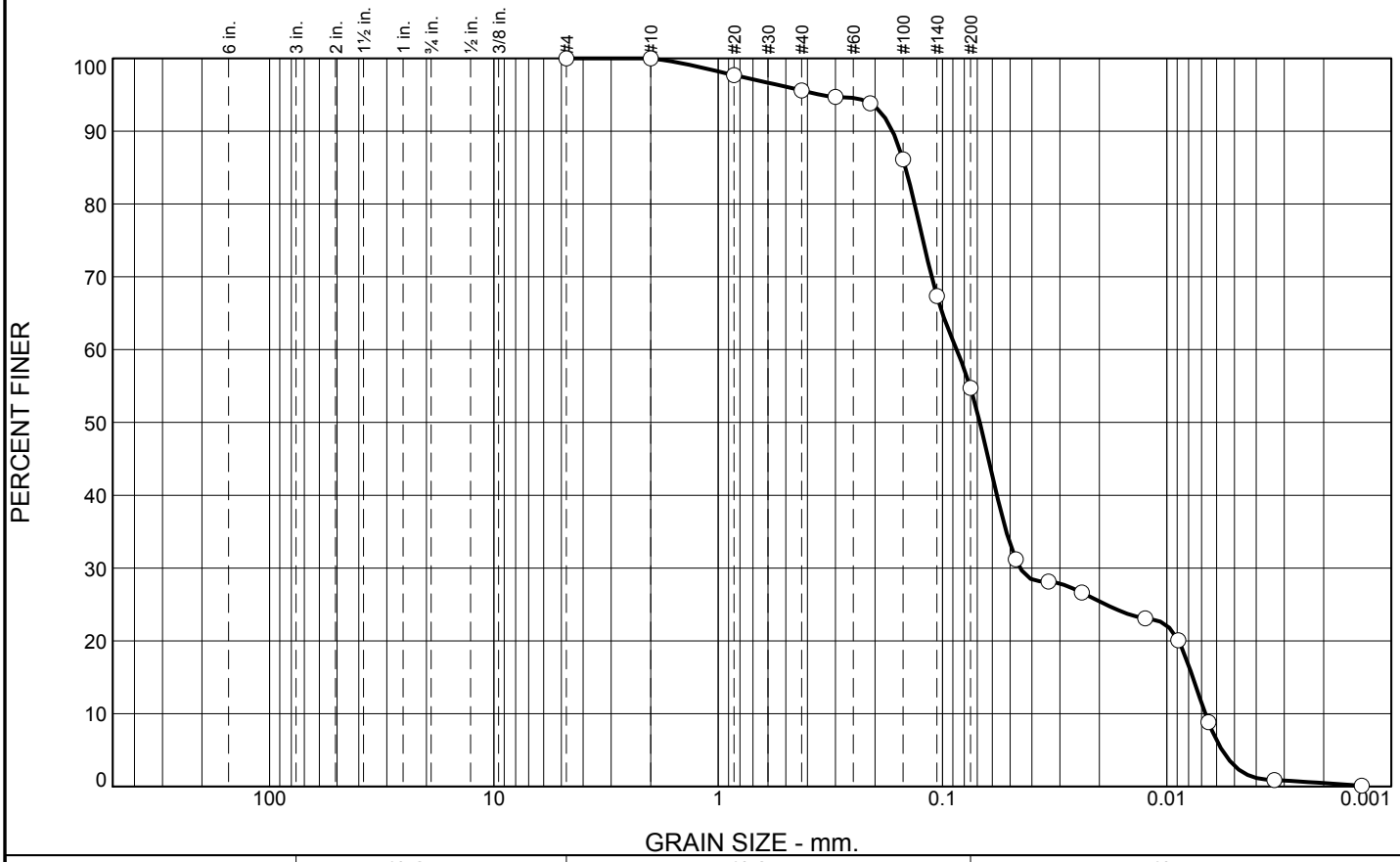
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.4	40.9	51.9	2.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	97.7		
#40	95.6		
#50	94.7		
#70	93.8		
#100	86.1		
#140	67.4		
#200	54.7		
0.0472 mm.	31.2		
0.0337 mm.	28.1		
0.0239 mm.	26.6		
0.0125 mm.	23.1		
0.0089 mm.	20.1		
0.0065 mm.	8.8		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Silt, some fine-grained sand-sized quartz, trace clay, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1670 D_{85}= 0.1463 D_{60}= 0.0865
D_{50}= 0.0682 D_{30}= 0.0451 D_{15}= 0.0077
D_{10}= 0.0067 C_u= 12.82 C_c= 3.48

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 39

Date: 3/6/2023

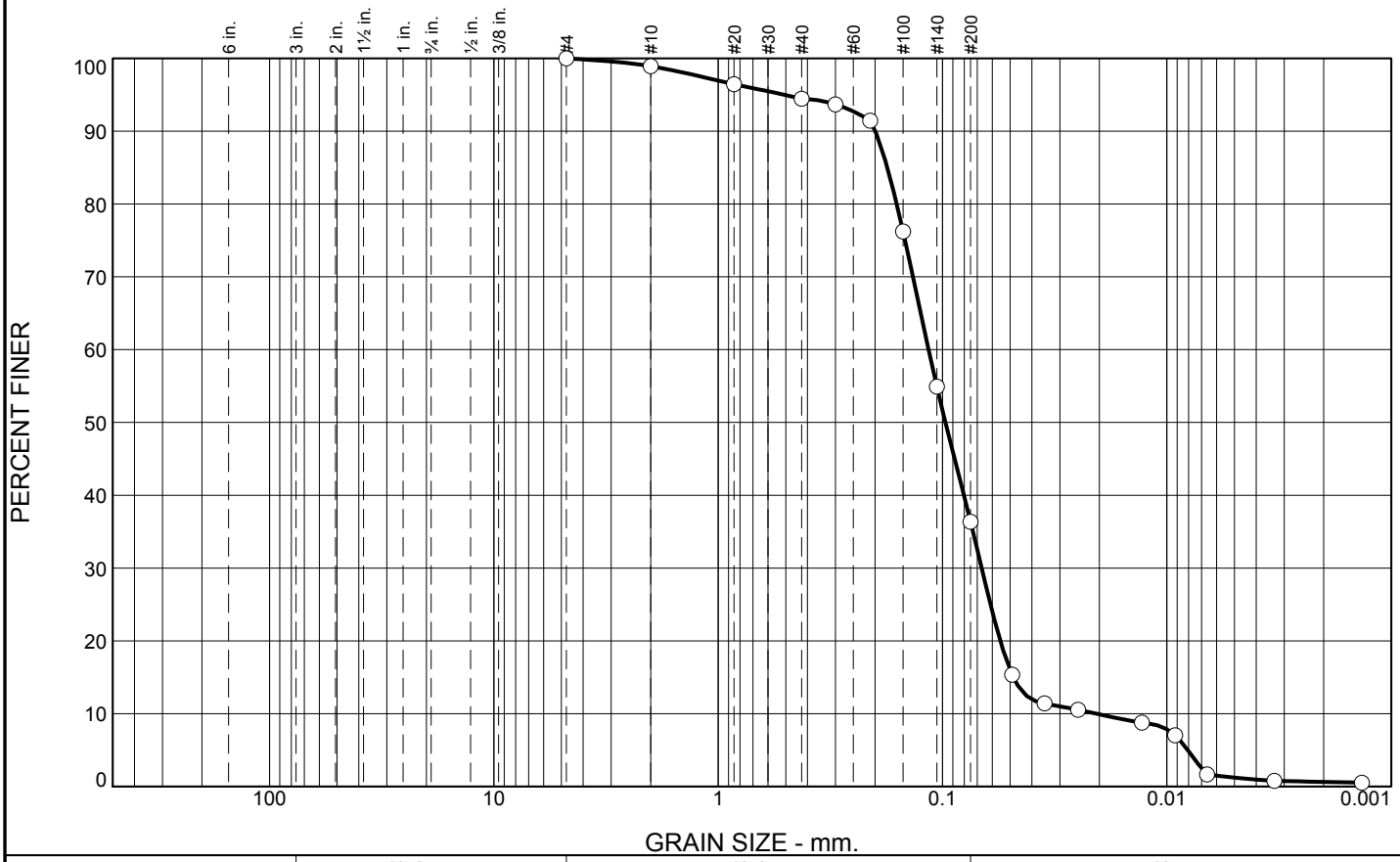
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.1	4.4	58.1	35.2	1.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.9		
#20	96.5		
#40	94.5		
#50	93.7		
#70	91.5		
#100	76.2		
#140	54.9		
#200	36.4		
0.0490 mm.	15.3		
0.0351 mm.	11.4		
0.0249 mm.	10.5		
0.0129 mm.	8.8		
0.0092 mm.	7.0		
0.0066 mm.	1.6		
0.0033 mm.	0.8		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1995 D_{85}= 0.1763 D_{60}= 0.1154
D_{50}= 0.0970 D_{30}= 0.0670 D_{15}= 0.0484
D_{10}= 0.0207 C_u= 5.58 C_c= 1.88

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 40

Date: 3/6/2023

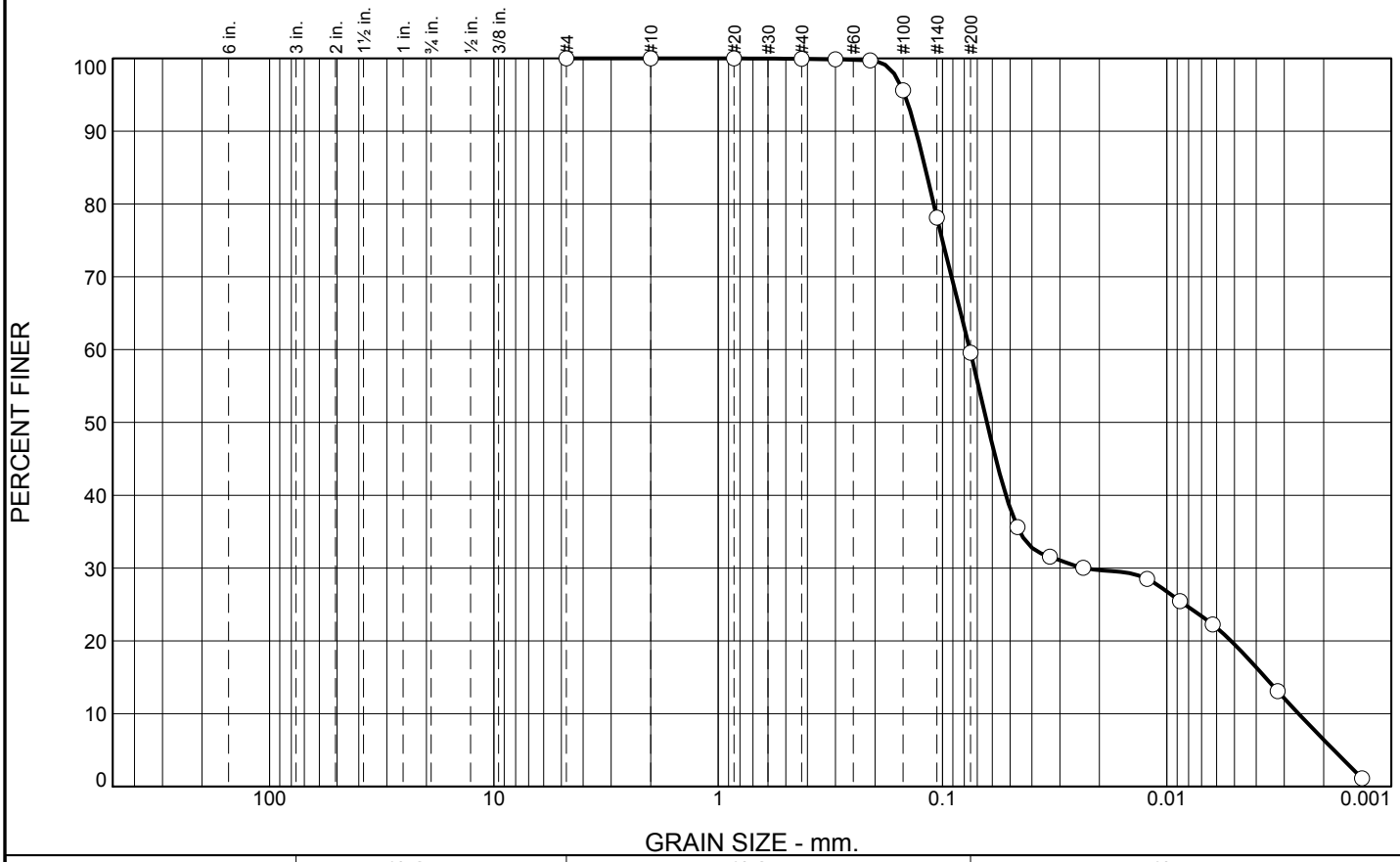
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	40.3	40.1	19.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#50	99.9		
#70	99.7		
#100	95.6		
#140	78.1		
#200	59.6		
0.0464 mm.	35.6		
0.0332 mm.	31.6		
0.0236 mm.	30.0		
0.0122 mm.	28.5		
0.0087 mm.	25.4		
0.0063 mm.	22.3		
0.0032 mm.	13.1		
0.0014 mm.	1.1		

* (no specification provided)

Soil Description

Silt, some fine-grained sand-sized quartz, little clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1313 D_{85}= 0.1196 D_{60}= 0.0756
D_{50}= 0.0634 D_{30}= 0.0234 D_{15}= 0.0037
D_{10}= 0.0026 C_u= 29.17 C_c= 2.79

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 41

Date: 3/6/2023

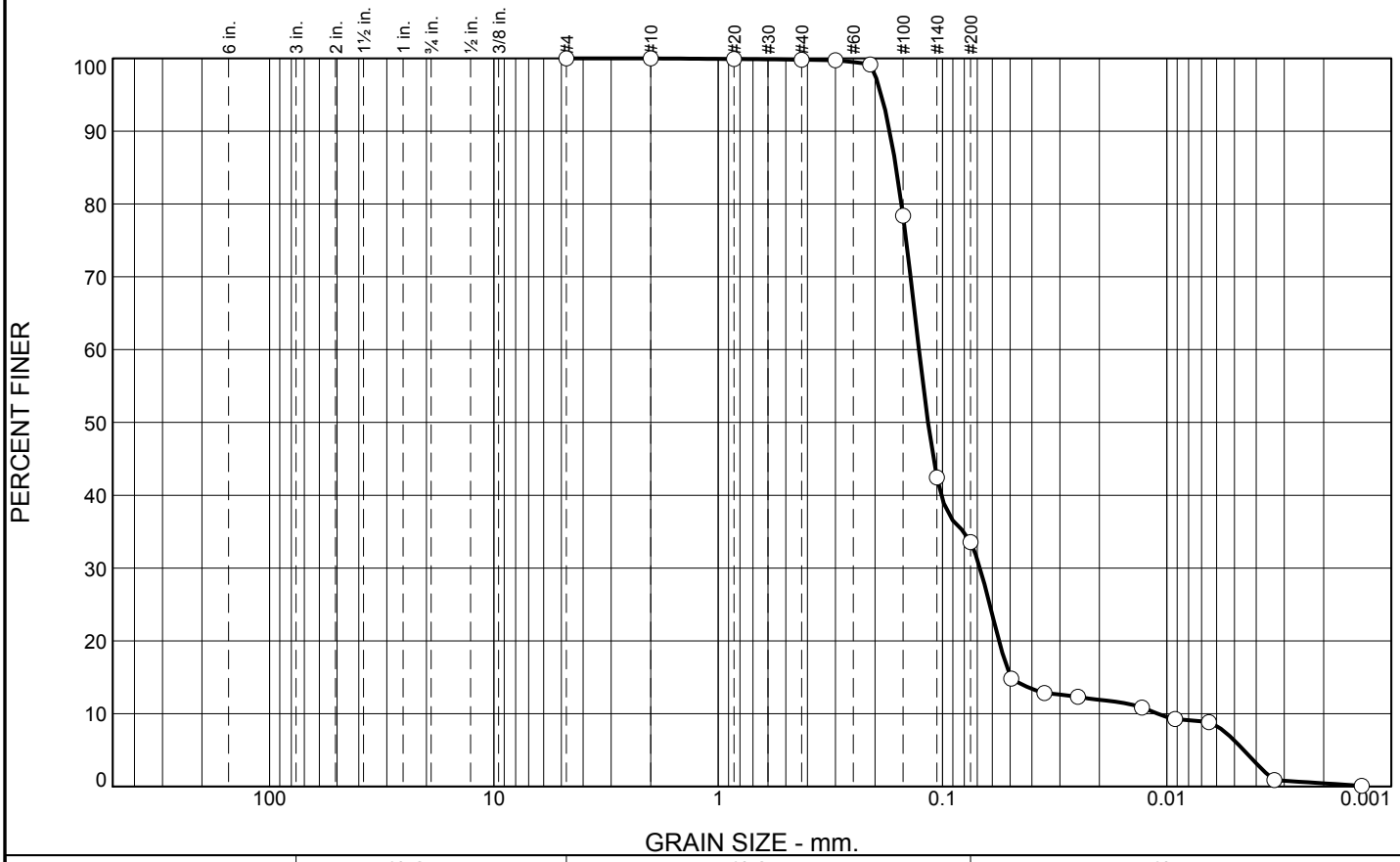
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	66.2	27.3	6.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.8		
#50	99.7		
#70	99.2		
#100	78.4		
#140	42.5		
#200	33.6		
0.0495 mm.	14.8		
0.0352 mm.	12.8		
0.0249 mm.	12.3		
0.0129 mm.	10.8		
0.0092 mm.	9.3		
0.0065 mm.	8.8		
0.0033 mm.	0.9		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, few clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1720 D_{85}= 0.1611 D_{60}= 0.1274
D_{50}= 0.1161 D_{30}= 0.0681 D_{15}= 0.0498
D_{10}= 0.0110 C_u= 11.56 C_c= 3.31

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 43

Date: 3/6/2023

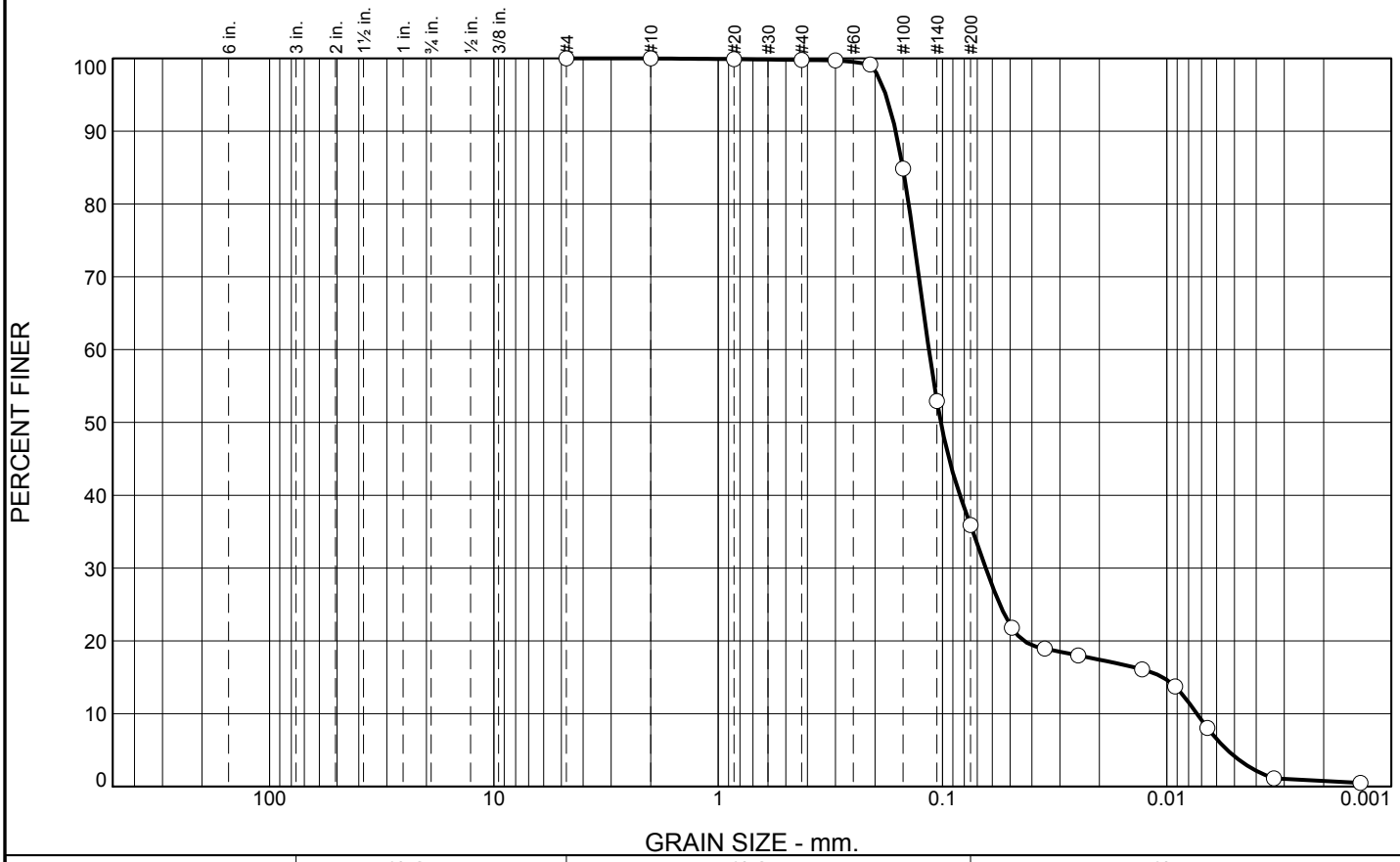
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	63.9	31.8	4.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.8		
#50	99.7		
#70	99.2		
#100	84.9		
#140	52.9		
#200	35.9		
0.0491 mm.	21.8		
0.0350 mm.	18.9		
0.0248 mm.	18.0		
0.0129 mm.	16.1		
0.0092 mm.	13.7		
0.0066 mm.	8.0		
0.0033 mm.	1.1		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1617 D_{85}= 0.1503 D_{60}= 0.1151
D_{50}= 0.1018 D_{30}= 0.0642 D_{15}= 0.0104
D_{10}= 0.0074 C_u= 15.65 C_c= 4.87

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 44

Date: 3/6/2023

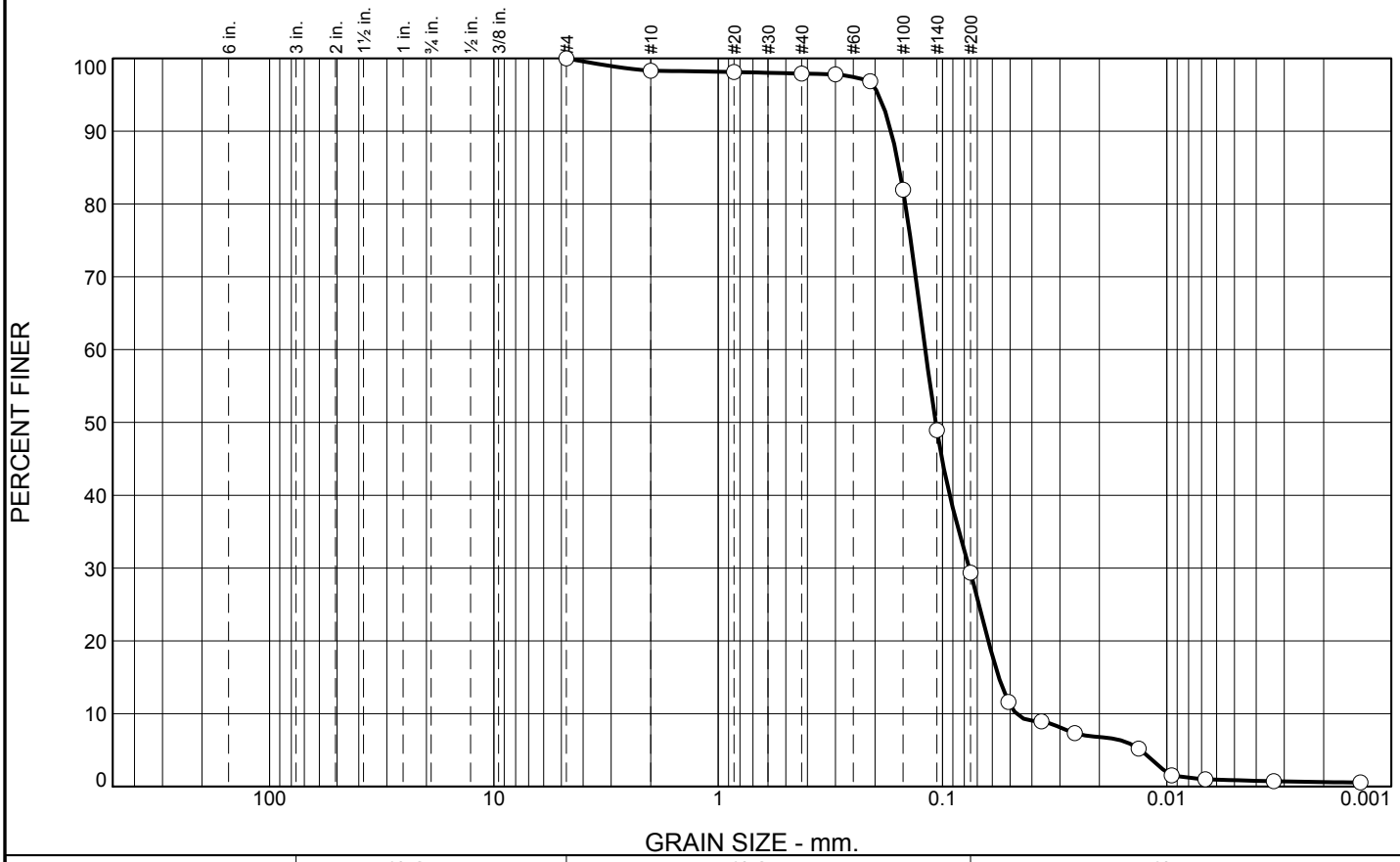
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.7	0.4	68.5	28.5	0.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.3		
#20	98.1		
#40	97.9		
#50	97.8		
#70	96.9		
#100	82.0		
#140	48.9		
#200	29.4		
0.0509 mm.	11.6		
0.0362 mm.	8.9		
0.0257 mm.	7.3		
0.0134 mm.	5.2		
0.0095 mm.	1.5		
0.0067 mm.	1.0		
0.0033 mm.	0.7		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1697 D_{85}= 0.1562 D_{60}= 0.1194
D_{50}= 0.1074 D_{30}= 0.0760 D_{15}= 0.0562
D_{10}= 0.0469 C_u= 2.55 C_c= 1.03

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 45

Date: 3/6/2023

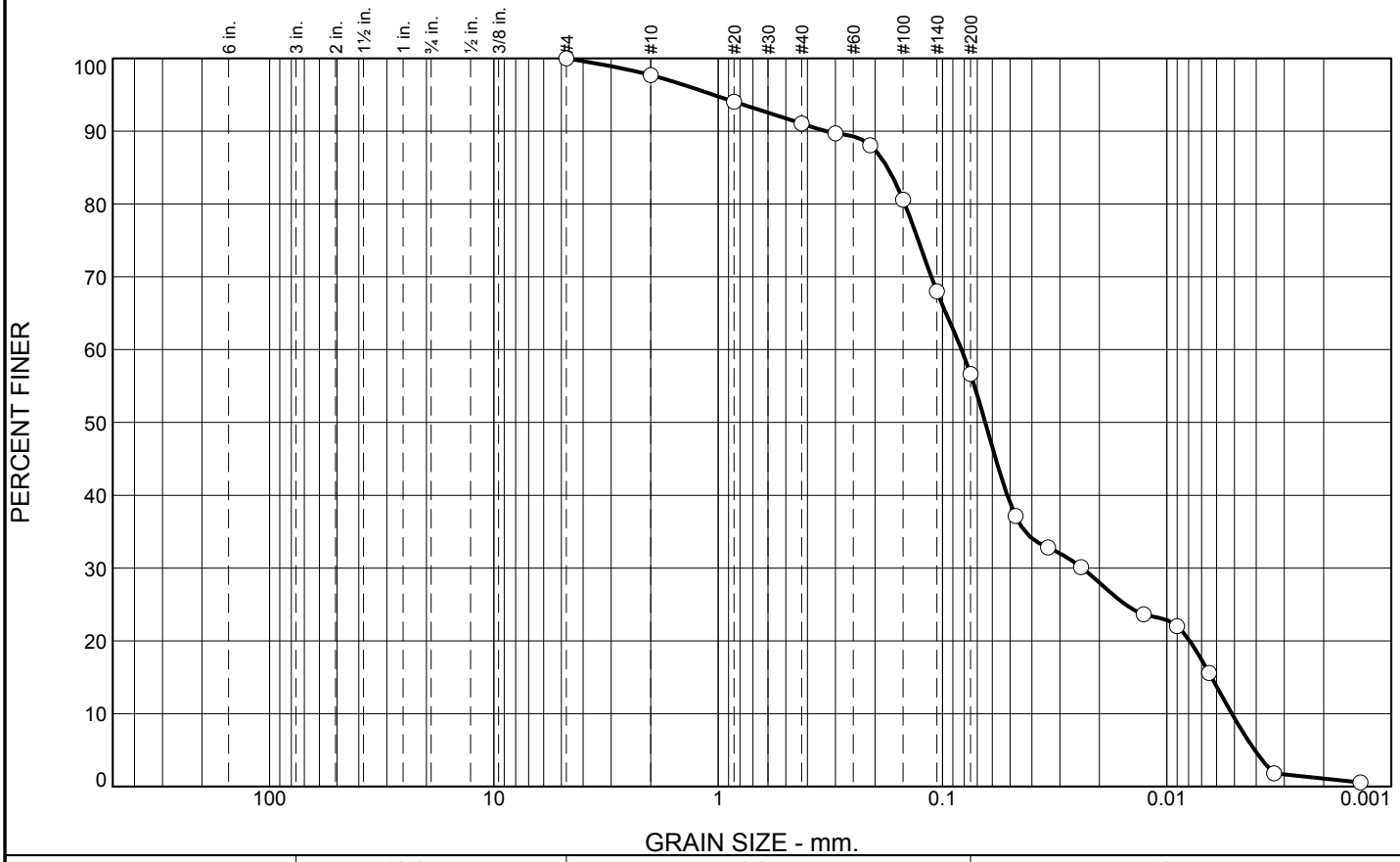
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.3	6.6	34.4	47.3	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	97.7		
#20	94.1		
#40	91.1		
#50	89.7		
#70	88.1		
#100	80.6		
#140	68.0		
#200	56.7		
0.0473 mm.	37.1		
0.0339 mm.	32.8		
0.0241 mm.	30.1		
0.0127 mm.	23.6		
0.0090 mm.	22.0		
0.0065 mm.	15.6		
0.0033 mm.	1.8		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Silt, some fine to coarse-grained sand-sized quartz, few clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3307 D_{85}= 0.1758 D_{60}= 0.0822
D_{50}= 0.0645 D_{30}= 0.0238 D_{15}= 0.0063
D_{10}= 0.0051 C_u= 16.01 C_c= 1.35

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 46

Date: 3/6/2023

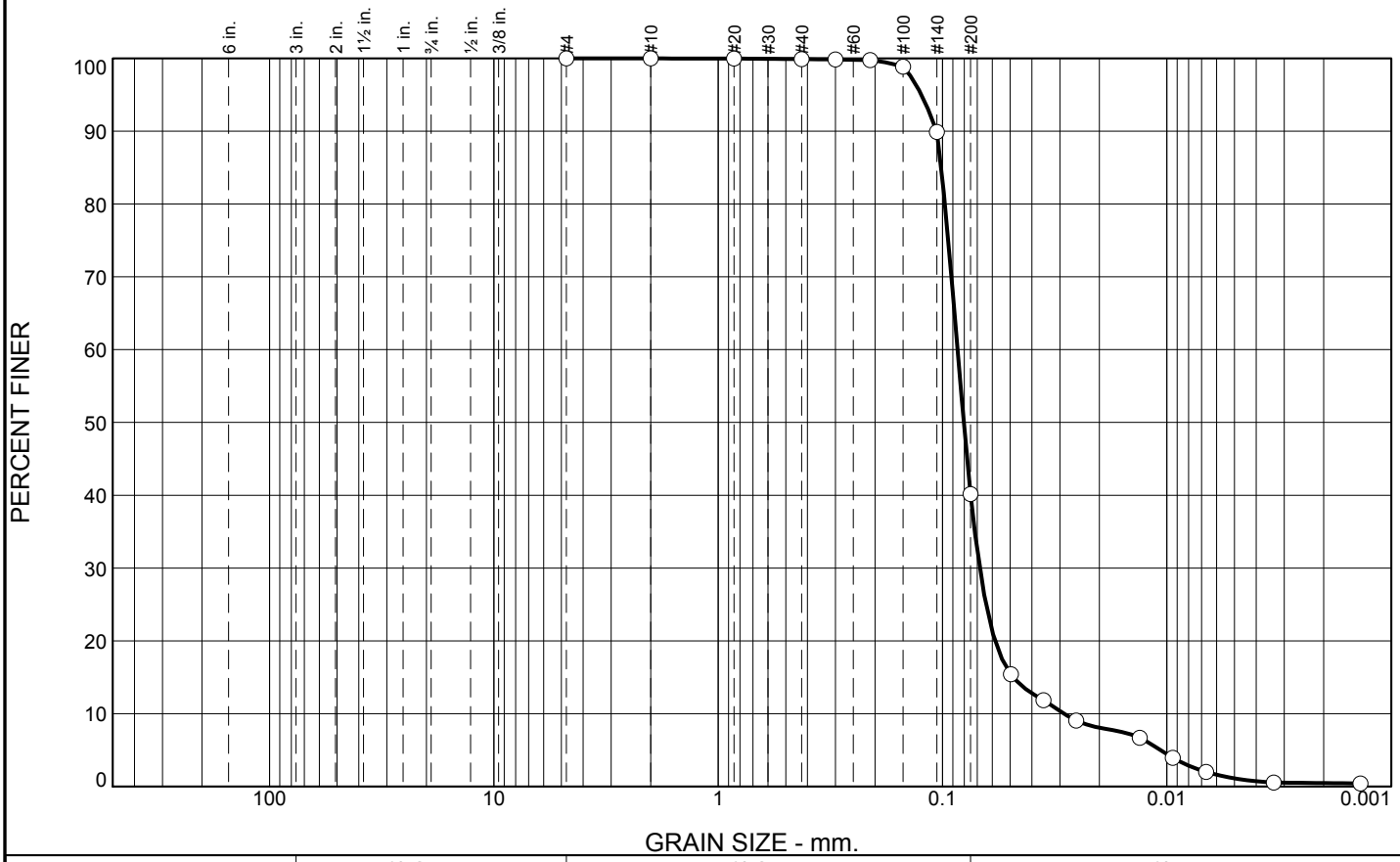
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	59.7	39.1	1.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#50	99.9		
#70	99.8		
#100	98.9		
#140	89.9		
#200	40.2		
0.0496 mm.	15.4		
0.0355 mm.	11.8		
0.0254 mm.	9.1		
0.0132 mm.	6.7		
0.0094 mm.	3.9		
0.0067 mm.	2.0		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1063 D_{85}= 0.1014 D_{60}= 0.0857
D_{50}= 0.0804 D_{30}= 0.0683 D_{15}= 0.0484
D_{10}= 0.0288 C_u= 2.98 C_c= 1.89

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 47

Date: 3/6/2023

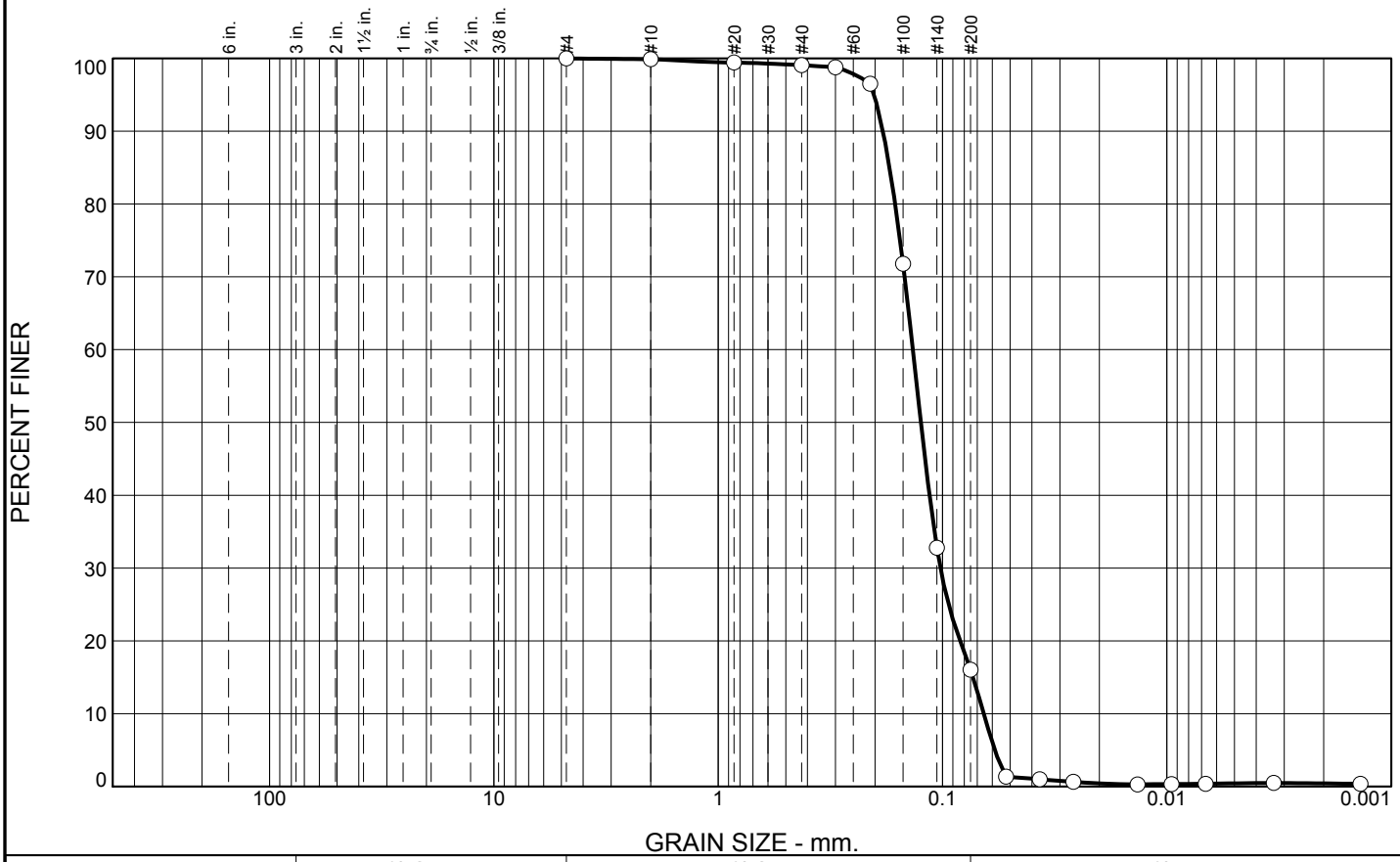
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.8	83.1	15.6	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.4		
#40	99.1		
#50	98.8		
#70	96.5		
#100	71.8		
#140	32.8		
#200	16.0		
0.0521 mm.	1.3		
0.0369 mm.	1.0		
0.0261 mm.	0.6		
0.0135 mm.	0.3		
0.0095 mm.	0.3		
0.0067 mm.	0.4		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, gray

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1843 D_{85}= 0.1722 D_{60}= 0.1356
D_{50}= 0.1249 D_{30}= 0.1022 D_{15}= 0.0731
D_{10}= 0.0655 C_u= 2.07 C_c= 1.18

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 48

Date: 3/6/2023

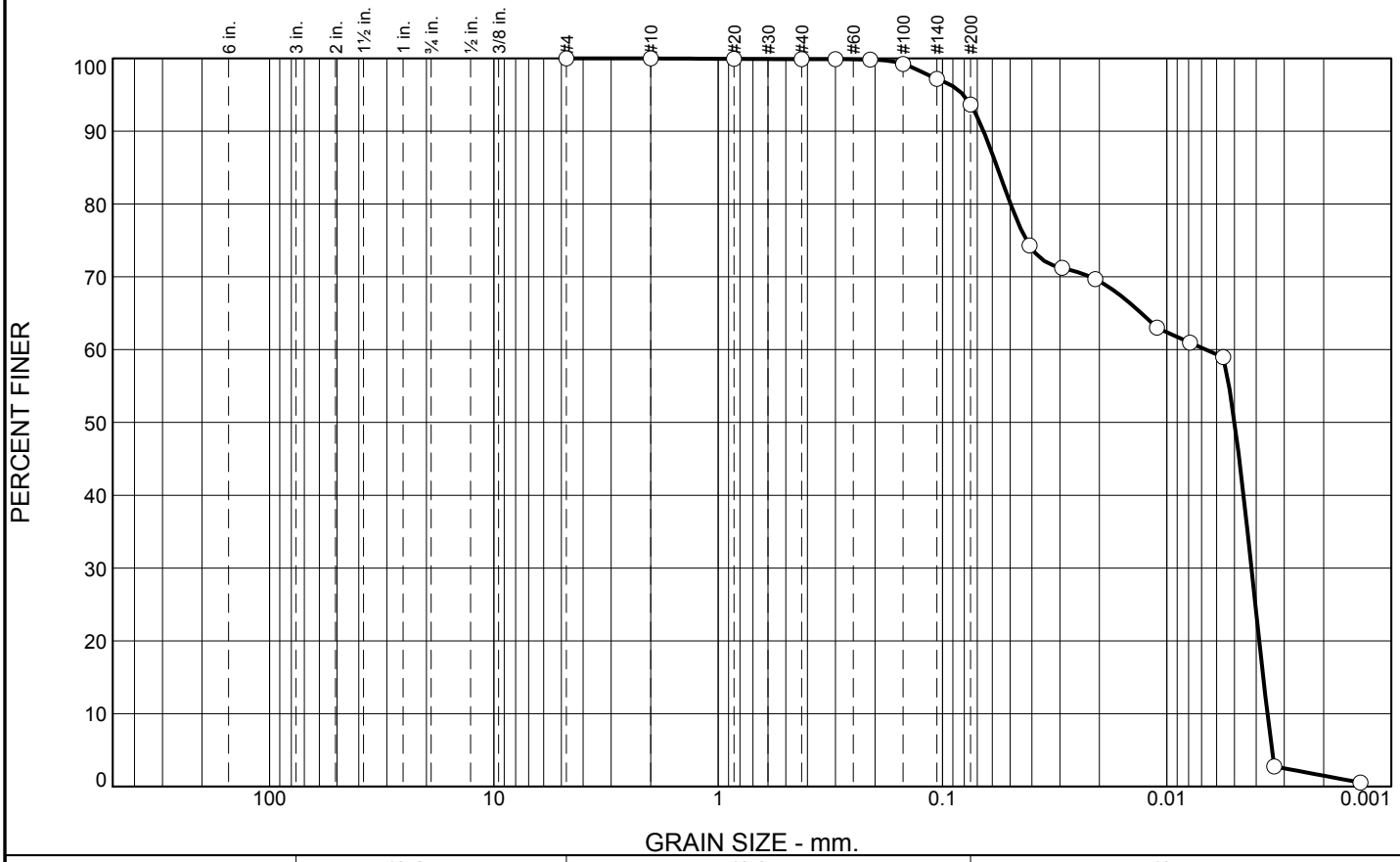
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	6.2	43.5	50.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.9		
#50	99.9		
#70	99.8		
#100	99.2		
#140	97.2		
#200	93.7		
0.0409 mm.	74.3		
0.0293 mm.	71.2		
0.0209 mm.	69.7		
0.0111 mm.	63.0		
0.0079 mm.	61.0		
0.0056 mm.	59.0		
0.0033 mm.	2.7		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Clay, lean, some silt, few fine-grained sand-sized quartz, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0656 D_{85}= 0.0570 D_{60}= 0.0067
D_{50}= 0.0050 D_{30}= 0.0042 D_{15}= 0.0037
D_{10}= 0.0036 C_u= 1.88 C_c= 0.74

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 54

Date: 3/6/2023

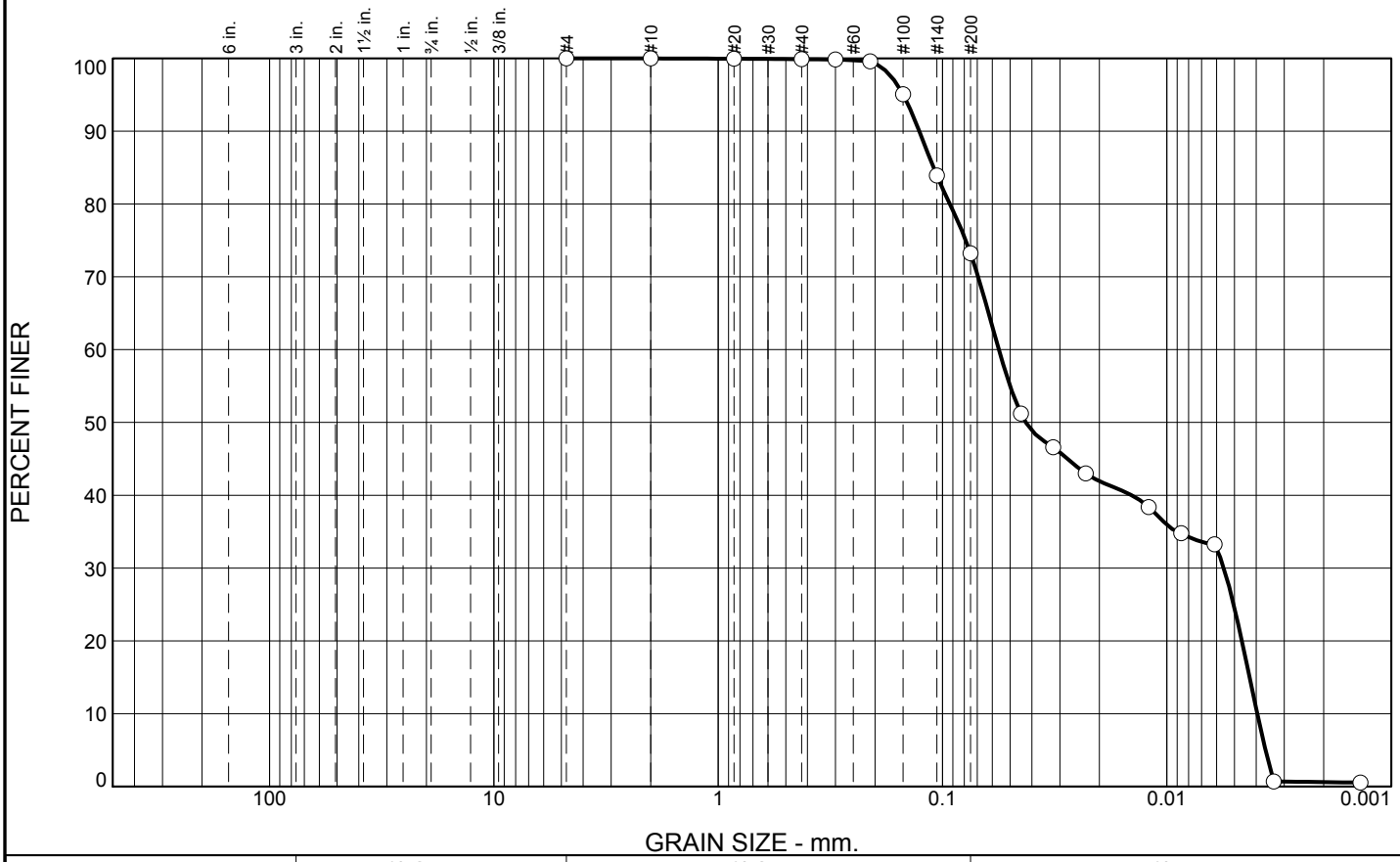
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	26.7	48.7	24.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#50	99.9		
#70	99.6		
#100	95.1		
#140	83.9		
#200	73.2		
0.0447 mm.	51.2		
0.0321 mm.	46.6		
0.0230 mm.	43.0		
0.0121 mm.	38.4		
0.0086 mm.	34.8		
0.0061 mm.	33.3		
0.0033 mm.	0.7		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Silt, little fine-grained sand-sized quartz, little clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1270 D_{85}= 0.1096 D_{60}= 0.0561
D_{50}= 0.0425 D_{30}= 0.0056 D_{15}= 0.0043
D_{10}= 0.0040 C_u= 14.18 C_c= 0.14

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 55

Date: 3/6/2023

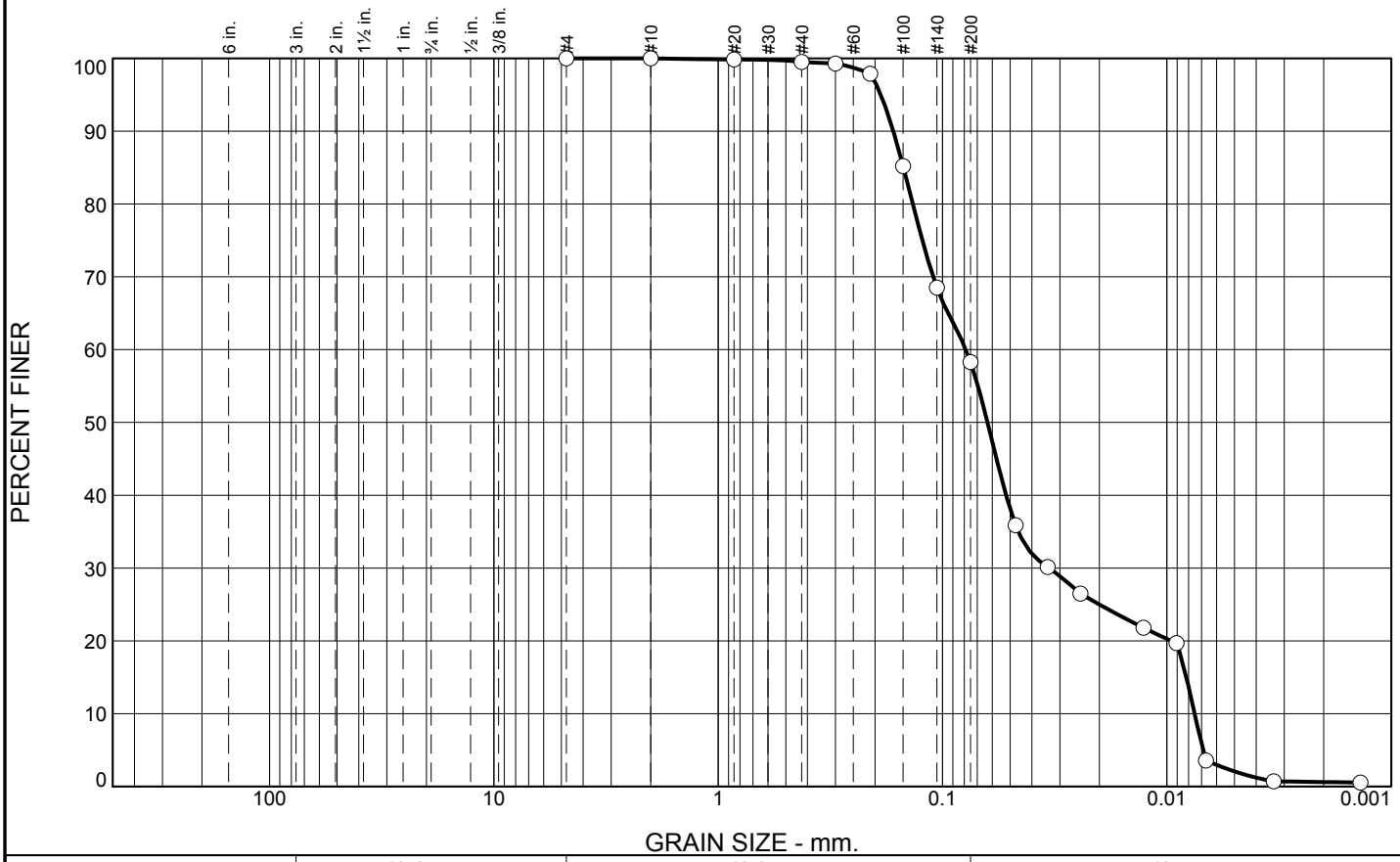
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	41.2	56.2	2.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.5		
#50	99.3		
#70	97.9		
#100	85.2		
#140	68.5		
#200	58.3		
0.0472 mm.	35.9		
0.0340 mm.	30.1		
0.0243 mm.	26.5		
0.0127 mm.	21.8		
0.0091 mm.	19.7		
0.0067 mm.	3.6		
0.0033 mm.	0.7		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Silt, some fine-grained sand-sized quartz, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1658 D_{85}= 0.1493 D_{60}= 0.0787
D_{50}= 0.0631 D_{30}= 0.0335 D_{15}= 0.0082
D_{10}= 0.0075 C_u= 10.46 C_c= 1.90

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 56

Date: 3/6/2023

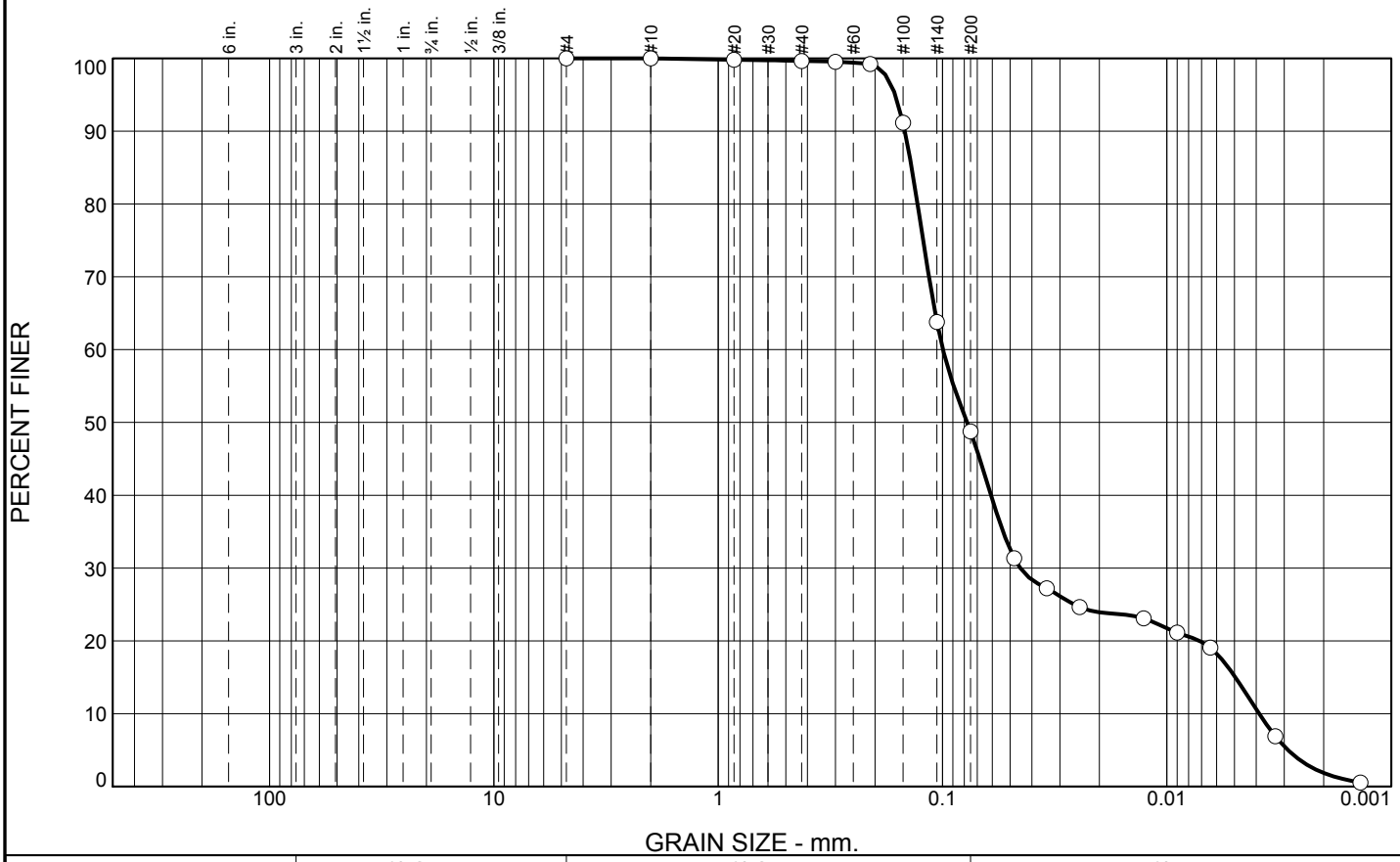
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	50.8	33.6	15.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.6		
#50	99.5		
#70	99.2		
#100	91.2		
#140	63.8		
#200	48.8		
0.0479 mm.	31.4		
0.0343 mm.	27.2		
0.0245 mm.	24.6		
0.0127 mm.	23.1		
0.0090 mm.	21.1		
0.0064 mm.	19.1		
0.0033 mm.	6.9		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, little clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1472 D_{85}= 0.1373 D_{60}= 0.0995
D_{50}= 0.0776 D_{30}= 0.0451 D_{15}= 0.0050
D_{10}= 0.0039 C_u= 25.66 C_c= 5.26

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 58

Date: 3/6/2023

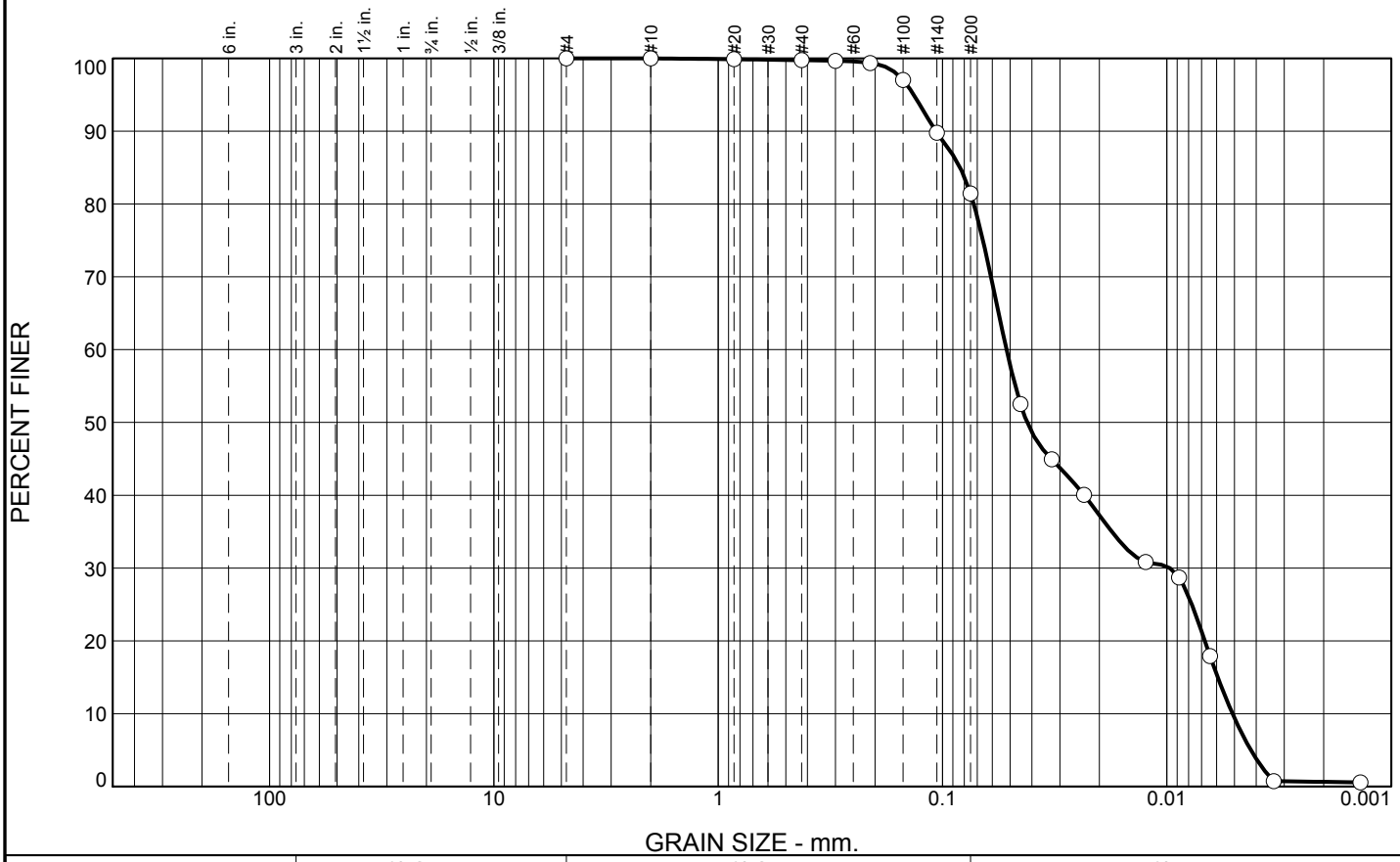
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	18.4	72.0	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.8		
#50	99.7		
#70	99.4		
#100	97.0		
#140	89.8		
#200	81.4		
0.0450 mm.	52.5		
0.0326 mm.	44.9		
0.0234 mm.	40.0		
0.0124 mm.	30.8		
0.0088 mm.	28.7		
0.0064 mm.	17.9		
0.0033 mm.	0.7		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Silt, little fine-grained sand-sized quartz, few clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1071 D_{85}= 0.0834 D_{60}= 0.0519
D_{50}= 0.0420 D_{30}= 0.0097 D_{15}= 0.0059
D_{10}= 0.0051 C_u= 10.18 C_c= 0.36

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 59

Date: 3/6/2023

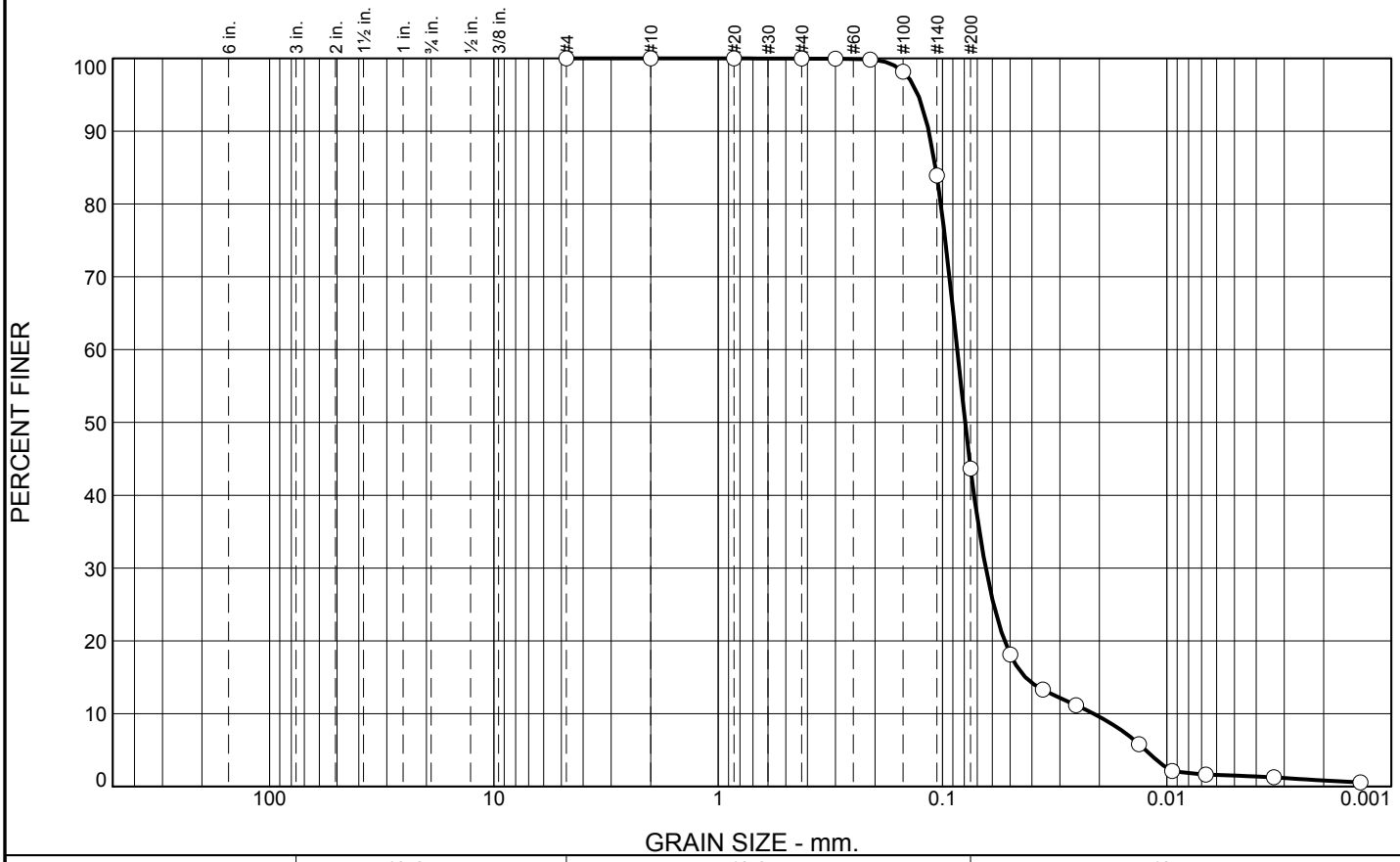
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	56.3	42.2	1.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#50	100.0		
#70	99.8		
#100	98.2		
#140	83.9		
#200	43.7		
0.0499 mm.	18.1		
0.0357 mm.	13.3		
0.0254 mm.	11.2		
0.0133 mm.	5.8		
0.0095 mm.	2.1		
0.0067 mm.	1.6		
0.0033 mm.	1.3		
0.0014 mm.	0.5		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1151 D_{85}= 0.1073 D_{60}= 0.0860
D_{50}= 0.0793 D_{30}= 0.0642 D_{15}= 0.0428
D_{10}= 0.0212 C_u= 4.05 C_c= 2.26

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 60

Date: 3/6/2023

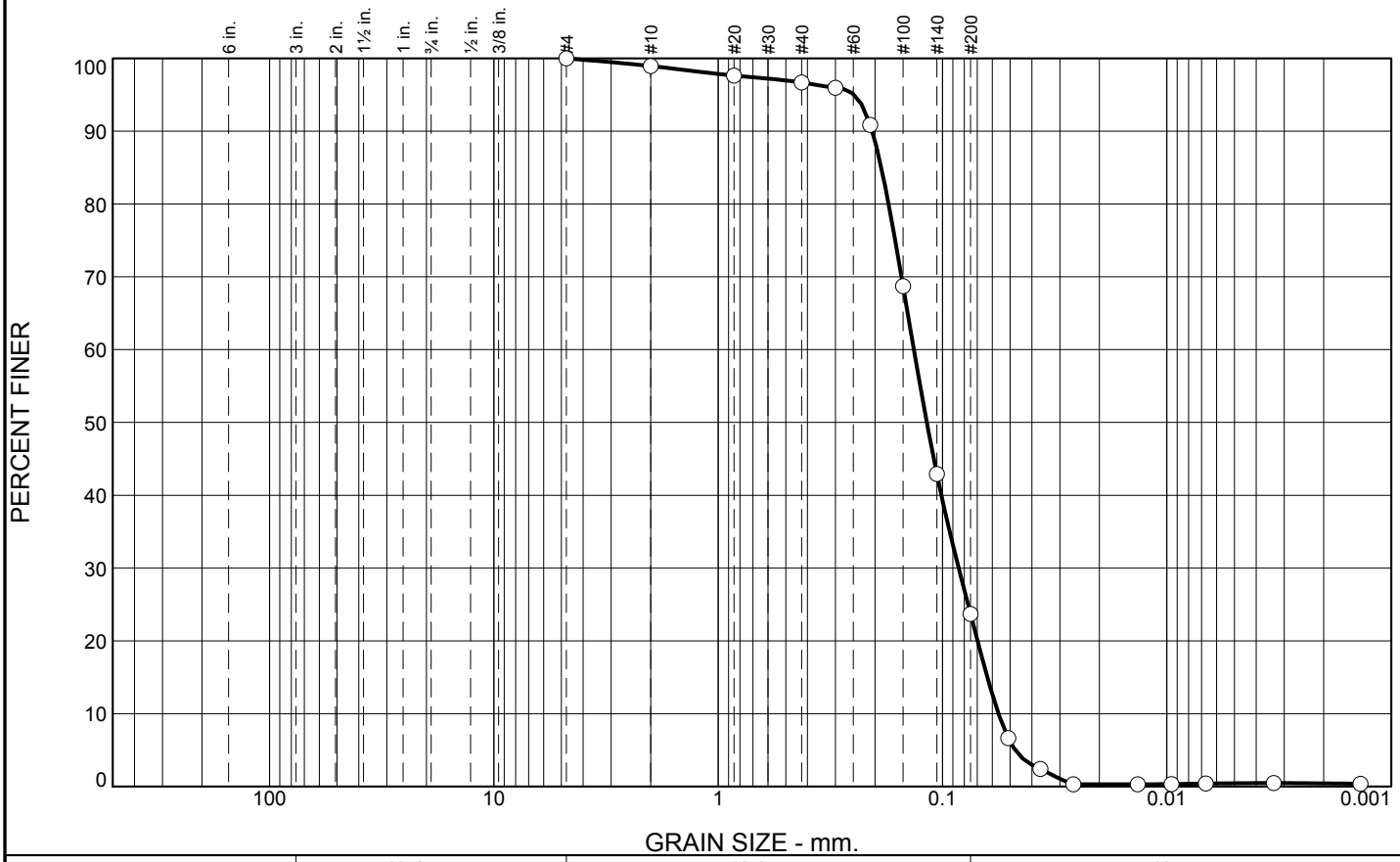
Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.0	2.3	73.0	23.3	0.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.0		
#20	97.6		
#40	96.7		
#50	96.0		
#70	90.9		
#100	68.7		
#140	42.9		
#200	23.7		
0.0510 mm.	6.6		
0.0367 mm.	2.4		
0.0261 mm.	0.3		
0.0135 mm.	0.3		
0.0095 mm.	0.3		
0.0067 mm.	0.4		
0.0033 mm.	0.5		
0.0014 mm.	0.4		

* (no specification provided)

Soil Description

Sand, silty, mostly fine-grained sand-sized quartz, little silt, tan

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2058 D_{85}= 0.1875 D_{60}= 0.1342
D_{50}= 0.1175 D_{30}= 0.0847 D_{15}= 0.0632
D_{10}= 0.0564 C_u= 2.38 C_c= 0.95

Classification

USCS= SM AASHTO=

Remarks

Source of Sample: 23A1459
Sample Number: 66

Date: 3/6/2023

Taylor Engineering, Inc.

Client: North Water District Laboratory Services
Project: 23A1459

Project No: C2022-020 **Figure**

Tested By: NEL

Laboratory Analysis Report

Total Number of Pages: 23

Job ID : 23020290

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
23A1459

Report To :	Client Name:	NWDLS	P.O.#.: 23A1459
	Attn:	Monica O. Martin	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 01/25/23 - 02/01/23
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A1459-02	Water	23020290.01
23A1459-03	Water	23020290.02
23A1459-04	Water	23020290.03
23A1459-05	Water	23020290.04
23A1459-07	Water	23020290.05
23A1459-08	Water	23020290.06
23A1459-09	Water	23020290.07
23A1459-10	Water	23020290.08
23A1459-11	Water	23020290.09
23A1459-12	Water	23020290.10
23A1459-13	Water	23020290.11
23A1459-49	Water	23020290.12
23A1459-50	Water	23020290.13
23A1459-51	Water	23020290.14
23A1459-52	Water	23020290.15
23A1459-62	Water	23020290.16

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 2/9/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/03/2023 07:20

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23020290

Date: 2/9/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-02
Date Collected: 01/25/23
Time Collected: 11:20
Other Information:

Job Sample ID: 23020290.01
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	3.1	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-03
Date Collected: 01/25/23
Time Collected: 14:17
Other Information:

Job Sample ID: 23020290.02
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	3.1	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-04
Date Collected: 01/25/23
Time Collected: 15:45
Other Information:

Job Sample ID: 23020290.03
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	3	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-05
Date Collected: 01/27/23
Time Collected: 12:00
Other Information:

Job Sample ID: 23020290.04
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.3	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-07
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.05
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	9.9	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-08
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.06
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	5.2	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-09
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.07
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	4.9	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-10
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.08
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	4.6	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-11
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.09
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	4.6	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-12
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.10
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	4.1	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-13
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.11
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	3.9	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-49
Date Collected: 01/27/23
Time Collected: 16:07
Other Information:

Job Sample ID: 23020290.12
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.2	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-50
Date Collected: 01/27/23
Time Collected: 15:20
Other Information:

Job Sample ID: 23020290.13
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.5	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-51
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.14
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.5	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-52
Date Collected: 02/01/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23020290.15
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.6	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020290

Date 2/9/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-62
Date Collected: 01/27/23
Time Collected: 13:26
Other Information:

Job Sample ID: 23020290.16
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2	mg/L	1	0.35	1			02/03/23 14:00	AJ

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 23020290 **Date :** 2/9/2023

Analysis : Total Organic Carbon **Method : EPA 415.1** **Reporting Units : mg/L**

QC Batch ID : Qb23020626 **Created Date :** 02/06/23 **Created By :** Ajohn

Samples in This QC Batch : 23020290.01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
TOC	TOC	< MDL	mg/L	1	1	0.35		

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
TOC	10	9.5	95						90-110	

QC Type: MS and MSD
QC Sample ID: 23020290.16

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TOC	2.0	5	6.7	94	5	6.7	94	0	10	80-120	

NWDLS
North Water District Laboratory Services, Inc.

Job ID:23020290
02/03/2023 NWDLS AMS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 *Marine Water* *Sampled: 01/25/2023 11:20*			
TOC-415.1	03/06/2023	02/22/2023 11:20	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-03 *Marine Water* *Sampled: 01/25/2023 14:17*			
TOC-415.1	03/06/2023	02/22/2023 14:17	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-04 *Marine Water* *Sampled: 01/25/2023 15:45*			
TOC-415.1	03/06/2023	02/22/2023 15:45	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-05 *Marine Water* *Sampled: 01/27/2023 12:00*			
TOC-415.1	03/06/2023	02/24/2023 12:00	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-07 *Elutriate* *Sampled: 01/16/2023 14:20*			
TOC-415.1-ELUT	03/06/2023	02/13/2023 14:20	Leached: 02/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS
North Water District Laboratory Services, Inc.

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-08 ***Elutriate*** ***Sampled: 01/16/2023 17:20***			
TOC-415.1-ELUT 06A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/13/2023 17:20	Leached: 02/01/2023 10:00
Sample ID: 23A1459-09 ***Elutriate*** ***Sampled: 01/19/2023 15:20***			
TOC-415.1-ELUT 07A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/16/2023 15:20	Leached: 02/01/2023 10:00
Sample ID: 23A1459-10 ***Elutriate*** ***Sampled: 01/19/2023 17:00***			
TOC-415.1-ELUT 08A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/16/2023 17:00	Leached: 02/01/2023 10:00
Sample ID: 23A1459-11 ***Elutriate*** ***Sampled: 01/18/2023 09:40***			
TOC-415.1-ELUT 09A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/15/2023 09:40	Leached: 02/01/2023 10:00
Sample ID: 23A1459-12 ***Elutriate*** ***Sampled: 01/18/2023 11:15***			
TOC-415.1-ELUT 10A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/15/2023 11:15	Leached: 02/01/2023 10:00
Sample ID: 23A1459-13 ***Elutriate*** ***Sampled: 01/16/2023 16:37***			
TOC-415.1-ELUT 11A *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/13/2023 16:37	Leached: 02/01/2023 10:00

NWDLS
North Water District Laboratory Services, Inc.

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-49 *Marine Water* *Sampled: 01/27/2023 16:07*			
TOC-415.1 12D *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 16:07	
Sample ID: 23A1459-50 *Marine Water* *Sampled: 01/27/2023 15:20*			
TOC-415.1 13D *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 15:20	
Sample ID: 23A1459-51 *Elutriate* *Sampled: 01/23/2023 13:05*			
TOC-415.1-ELUT 14D *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/20/2023 13:05	Leached: 02/01/2023 10:00
Sample ID: 23A1459-52 *Elutriate* *Sampled: 01/21/2023 10:00*			
TOC-415.1-ELUT 15D *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/18/2023 10:00	Leached: 02/01/2023 10:00
Sample ID: 23A1459-62 *Marine Water* *Sampled: 01/27/2023 13:26*			
TOC-415.1 16D *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 13:26	

Released By	Date	Received By	Date
	2-3-23 7:20	7:20	2-3-23

3.9°C
JSH
DM

Sample Condition Checklist

A&B JobID : **23020290**	Date Received : **02/03/2023**	Time Received : **7:20AM**
Client Name : **NWDLS**		
Temperature : **3.9°C**	Sample pH : **<2 TOC**	
Thermometer ID : **IR4**	pH Paper ID : **104485**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**	X		
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received by : Amber

Check in by/date : Amber / 02/03/2023

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 10

Job ID : 23020761

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
23A1459

Report To :	Client Name:	NWDLS	P.O.#.: 23A1459
	Attn:	Monica O. Martin	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 02/03/23
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A1459-14	Water	23020761.01
23A1459-64	Water	23020761.02
23A1459-65	Water	23020761.03

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 2/15/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/08/2023 08:12

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23020761

Date: 2/15/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

LABORATORY TEST RESULTS

Job ID : 23020761

Date 2/15/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-14
Date Collected: 02/03/23
Time Collected: 09:05
Other Information:

Job Sample ID: 23020761.01
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.5	mg/L	1	0.35	1			02/13/23 09:30	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020761

Date 2/15/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-64
Date Collected: 02/03/23
Time Collected: 09:05
Other Information:

Job Sample ID: 23020761.02
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	4	mg/L	1	0.35	1			02/13/23 09:30	AJ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23020761

Date 2/15/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-65
Date Collected: 02/03/23
Time Collected: 09:05
Other Information:

Job Sample ID: 23020761.03
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
EPA 415.1	Total Organic Carbon									
	TOC	2.2	mg/L	1	0.35	1			02/13/23 09:30	AJ

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 23020761 **Date :** 2/15/2023

Analysis : Total Organic Carbon **Method : EPA 415.1** **Reporting Units : mg/L**

QC Batch ID : Qb23021419 **Created Date :** 02/14/23 **Created By :** Ajohn

Samples in This QC Batch : 23020761.01,02,03

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
TOC	TOC	< MDL	mg/L	1	1	0.35		

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
TOC	10	10.6	106						90-110	

QC Type: MS and MSD
QC Sample ID: 23021085.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TOC	40.0	5	44.4	88	5	44.9	98	1.1	10	80-120	

NWDLS

Job ID:23020761

02/08/2023 NWDLS AMS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 *Marine Water* *Sampled: 01/25/2023 11:20*			
TOC-415.1	03/06/2023	02/22/2023 11:20	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-03 *Marine Water* *Sampled: 01/25/2023 14:17*			
TOC-415.1	03/06/2023	02/22/2023 14:17	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-04 *Marine Water* *Sampled: 01/25/2023 15:45*			
TOC-415.1	03/06/2023	02/22/2023 15:45	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-05 *Marine Water* *Sampled: 01/27/2023 12:00*			
TOC-415.1	03/06/2023	02/24/2023 12:00	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-07 *Elutriate* *Sampled: 01/16/2023 14:20*			
TOC-415.1-ELUT	03/06/2023	02/13/2023 14:20	Leached: 01/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-14 *Elutriate* *Sampled: 01/23/2023 00:00*			
TOC-415.1-ELUT OMA *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/20/2023 00:00	Leached: 02/03/2023 09:05
[redacted]			
[redacted] *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 16:07	
[redacted]			
[redacted] *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 15:20	
[redacted]			
[redacted] *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/20/2023 13:05	Leached: 02/01/2023 10:00
[redacted]			
[redacted] *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/18/2023 10:00	Leached: 02/01/2023 10:00
[redacted]			
[redacted] *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/24/2023 13:26	

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-64 ***Elutriate*** ***Sampled: 01/20/2023 09:30***			
TOC-415.1-ELUT *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/17/2023 09:30	Leached: 02/03/2023 09:05
Sample ID: 23A1459-65 ***Elutriate*** ***Sampled: 01/21/2023 16:45***			
TOC-415.1-ELUT *Analyte(s):* Total Organic Carbon (TOC) *Containers Supplied:*	03/06/2023	02/18/2023 16:45	Leached: 02/03/2023 09:05

Released By 0812 Date 2.8.23 Received By Date 02/08/23 0812 ~~0819~~

2.3°C
IR4

Sample Condition Checklist

A&B JobID : **23020761**	Date Received : **02/08/2023**	Time Received : **8:12AM**
Client Name : **NWDLS**		
Temperature : **2.3°C**	Sample pH : **<2 TOC**	
Thermometer ID : **IR4**	pH Paper ID : **104485**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**	X		
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received by : EValdez

Check in by/date : EValdez / 02/08/2023

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 61

Job ID : 23021134

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
23A1459

Report To :

Client Name: NWDLS
Attn: Monica O. Martin
Client Address: 130 S Trade Center Pkwy
City, State, Zip: Conroe, Texas, 77385

P.O.#.: 23A1459
Sample Collected By:
Date Collected: 01/16/23 - 01/27/23

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A1459-16	Solid	23021134.01
23A1459-17	Solid	23021134.02
23A1459-18	Solid	23021134.03
23A1459-20	Solid	23021134.04
23A1459-21	Solid	23021134.05
23A1459-22	Solid	23021134.06
23A1459-38	Solid	23021134.07
23A1459-40	Solid	23021134.08
23A1459-41	Solid	23021134.09
23A1459-24	Solid	23021134.10
23A1459-25	Solid	23021134.11
23A1459-27	Solid	23021134.12
23A1459-28	Solid	23021134.13
23A1459-30	Solid	23021134.14
23A1459-31	Solid	23021134.15
23A1459-32	Solid	23021134.16
23A1459-34	Solid	23021134.17
23A1459-35	Solid	23021134.18

Released By: Amanda Shute
Title: Project Manager
Date: 2/17/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/10/2023 10:00

Laboratory Analysis Report

Total Number of Pages: 61

Job ID : 23021134

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A1459-36	Solid	23021134.19
23A1459-39	Solid	23021134.20
23A1459-43	Solid	23021134.21
23A1459-44	Solid	23021134.22
23A1459-45	Solid	23021134.23
23A1459-46	Solid	23021134.24
23A1459-47	Solid	23021134.25
23A1459-48	Solid	23021134.26
23A1459-58	Solid	23021134.27
23A1459-59	Solid	23021134.28
23A1459-60	Solid	23021134.29
BGA3903-MB	Solid	23021134.30
BGA3903-MDL	Solid	23021134.31
BGA3903-LCS	Solid	23021134.32
BGA3903-LCSD	Solid	23021134.33
BGB-0167-MB	Solid	23021134.34
BGB-0167-MDL	Solid	23021134.35
BGB-0167-BS	Solid	23021134.36
BGB-0167-BSD	Solid	23021134.37
BGA3903-MS	Solid	23021134.38
BGA3903-MSD	Solid	23021134.39
BGB-0167-MS	Solid	23021134.40
BGB-0167-MSD	Solid	23021134.41

Released By: Amanda Shute

Title: Project Manager

Date: 2/17/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023

Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/10/2023 10:00

Laboratory Report: Case Narrative

A&B Job ID: 23021134

Date: 02/17/23

Client Name:	NWDLS	Attn: Monica O. Martin
Project Name:	23A1459	
Date Received:	02/10/23	
Collected By:		

Released By:

Title:

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23021134

Date: 2/17/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

J	Estimation. Below calibration range but above MDL.
S2	Surrogate recovery is below control limit. Results may be biased low.
S8	Target compounds caused elevation of baseline. Surrogate may be biased high.

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-16
Date Collected: 01/16/23
Time Collected: 14:20
Other Information:

Job Sample ID: 23021134.01
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.51	mg/Kg	1.00	8.94	25			02/10/23 23:39	VMN
	>C12-C28	7.95	mg/Kg	1.00	7.35	25		J	02/10/23 23:39	VMN
	>C28-C35	6.91	mg/Kg	1.00	6.20	25		J	02/10/23 23:39	VMN
	Total C6-C35	78.37	mg/Kg	1.00	6.20				02/10/23 23:39	VMN
	1-Chlorooctane(surr)	87.3	%	1.00		60-143			02/10/23 23:39	VMN
	Chlorooctadecane(surr)	72.6	%	1.00		60-150			02/10/23 23:39	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-17
Date Collected: 01/17/23
Time Collected: 09:40
Other Information:

Job Sample ID: 23021134.02
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	57.48	mg/Kg	1.00	8.94	25			02/11/23 00:10	VMN
	>C12-C28	7.92	mg/Kg	1.00	7.35	25		J	02/11/23 00:10	VMN
	>C28-C35	6.39	mg/Kg	1.00	6.20	25		J	02/11/23 00:10	VMN
	Total C6-C35	71.79	mg/Kg	1.00	6.20				02/11/23 00:10	VMN
	1-Chlorooctane(surr)	78.9	%	1.00		60-143			02/11/23 00:10	VMN
	Chlorooctadecane(surr)	80.9	%	1.00		60-150			02/11/23 00:10	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-18
Date Collected: 01/17/23
Time Collected: 14:40
Other Information:

Job Sample ID: 23021134.03
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	59.59	mg/Kg	1.00	8.94	25			02/11/23 00:43	VMN
	>C12-C28	9.04	mg/Kg	1.00	7.35	25		J	02/11/23 00:43	VMN
	>C28-C35	6.82	mg/Kg	1.00	6.20	25		J	02/11/23 00:43	VMN
	Total C6-C35	75.45	mg/Kg	1.00	6.20				02/11/23 00:43	VMN
	1-Chlorooctane(surr)	78.2	%	1.00		60-143			02/11/23 00:43	VMN
	Chlorooctadecane(surr)	70.7	%	1.00		60-150			02/11/23 00:43	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-20
Date Collected: 01/16/23
Time Collected: 17:20
Other Information:

Job Sample ID: 23021134.04
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	58.67	mg/Kg	1.00	8.94	25			02/11/23 01:15	VMN
	>C12-C28	8.60	mg/Kg	1.00	7.35	25		J	02/11/23 01:15	VMN
	>C28-C35	7.22	mg/Kg	1.00	6.20	25		J	02/11/23 01:15	VMN
	Total C6-C35	74.49	mg/Kg	1.00	6.20				02/11/23 01:15	VMN
	1-Chlorooctane(surr)	79	%	1.00		60-143			02/11/23 01:15	VMN
	Chlorooctadecane(surr)	81.3	%	1.00		60-150			02/11/23 01:15	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-21
Date Collected: 01/17/23
Time Collected: 11:30
Other Information:

Job Sample ID: 23021134.05
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	61.54	mg/Kg	1.00	8.94	25			02/11/23 01:48	VMN
	>C12-C28	8.24	mg/Kg	1.00	7.35	25		J	02/11/23 01:48	VMN
	>C28-C35	6.80	mg/Kg	1.00	6.20	25		J	02/11/23 01:48	VMN
	Total C6-C35	76.59	mg/Kg	1.00	6.20				02/11/23 01:48	VMN
	1-Chlorooctane(surr)	84.4	%	1.00		60-143			02/11/23 01:48	VMN
	Chlorooctadecane(surr)	84.4	%	1.00		60-150			02/11/23 01:48	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-22
Date Collected: 01/17/23
Time Collected: 16:30
Other Information:

Job Sample ID: 23021134.06
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	62.70	mg/Kg	1.00	8.94	25			02/11/23 02:20	VMN
	>C12-C28	8.28	mg/Kg	1.00	7.35	25		J	02/11/23 02:20	VMN
	>C28-C35	7.44	mg/Kg	1.00	6.20	25		J	02/11/23 02:20	VMN
	Total C6-C35	78.42	mg/Kg	1.00	6.20				02/11/23 02:20	VMN
	1-Chlorooctane(surr)	79.6	%	1.00		60-143			02/11/23 02:20	VMN
	Chlorooctadecane(surr)	81	%	1.00		60-150			02/11/23 02:20	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-38
Date Collected: 01/17/23
Time Collected: 14:12
Other Information:

Job Sample ID: 23021134.07
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.91	mg/Kg	1.00	8.94	25			02/11/23 02:52	VMN
	>C12-C28	8.40	mg/Kg	1.00	7.35	25		J	02/11/23 02:52	VMN
	>C28-C35	8.1	mg/Kg	1.00	6.20	25		J	02/11/23 02:52	VMN
	Total C6-C35	80.41	mg/Kg	1.00	6.20				02/11/23 02:52	VMN
	1-Chlorooctane(surr)	77.2	%	1.00		60-143			02/11/23 02:52	VMN
	Chlorooctadecane(surr)	70	%	1.00		60-150			02/11/23 02:52	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-40
Date Collected: 01/16/23
Time Collected: 16:37
Other Information:

Job Sample ID: 23021134.08
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.27	mg/Kg	1.00	8.94	25			02/11/23 03:25	VMN
	>C12-C28	8.02	mg/Kg	1.00	7.35	25		J	02/11/23 03:25	VMN
	>C28-C35	7.56	mg/Kg	1.00	6.20	25		J	02/11/23 03:25	VMN
	Total C6-C35	78.85	mg/Kg	1.00	6.20				02/11/23 03:25	VMN
	1-Chlorooctane(surr)	86.8	%	1.00		60-143			02/11/23 03:25	VMN
	Chlorooctadecane(surr)	84	%	1.00		60-150			02/11/23 03:25	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-41
Date Collected: 01/17/23
Time Collected: 09:20
Other Information:

Job Sample ID: 23021134.09
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	65.61	mg/Kg	1.00	8.94	25			02/11/23 05:01	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 05:01	VMN
	>C28-C35	9.43	mg/Kg	1.00	6.20	25		J	02/11/23 05:01	VMN
	Total C6-C35	75.04	mg/Kg	1.00	6.20				02/11/23 05:01	VMN
	1-Chlorooctane(surr)	84	%	1.00		60-143			02/11/23 05:01	VMN
	Chlorooctadecane(surr)	70	%	1.00		60-150			02/11/23 05:01	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-24
Date Collected: 01/19/23
Time Collected: 15:20
Other Information:

Job Sample ID: 23021134.10
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	292.59	mg/Kg	1.00	8.94	25			02/11/23 05:33	VMN
	>C12-C28	1327.36	mg/Kg	10.00	73.5	250			02/13/23 22:37	VMN
	>C28-C35	447.97	mg/Kg	1.00	6.20	25			02/11/23 05:33	VMN
	Total C6-C35	2067.91	mg/Kg	10.00	62.0				02/13/23 22:37	VMN
	1-Chlorooctane(surr)	92.7	%	1.00		60-143			02/13/23 22:37	VMN
	1-Chlorooctane(surr)	82.9	%	10.00		60-143			02/13/23 22:37	MV
	Chlorooctadecane(surr)	73.5	%	1.00		60-150			02/13/23 22:37	VMN
	Chlorooctadecane(surr)	83.8	%	10.00		60-150			02/13/23 22:37	MV

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-25
Date Collected: 01/20/23
Time Collected: 11:00
Other Information:

Job Sample ID: 23021134.11
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	77.86	mg/Kg	1.00	8.94	25			02/11/23 06:05	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 06:05	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 06:05	VMN
	Total C6-C35	77.86	mg/Kg	1.00	6.20				02/11/23 06:05	VMN
	1-Chlorooctane(surr)	110	%	1.00		60-143			02/11/23 06:05	VMN
	Chlorooctadecane(surr)	79.2	%	1.00		60-150			02/11/23 06:05	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-27
Date Collected: 01/19/23
Time Collected: 17:00
Other Information:

Job Sample ID: 23021134.12
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	75.32	mg/Kg	1.00	8.94	25			02/11/23 06:37	VMN
	>C12-C28	7.77	mg/Kg	1.00	7.35	25		J	02/11/23 06:37	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 06:37	VMN
	Total C6-C35	83.09	mg/Kg	1.00	6.20				02/11/23 06:37	VMN
	1-Chlorooctane(surr)	103	%	1.00		60-143			02/11/23 06:37	VMN
	Chlorooctadecane(surr)	71.4	%	1.00		60-150			02/11/23 06:37	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-28
Date Collected: 01/20/23
Time Collected: 12:50
Other Information:

Job Sample ID: 23021134.13
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	74.62	mg/Kg	1.00	8.94	25			02/11/23 07:09	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 07:09	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 07:09	VMN
	Total C6-C35	74.62	mg/Kg	1.00	6.20				02/11/23 07:09	VMN
	1-Chlorooctane(surr)	103	%	1.00		60-143			02/11/23 07:09	VMN
	Chlorooctadecane(surr)	80.2	%	1.00		60-150			02/11/23 07:09	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-30
Date Collected: 01/18/23
Time Collected: 09:40
Other Information:

Job Sample ID: 23021134.14
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.38	mg/Kg	1.00	8.94	25			02/11/23 07:41	VMN
	>C12-C28	8.15	mg/Kg	1.00	7.35	25		J	02/11/23 07:41	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 07:41	VMN
	Total C6-C35	79.54	mg/Kg	1.00	6.20				02/11/23 07:41	VMN
	1-Chlorooctane(surr)	99.9	%	1.00		60-143			02/11/23 07:41	VMN
	Chlorooctadecane(surr)	82.5	%	1.00		60-150			02/11/23 07:41	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-31
Date Collected: 01/18/23
Time Collected: 14:00
Other Information:

Job Sample ID: 23021134.15
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	74.25	mg/Kg	1.00	8.94	25			02/11/23 08:13	VMN
	>C12-C28	110.84	mg/Kg	1.00	7.35	25			02/11/23 08:13	VMN
	>C28-C35	107.35	mg/Kg	1.00	6.20	25			02/11/23 08:13	VMN
	Total C6-C35	292.44	mg/Kg	1.00	6.20				02/11/23 08:13	VMN
	1-Chlorooctane(surr)	107	%	1.00		60-143			02/11/23 08:13	VMN
	Chlorooctadecane(surr)	78.8	%	1.00		60-150			02/11/23 08:13	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-32
Date Collected: 01/19/23
Time Collected: 09:20
Other Information:

Job Sample ID: 23021134.16
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.45	mg/Kg	1.00	8.94	25			02/11/23 08:45	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 08:45	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 08:45	VMN
	Total C6-C35	71.45	mg/Kg	1.00	6.20				02/11/23 08:45	VMN
	1-Chlorooctane(surr)	93.8	%	1.00		60-143			02/11/23 08:45	VMN
	Chlorooctadecane(surr)	74.6	%	1.00		60-150			02/11/23 08:45	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-34
Date Collected: 01/18/23
Time Collected: 11:15
Other Information:

Job Sample ID: 23021134.17
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	73.11	mg/Kg	1.00	8.94	25			02/11/23 09:17	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 09:17	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 09:17	VMN
	Total C6-C35	73.11	mg/Kg	1.00	6.20				02/11/23 09:17	VMN
	1-Chlorooctane(surr)	102	%	1.00		60-143			02/11/23 09:17	VMN
	Chlorooctadecane(surr)	77.1	%	1.00		60-150			02/11/23 09:17	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-35
Date Collected: 01/18/23
Time Collected: 15:45
Other Information:

Job Sample ID: 23021134.18
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.54	mg/Kg	1.00	8.94	25			02/11/23 09:50	VMN
	>C12-C28	7.76	mg/Kg	1.00	7.35	25		J	02/11/23 09:50	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 09:50	VMN
	Total C6-C35	79.30	mg/Kg	1.00	6.20				02/11/23 09:50	VMN
	1-Chlorooctane(surr)	99.2	%	1.00		60-143			02/11/23 09:50	VMN
	Chlorooctadecane(surr)	77	%	1.00		60-150			02/11/23 09:50	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-36
Date Collected: 01/19/23
Time Collected: 11:10
Other Information:

Job Sample ID: 23021134.19
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.76	mg/Kg	1.00	8.94	25			02/11/23 10:22	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 10:22	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 10:22	VMN
	Total C6-C35	71.76	mg/Kg	1.00	6.20				02/11/23 10:22	VMN
	1-Chlorooctane(surr)	98.6	%	1.00		60-143			02/11/23 10:22	VMN
	Chlorooctadecane(surr)	79.1	%	1.00		60-150			02/11/23 10:22	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-39
Date Collected: 01/18/23
Time Collected: 09:25
Other Information:

Job Sample ID: 23021134.20
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	69.18	mg/Kg	1.00	8.94	25			02/11/23 10:55	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 10:55	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 10:55	VMN
	Total C6-C35	69.18	mg/Kg	1.00	6.20				02/11/23 10:55	VMN
	1-Chlorooctane(surr)	83.1	%	1.00		60-143			02/11/23 10:55	VMN
	Chlorooctadecane(surr)	63.9	%	1.00		60-150			02/11/23 10:55	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-43
Date Collected: 01/18/23
Time Collected: 14:10
Other Information:

Job Sample ID: 23021134.21
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	76.33	mg/Kg	1.00	8.94	25			02/11/23 11:28	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 11:28	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 11:28	VMN
	Total C6-C35	76.33	mg/Kg	1.00	6.20				02/11/23 11:28	VMN
	1-Chlorooctane(surr)	102	%	1.00		60-143			02/11/23 11:28	VMN
	Chlorooctadecane(surr)	80.4	%	1.00		60-150			02/11/23 11:28	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-44
Date Collected: 01/19/23
Time Collected: 08:15
Other Information:

Job Sample ID: 23021134.22
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	75.24	mg/Kg	1.00	8.94	25			02/11/23 12:02	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 12:02	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 12:02	VMN
	Total C6-C35	75.24	mg/Kg	1.00	6.20				02/11/23 12:02	VMN
	1-Chlorooctane(surr)	102	%	1.00		60-143			02/11/23 12:02	VMN
	Chlorooctadecane(surr)	79.2	%	1.00		60-150			02/11/23 12:02	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-45
Date Collected: 01/20/23
Time Collected: 09:15
Other Information:

Job Sample ID: 23021134.23
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	73.18	mg/Kg	1.00	8.94	25			02/11/23 12:36	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 12:36	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 12:36	VMN
	Total C6-C35	73.18	mg/Kg	1.00	6.20				02/11/23 12:36	VMN
	1-Chlorooctane(surr)	98.4	%	1.00		60-143			02/11/23 12:36	VMN
	Chlorooctadecane(surr)	77.4	%	1.00		60-150			02/11/23 12:36	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-46
Date Collected: 01/27/23
Time Collected: 14:05
Other Information:

Job Sample ID: 23021134.24
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.74	mg/Kg	1.00	8.94	25			02/11/23 13:11	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 13:11	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 13:11	VMN
	Total C6-C35	71.74	mg/Kg	1.00	6.20				02/11/23 13:11	VMN
	1-Chlorooctane(surr)	85.7	%	1.00		60-143			02/11/23 13:11	VMN
	Chlorooctadecane(surr)	61.8	%	1.00		60-150			02/11/23 13:11	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-47
Date Collected: 01/27/23
Time Collected: 09:20
Other Information:

Job Sample ID: 23021134.25
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	74.21	mg/Kg	1.00	8.94	25			02/11/23 13:44	VMN
	>C12-C28	7.45	mg/Kg	1.00	7.35	25		J	02/11/23 13:44	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 13:44	VMN
	Total C6-C35	81.66	mg/Kg	1.00	6.20				02/11/23 13:44	VMN
	1-Chlorooctane(surr)	101	%	1.00		60-143			02/11/23 13:44	VMN
	Chlorooctadecane(surr)	74.7	%	1.00		60-150			02/11/23 13:44	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-48
Date Collected: 01/19/23
Time Collected: 14:00
Other Information:

Job Sample ID: 23021134.26
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	77.43	mg/Kg	1.00	8.94	25			02/11/23 14:15	VMN
	>C12-C28	50.33	mg/Kg	1.00	7.35	25			02/11/23 14:15	VMN
	>C28-C35	16.31	mg/Kg	1.00	6.20	25		J	02/11/23 14:15	VMN
	Total C6-C35	144.06	mg/Kg	1.00	6.20				02/11/23 14:15	VMN
	1-Chlorooctane(surr)	104	%	1.00		60-143			02/11/23 14:15	VMN
	Chlorooctadecane(surr)	81.9	%	1.00		60-150			02/11/23 14:15	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-58
Date Collected: 01/21/23
Time Collected: 10:00
Other Information:

Job Sample ID: 23021134.27
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	67.36	mg/Kg	1.00	8.94	25			02/11/23 14:47	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 14:47	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 14:47	VMN
	Total C6-C35	67.36	mg/Kg	1.00	6.20				02/11/23 14:47	VMN
	1-Chlorooctane(surr)	93.2	%	1.00		60-143			02/11/23 14:47	VMN
	Chlorooctadecane(surr)	73.7	%	1.00		60-150			02/11/23 14:47	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-59
Date Collected: 01/21/23
Time Collected: 15:10
Other Information:

Job Sample ID: 23021134.28
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	71.77	mg/Kg	1.00	8.94	25			02/11/23 15:19	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 15:19	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 15:19	VMN
	Total C6-C35	71.77	mg/Kg	1.00	6.20				02/11/23 15:19	VMN
	1-Chlorooctane(surr)	98.5	%	1.00		60-143			02/11/23 15:19	VMN
	Chlorooctadecane(surr)	76.7	%	1.00		60-150			02/11/23 15:19	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: 23A1459-60
Date Collected: 01/21/23
Time Collected: 11:45
Other Information:

Job Sample ID: 23021134.29
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	66.20	mg/Kg	1.00	8.94	25			02/11/23 16:54	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/11/23 16:54	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 16:54	VMN
	Total C6-C35	66.20	mg/Kg	1.00	6.20				02/11/23 16:54	VMN
	1-Chlorooctane(surr)	77.9	%	1.00		60-143			02/11/23 16:54	VMN
	Chlorooctadecane(surr)	75.7	%	1.00		60-150			02/11/23 16:54	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-MB

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.30

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.06	mg/Kg	1.00	8.94	25			02/10/23 19:23	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/10/23 19:23	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 19:23	VMN
	Total C6-C35	63.06	mg/Kg	1.00	6.20				02/10/23 19:23	VMN
	1-Chlorooctane(surr)	89.9	%	1.00		60-143			02/10/23 19:23	VMN
	Chlorooctadecane(surr)	79.9	%	1.00		60-150			02/10/23 19:23	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-MDL

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.31

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	64.95	mg/Kg	1.00	8.94	25			02/10/23 19:59	VMN
	>C12-C28	8.02	mg/Kg	1.00	7.35	25		J	02/10/23 19:59	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 19:59	VMN
	Total C6-C35	72.97	mg/Kg	1.00	6.20				02/10/23 19:59	VMN
	1-Chlorooctane(surr)	90.9	%	1.00		60-143			02/10/23 19:59	VMN
	Chlorooctadecane(surr)	79.5	%	1.00		60-150			02/10/23 19:59	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-LCS

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.32

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	260.72	mg/Kg	1.00	8.94	25			02/10/23 20:31	VMN
	>C12-C28	178.80	mg/Kg	1.00	7.35	25			02/10/23 20:31	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 20:31	VMN
	Total C6-C35	439.52	mg/Kg	1.00	6.20				02/10/23 20:31	VMN
	1-Chlorooctane(surr)	88.4	%	1.00		60-143			02/10/23 20:31	VMN
	Chlorooctadecane(surr)	77.3	%	1.00		60-150			02/10/23 20:31	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-LCSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.33

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	268.13	mg/Kg	1.00	8.94	25			02/10/23 21:03	VMN
	>C12-C28	185.53	mg/Kg	1.00	7.35	25			02/10/23 21:03	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 21:03	VMN
	Total C6-C35	453.65	mg/Kg	1.00	6.20				02/10/23 21:03	VMN
	1-Chlorooctane(surr)	89.5	%	1.00		60-143			02/10/23 21:03	VMN
	Chlorooctadecane(surr)	77.9	%	1.00		60-150			02/10/23 21:03	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-MB

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.34

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.86	mg/Kg	1.00	8.94	25			02/10/23 21:36	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/10/23 21:36	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 21:36	VMN
	Total C6-C35	63.86	mg/Kg	1.00	6.20				02/10/23 21:36	VMN
	1-Chlorooctane(surr)	89.8	%	1.00		60-143			02/10/23 21:36	VMN
	Chlorooctadecane(surr)	76	%	1.00		60-150			02/10/23 21:36	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-MDL

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.35

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	69.31	mg/Kg	1.00	8.94	25			02/10/23 22:07	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/10/23 22:07	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 22:07	VMN
	Total C6-C35	69.31	mg/Kg	1.00	6.20				02/10/23 22:07	VMN
	1-Chlorooctane(surr)	95.9	%	1.00		60-143			02/10/23 22:07	VMN
	Chlorooctadecane(surr)	75.5	%	1.00		60-150			02/10/23 22:07	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-BS

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.36

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	269.68	mg/Kg	1.00	8.94	25			02/10/23 22:38	VMN
	>C12-C28	181.82	mg/Kg	1.00	7.35	25			02/10/23 22:38	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 22:38	VMN
	Total C6-C35	451.50	mg/Kg	1.00	6.20				02/10/23 22:38	VMN
	1-Chlorooctane(surr)	91.1	%	1.00		60-143			02/10/23 22:38	VMN
	Chlorooctadecane(surr)	73.7	%	1.00		60-150			02/10/23 22:38	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-BSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.37

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	261.97	mg/Kg	1.00	8.94	25			02/10/23 23:09	VMN
	>C12-C28	190.41	mg/Kg	1.00	7.35	25			02/10/23 23:09	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/10/23 23:09	VMN
	Total C6-C35	452.38	mg/Kg	1.00	6.20				02/10/23 23:09	VMN
	1-Chlorooctane(surr)	91.4	%	1.00		60-143			02/10/23 23:09	VMN
	Chlorooctadecane(surr)	77.4	%	1.00		60-150			02/10/23 23:09	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-MS

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.38

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	280.70	mg/Kg	1.00	8.94	25			02/11/23 17:25	VMN
	>C12-C28	177.55	mg/Kg	1.00	7.35	25			02/11/23 17:25	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/11/23 17:25	VMN
	Total C6-C35	458.25	mg/Kg	1.00	6.20				02/11/23 17:25	VMN
	1-Chlorooctane(surr)	95.8	%	1.00		60-143			02/11/23 17:25	VMN
	Chlorooctadecane(surr)	79.1	%	1.00		60-150			02/11/23 17:25	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGA3903-MSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.39

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	287.22	mg/Kg	1.00	8.94	25			02/11/23 17:57	VMN
	>C12-C28	199.53	mg/Kg	1.00	7.35	25			02/11/23 17:57	VMN
	>C28-C35	8.95	mg/Kg	1.00	6.20	25		J	02/11/23 17:57	VMN
	Total C6-C35	495.70	mg/Kg	1.00	6.20				02/11/23 17:57	VMN
	1-Chlorooctane(surr)	97.4	%	1.00		60-143			02/11/23 17:57	VMN
	Chlorooctadecane(surr)	81.8	%	1.00		60-150			02/11/23 17:57	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-MS

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.40

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	535.18	mg/Kg	1.00	8.94	25			02/11/23 18:28	VMN
	>C12-C28	1706.31	mg/Kg	10.00	73.5	250			02/13/23 23:04	VMN
	>C28-C35	495.39	mg/Kg	1.00	6.20	25			02/11/23 18:28	VMN
	Total C6-C35	2736.88	mg/Kg	10.00	62.0				02/13/23 23:04	VMN
	1-Chlorooctane(surr)	65.3	%	1.00		60-143			02/13/23 23:04	VMN
	1-Chlorooctane(surr)	58.9	%	10.00		60-143		S2	02/13/23 23:04	MV
	Chlorooctadecane(surr)	44.3	%	1.00		60-150		S2	02/13/23 23:04	VMN
	Chlorooctadecane(surr)	52.3	%	10.00		60-150		S2	02/13/23 23:04	MV

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021134

Date 2/17/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 23A1459

Client Sample ID: BGB-0167-MSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021134.41

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	431.50	mg/Kg	1.00	8.94	25			02/11/23 18:59	VMN
	>C12-C28	1939.56	mg/Kg	10.00	73.5	250			02/13/23 23:30	VMN
	>C28-C35	525.78	mg/Kg	1.00	6.20	25			02/11/23 18:59	VMN
	Total C6-C35	2896.83	mg/Kg	10.00	62.0				02/13/23 23:30	VMN
	1-Chlorooctane(surr)	64.2	%	1.00		60-143			02/13/23 23:30	VMN
	1-Chlorooctane(surr)	76.2	%	10.00		60-143			02/13/23 23:30	MV
	Chlorooctadecane(surr)	62.4	%	1.00		60-150			02/13/23 23:30	VMN
	Chlorooctadecane(surr)	76.1	%	10.00		60-150			02/13/23 23:30	MV

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 23021134 **Date :** 2/17/2023

Analysis : Total Petroleum Hydrocarbons **Method : TX 1005** **Reporting Units : mg/Kg**

QC Batch ID : Qb230210161 **Created Date :** 02/10/23 **Created By :** VNair

Samples in This QC Batch : 23021134.01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17

Sample Preparation : PB23021061 **Prep Method :** TX 1005 **Prep Date :** 02/10/23 16:20 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	8.94		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	7.35		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.20		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.20		
Chlorooctadecane(surr)	3386-33-2	117	%	1.00				
1-Chlorooctane(surr)	111-85-3	111	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	500	510	102	500	521	104	2.1	20	75-125	
>C12-C28	500	549	110	500	560	112	2.1	20	75-125	
>C28-C35	500	561	112	500	577	115	2.8	20	75-125	

QC Type: MS and MSD
QC Sample ID: 23021106.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
C6-C12	BRL	500	478	95.7	500	459	91.7	4.2	20	75-125	
>C12-C28	BRL	500	481	96.3	500	492	98.4	2.2	20	75-125	
>C28-C35	BRL	500	475	94.9	500	514	103	8	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23021134 **Date :** 2/17/2023

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/Kg

QC Batch ID : Qb230210162 **Created Date :** 02/10/23 **Created By :** VNair

Samples in This QC Batch : 23021134.18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35

Sample Preparation : PB23021063 **Prep Method :** TX 1005 **Prep Date :** 02/10/23 17:02 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	8.94		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	7.35		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.20		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.20		
Chlorooctadecane(surr)	3386-33-2	109	%	1.00				
1-Chlorooctane(surr)	111-85-3	104	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	500	561	112	500	463	92.5	19.1	20	75-125	
>C12-C28	500	535	107	500	502	100	6.4	20	75-125	
>C28-C35	500	508	102	500	518	104	1.9	20	75-125	

QC Type: MS and MSD
QC Sample ID: 23021106.03

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
C6-C12	BRL	500	492	98.4	500	503	101	2.2	20	75-125	
>C12-C28	BRL	500	536	107	500	547	109	2	20	75-125	
>C28-C35	BRL	500	547	109	500	560	112	2.4	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23021134 **Date :** 2/17/2023

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/Kg

QC Batch ID : qb230210165 **Created Date :** 02/10/23 **Created By :** VNair

Samples in This QC Batch : 23021134.36,37,38,39,40,41

Sample Preparation : PB23021064 **Prep Method :** TX 1005 **Prep Date :** 02/10/23 16:54 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	8.94		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	7.35		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.20		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.20		
Chlorooctadecane(surr)	3386-33-2	118	%	1.00				
1-Chlorooctane(surr)	111-85-3	115	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	500	514	103	500	523	105	1.7	20	75-125	
>C12-C28	500	437	87.4	500	444	88.8	1.5	20	75-125	
>C28-C35	500	460	91.9	500	474	94.8	3.1	20	75-125	

QC Type: MS and MSD
QC Sample ID: 23021094.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
C6-C12	BRL	500	541	108	500	544	109	0.5	20	75-125	
>C12-C28	BRL	500	460	92	500	459	91.9	0.1	20	75-125	
>C28-C35	BRL	500	448	89.6	500	480	96.1	6.9	20	75-125	

NWDLS

Job ID:23021134
02/10/2023 NWDLS AMB

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 *Marine Water* *Sampled: 01/25/2023 09:30*			
TOC-415.1	03/06/2023	02/22/2023 09:30	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-03 *Marine Water* *Sampled: 01/25/2023 12:50*			
TOC-415.1	03/06/2023	02/22/2023 12:50	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-04 *Marine Water* *Sampled: 01/25/2023 14:50*			
TOC-415.1	03/06/2023	02/22/2023 14:50	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-05 *Marine Water* *Sampled: 01/27/2023 11:25*			
TOC-415.1	03/06/2023	02/24/2023 11:25	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-07 *Elutriate* *Sampled: 01/16/2023 14:20*			
TOC-415.1-ELUT	03/06/2023	02/13/2023 14:20	Leached: 02/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/15/2023 14:10	Leached: 02/03/2023 09:05
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-16 ***Sediment*** ***Sampled: 01/16/2023 14:20***			
TPH-1005	03/06/2023	01/30/2023 14:20	01AL
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-17 ***Sediment*** ***Sampled: 01/17/2023 09:40***			02A
TPH-1005	03/06/2023	01/31/2023 09:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-18 ***Sediment*** ***Sampled: 01/17/2023 14:40***			03A
TPH-1005	03/06/2023	01/31/2023 14:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-20 ***Sediment*** ***Sampled: 01/16/2023 17:20***			04A
TPH-1005	03/06/2023	01/30/2023 17:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-21 ***Sediment*** ***Sampled: 01/17/2023 11:30***			05A
TPH-1005	03/06/2023	01/31/2023 11:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-22 ***Sediment*** ***Sampled: 01/17/2023 16:30***			06A
TPH-1005	03/06/2023	01/31/2023 16:30	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-24 ***Sediment*** ***Sampled: 01/19/2023 15:20***			10AL MS/MSD
TPH-1005	03/06/2023	02/02/2023 15:20	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-25 ***Sediment*** ***Sampled: 01/20/2023 11:00***			11A
TPH-1005	03/06/2023	02/03/2023 11:00	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-27 ***Sediment*** ***Sampled: 01/19/2023 17:00***			12A
TPH-1005	03/06/2023	02/02/2023 17:00	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-28 ***Sediment*** ***Sampled: 01/20/2023 12:50***			13A
TPH-1005	03/06/2023	02/03/2023 12:50	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-30 ***Sediment*** ***Sampled: 01/18/2023 09:40***			14A
TPH-1005	03/06/2023	02/01/2023 09:40	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-31 ***Sediment*** ***Sampled: 01/18/2023 14:00*** 15A			
TPH-1005	03/06/2023	02/01/2023 14:00	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-32 ***Sediment*** ***Sampled: 01/19/2023 09:20*** 16A			
TPH-1005	03/06/2023	02/02/2023 09:20	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-34 ***Sediment*** ***Sampled: 01/18/2023 11:15*** 17A			
TPH-1005	03/06/2023	02/01/2023 11:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-35 ***Sediment*** ***Sampled: 01/18/2023 15:45*** 18A			
TPH-1005	03/06/2023	02/01/2023 15:45	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-36 ***Sediment*** ***Sampled: 01/19/2023 11:10*** 19A			
TPH-1005	03/06/2023	02/02/2023 11:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-38 ***Sediment*** ***Sampled: 01/17/2023 14:12*** ~~20A~~ 21A			
TPH-1005	03/06/2023	01/31/2023 14:12	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-39 ***Sediment*** ***Sampled: 01/18/2023 09:25***			20A
TPH-1005	03/06/2023	02/01/2023 09:25	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-40 ***Sediment*** ***Sampled: 01/16/2023 16:37***			08A
TPH-1005	03/06/2023	01/30/2023 16:37	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-41 ***Sediment*** ***Sampled: 01/17/2023 09:20***			09A
TPH-1005	03/06/2023	01/31/2023 09:20	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-43 ***Sediment*** ***Sampled: 01/18/2023 14:10***			21A
TPH-1005	03/06/2023	02/01/2023 14:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-44 ***Sediment*** ***Sampled: 01/19/2023 08:15***			22A
TPH-1005	03/06/2023	02/02/2023 08:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-45 ***Sediment*** ***Sampled: 01/20/2023 09:15***			23A
TPH-1005	03/06/2023	02/03/2023 09:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-46 ***Sediment*** ***Sampled: 01/27/2023 14:05*** 24A			
TPH-1005	03/06/2023	02/10/2023 14:05	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-47 ***Sediment*** ***Sampled: 01/27/2023 09:20*** 25A			
TPH-1005	03/06/2023	02/10/2023 09:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-48 ***Sediment*** ***Sampled: 01/19/2023 14:00*** 26A			
TPH-1005	03/06/2023	02/02/2023 14:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/24/2023 15:32	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/24/2023 14:40	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/20/2023 13:05	Leached: 02/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/18/2023 10:00	Leached: 02/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23A1459-58 ***Sediment*** ***Sampled: 01/21/2023 10:00*** 27A			
TPH-1005	03/06/2023	02/04/2023 10:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-59 ***Sediment*** ***Sampled: 01/21/2023 15:10*** 28A			
TPH-1005	03/06/2023	02/04/2023 15:10	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-60 ***Sediment*** ***Sampled: 01/21/2023 11:45*** 29A			
TPH-1005	03/06/2023	02/04/2023 11:45	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/24/2023 13:10	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/16/2023 14:00	Leached: 02/03/2023 09:05
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/18/2023 11:45	Leached: 02/03/2023 09:05

Analyte(s):
Total Organic Carbon (TOC)

Containers Supplied:

Heath Reinke	1000hrs 2-10-23		10:00 2/3/23
Released By	Date	Received By	Date

2.3°C
TPH
MW

	Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL)[P1]	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL)[P1]	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Cleanups, etc.	Spike Verification Witness Analyst/Date
20A	N/A	BGA7903-MB[1]	–	10.23	S1	N/A	10		N/A	N/A	N/A	N/A		QC
21A		-MD[2]	–	10.06	S2									QC
32A		-LCS[3]	–	10.46	S3									QC
33A		-LCSD[4]	–	10.18	S3									
37A		-MS[5]	–	10.09	S3								23A1459-16MS	DLE
39A		↓ -MSD[6]	–	10.16	S3								23A1459-16MSD	DLE
01A		23A1459-16[7]	–	10.09										
02A		-17[8]	–	10.42										
03A		-18[9]	–	10.18										
04A		-20[10]	–	10.58										
05A		-21[11]	–	10.14										
06A		-22[12]	–	10.14										
07A		-38[13]	–	10.58										
08A		-40[14]	–	10.43										
09A	↓	↓ -41[15]	–	10.22	↓	↓	↓		↓	↓	↓	↓		
		16												
		17												
		18												
		19												
		20												
		21												
		22												
		23												
		24												
		25												

Batch ID: TPH-013023-01 Analyte Group (circle) TX1005 TPH / TX1006 TPH / Screen Only / Other:_____

Prep Doc:	OP117	Batch ID:	TPH-020123-01	Centrifuge:	428-28453	2nd Review:		Organic Extractions
Extraction Analyst/Date:	RLK 02-01-23	Extraction Start Time:	9:35	Hand Shaken or Ext-Shaker		Scale ID:	8339165245	Comments:
Matrix: Aq / Solid / BT / Saline / CW / Non-Aq / DW		Analyte Group: TX1005 TPH / TX1006 TPH / Screen Only / Other:		Extraction Technique: MLLE / MLSE / Other:				BGB0167

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 Surr 2201668	.250	10,000	S3 SPK 2205647 2109172	.250	20,000
S2 MDL 2301827	.010	1000	S4 —	—	

(RLK 2-1-23 IEC 2705642)

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	1902994	R3 Acetone	2210277	R5 pH paper	—	R7 —	—	R9 —	—
R2 Sand	2108703	R4 MeOH	2202540	R6 DI-Water	DI-Water-01	R8 —	—	R10 —	—

Post Extraction Concentration[1]			
Analyst/Date:		or N/A	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

	Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL) P1	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL) P1	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Cleanups, etc.	Spike Verification Witness Analyst/Date
34A		23B-0161-MB	-	10.00	5	N/A	10		N/A	N/A	N/A	N/A		
35A		-MS	-	10.03	5									
36A		-MSD	-	10.04	5									
37A		-BS	-	10.20	5									
4A		-BSD	-	10.01	5								23A1459-24MS	106
5A		-NS	-	10.00	5								23M5D	108
10A		23A1459-24	-	10.11										
11A		-25	-	10.12										
12A		-27	-	10.23										
13A		-28	-	10.51										
14A		-30	-	10.30										
15A		-31	-	10.02										
16A		-32	-	10.13										
17A		-34	-	10.75										
18A		-35	-	10.51										
19A		-36	-	10.37										
20A		-39	-	10.31										
21A		-42	-	10.32										
22A		-44	-	10.30										
23A		-45	-	10.55										
24A		-46	-	10.11										
25A		-47	-	10.06										
26A		-48	-	10.23										
27A		-58	-	10.36										
28A		-59	-	10.09										
29A		-60	-	10.19										

Batch ID: TPH-020123-01 Analyte Group (circle): TX1005 TPH / TX1006 TPH / Screen Only / Other: _____

1000Am

X Heath Reinke 2.10.23 2/10/23 10:00

2.3°C

Prep Doc:	OP117	Batch ID:	TPH-013023-01	Centrifuge:	428-28453	Review:		Organic Extractions
Extraction Analyst/Date:	RLK 1-30-23	Extraction Start Time:	11:30	Hand Shaken or Ext-Shaker		Scale ID:	B1299656L0	Comments:
Matrix: Aq / (Solid) / BT / Saline / CW / Non-Aq / DW		Analyte Group: (TX1005 TPH) / TX1006 TPH / Screen Only / Other:		Extraction Technique: MLLE / (MLSE) Other:				BGA3903.

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 Surr 2201668	.250	10,000	S3 SBK 2109692	.250	20,000
S2 MDL 230182M	.010 ① .050	2000	S4 —	—	—

② RLK 1-30-23 IG [2109692] 2109676
① RLK 1-30-23 IEC .010

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	1902994	R3 Acetone	2210277	R5 pH paper	—	R7 —	—	R9 —	—
R2 Sand	2108703	R4 MeOH	2202540	R6 DI-Water	DI-Water-01	R8 —	—	R10 —	—

Post Extraction Concentration[P]			
Analyst/Date:		or N/A	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

Sample Condition Checklist

A&B JobID : **23021134**	Date Received : **02/10/2023**	Time Received : **10:00AM**
Client Name : **NWDLS**		
Temperature : **2.3°C**	Sample pH : **NA**	
Thermometer ID : **IR4**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**			X
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received by : EValdez

Check in by/date : Jedralin / 02/10/2023

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 65

Job ID : 23021792

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :

Report To :	Client Name:	NWDLS	P.O.#.:
	Attn:	Deena Higginbotham	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected:
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
BGB0765-MB	Solid	23021792.01
BGB0765-MDL	Solid	23021792.02
BGB0765-BS1	Solid	23021792.03
BGB0765-BSD1	Solid	23021792.04
BGB0765-MS	Solid	23021792.05
BGB0765-MSD	Solid	23021792.06
23A1459-46	Solid	23021792.07
23A1459-47	Solid	23021792.08
23A1459-55	Solid	23021792.09
BGB0983-BLK1	Solid	23021792.10
BGB0983-MRL1	Solid	23021792.11
BGB0983-BS1	Solid	23021792.12
BGB0983-BSD1	Solid	23021792.13
BGB0983-MS1	Solid	23021792.14
BGB0983-MSD1	Solid	23021792.15
23A3576-16	Solid	23021792.16
23A3576-23	Solid	23021792.17
23A3576-28	Solid	23021792.18

Released By: Amanda Shute

Title: Project Manager

Date: 2/28/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023

Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/17/2023 09:30

Laboratory Analysis Report

Total Number of Pages: 65

Job ID : 23021792

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A3576-35	Solid	23021792.19
23A3576-36	Solid	23021792.20
23A1459-54	Solid	23021792.21
23A1459-56	Solid	23021792.22
23A4543-01	Solid	23021792.23
23A4543-02	Solid	23021792.24
23A4543-03	Solid	23021792.25
BGB1373-BLK1	Water	23021792.26
BGB1373-MRL1	Water	23021792.27
BGB1373-BS1	Water	23021792.28
BGB1373-BSD1	Water	23021792.29
BGB1373-MS1	Water	23021792.30
BGB1373-MSD	Water	23021792.31
23A1459-02	Water	23021792.32
23A1459-03	Water	23021792.33
23A1459-04	Water	23021792.34
23A1459-05	Water	23021792.35
23A1459-49	Water	23021792.36
23A1459-50	Water	23021792.37
23A1459-62	Water	23021792.38
23A3576-02	Water	23021792.39
23A3576-04	Water	23021792.40
23A3576-06	Water	23021792.41
BGB1402-BLK	Solid	23021792.42
BGB1402-MRL1	Solid	23021792.43
BGB1402-BS1	Solid	23021792.44

Released By: Amanda Shute

Title: Project Manager

Date: 2/28/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023

Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/17/2023 09:30

Laboratory Analysis Report

Total Number of Pages: 65

Job ID : 23021792

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
BGB1402-BSD1	Solid	23021792.45
BGB1402-MS1	Solid	23021792.46
BGB1402-MSD1	Solid	23021792.47
23A1459-66	Solid	23021792.48

Released By: Amanda Shute
Title: Project Manager
Date: 2/28/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/17/2023 09:30

Laboratory Report: Case Narrative

A&B Job ID: 23021792

Date: 02/28/23

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Date Received: 02/17/23

Collected By:

Extracts were provided and analyzed based on the attached bench sheets.

Batch ID: TPH-020923-01: The bench sheet is unclear. The original COC indicates that these samples are solids, but the bench sheet indicates 3mL final volume. We calculated using 10g:3mL based on the bench sheet.
Batch ID: TPH-020823-03: The final volumes listed were used to calculate.
Batch IDs: TPH-020723-03 and 020623-03: We calculated using 10g:10mL

Please feel free to reach out to me if you have any questions regarding this report.

Released By: Amanda Shute

Title: Project Manager

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23021792

Date: 2/28/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

J	Estimation. Below calibration range but above MDL.
S1	Surrogate recovery is above control limit. Results may be biased high.
S2	Surrogate recovery is below control limit. Results may be biased low.
S6	Surrogate recovery is outside control limits due to matrix effects.
S8	Target compounds caused elevation of baseline. Surrogate may be biased high.

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-MB

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.01

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/17/23 19:06	VMN
	>C12-C28	18.74	mg/Kg	1.00	7.35	25		J	02/17/23 19:06	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 19:06	VMN
	Total C6-C35	18.74	mg/Kg	1.00	6.20				02/17/23 19:06	VMN
	1-Chlorooctane(surr)	94.1	%	1.00		60-143			02/17/23 19:06	VMN
	Chlorooctadecane(surr)	83.4	%	1.00		60-150			02/17/23 19:06	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-MDL

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.02

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/17/23 19:37	VMN
	>C12-C28	8.43	mg/Kg	1.00	7.35	25		J	02/17/23 19:37	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 19:37	VMN
	Total C6-C35	8.43	mg/Kg	1.00	6.20				02/17/23 19:37	VMN
	1-Chlorooctane(surr)	96.4	%	1.00		60-143			02/17/23 19:37	VMN
	Chlorooctadecane(surr)	83	%	1.00		60-150			02/17/23 19:37	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-BS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.03

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	222.09	mg/Kg	1.00	8.94	25			02/17/23 20:10	VMN
	>C12-C28	187.61	mg/Kg	1.00	7.35	25			02/17/23 20:10	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 20:10	VMN
	Total C6-C35	409.70	mg/Kg	1.00	6.20				02/17/23 20:10	VMN
	1-Chlorooctane(surr)	94.2	%	1.00		60-143			02/17/23 20:10	VMN
	Chlorooctadecane(surr)	84.1	%	1.00		60-150			02/17/23 20:10	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.04

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	213.90	mg/Kg	1.00	8.94	25			02/17/23 20:43	VMN
	>C12-C28	182.16	mg/Kg	1.00	7.35	25			02/17/23 20:43	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 20:43	VMN
	Total C6-C35	396.06	mg/Kg	1.00	6.20				02/17/23 20:43	VMN
	1-Chlorooctane(surr)	89.5	%	1.00		60-143			02/17/23 20:43	VMN
	Chlorooctadecane(surr)	85	%	1.00		60-150			02/17/23 20:43	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-MS

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.05

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	197.42	mg/Kg	1.00	8.94	25			02/17/23 21:17	VMN
	>C12-C28	150.35	mg/Kg	1.00	7.35	25			02/17/23 21:17	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 21:17	VMN
	Total C6-C35	347.76	mg/Kg	1.00	6.20				02/17/23 21:17	VMN
	1-Chlorooctane(surr)	80.3	%	1.00		60-143			02/17/23 21:17	VMN
	Chlorooctadecane(surr)	71.6	%	1.00		60-150			02/17/23 21:17	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0765-MSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.06

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	236.55	mg/Kg	1.00	8.94	25			02/17/23 21:48	VMN
	>C12-C28	182.18	mg/Kg	1.00	7.35	25			02/17/23 21:48	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 21:48	VMN
	Total C6-C35	418.74	mg/Kg	1.00	6.20				02/17/23 21:48	VMN
	1-Chlorooctane(surr)	95.2	%	1.00		60-143			02/17/23 21:48	VMN
	Chlorooctadecane(surr)	74.2	%	1.00		60-150			02/17/23 21:48	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-46

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.07

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/17/23 22:20	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/17/23 22:20	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 22:20	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/17/23 22:20	VMN
	1-Chlorooctane(surr)	75.5	%	1.00		60-143			02/17/23 22:20	VMN
	Chlorooctadecane(surr)	66.7	%	1.00		60-150			02/17/23 22:20	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-47
Date Collected:
Time Collected:
Other Information:

Job Sample ID: 23021792.08
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/17/23 22:51	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/17/23 22:51	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/17/23 22:51	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/17/23 22:51	VMN
	1-Chlorooctane(surr)	88.3	%	1.00		60-143			02/17/23 22:51	VMN
	Chlorooctadecane(surr)	79.2	%	1.00		60-150			02/17/23 22:51	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-55

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.09

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 00:23	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 00:23	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 00:23	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 00:23	VMN
	1-Chlorooctane(surr)	96.3	%	1.00		60-143			02/18/23 00:23	VMN
	Chlorooctadecane(surr)	78.5	%	1.00		60-150			02/18/23 00:23	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-BLK1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.10

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 00:56	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 00:56	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 00:56	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 00:56	VMN
	1-Chlorooctane(surr)	93.6	%	1.00		60-143			02/18/23 00:56	VMN
	Chlorooctadecane(surr)	79.7	%	1.00		60-150			02/18/23 00:56	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-MRL1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.11

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 01:29	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 01:29	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 01:29	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 01:29	VMN
	1-Chlorooctane(surr)	89.6	%	1.00		60-143			02/18/23 01:29	VMN
	Chlorooctadecane(surr)	79.1	%	1.00		60-150			02/18/23 01:29	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-BS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.12

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	220.46	mg/Kg	1.00	8.94	25			02/18/23 02:01	VMN
	>C12-C28	184.73	mg/Kg	1.00	7.35	25			02/18/23 02:01	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 02:01	VMN
	Total C6-C35	405.19	mg/Kg	1.00	6.20				02/18/23 02:01	VMN
	1-Chlorooctane(surr)	92.2	%	1.00		60-143			02/18/23 02:01	VMN
	Chlorooctadecane(surr)	82	%	1.00		60-150			02/18/23 02:01	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.13

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	216.69	mg/Kg	1.00	8.94	25			02/18/23 02:34	VMN
	>C12-C28	173.07	mg/Kg	1.00	7.35	25			02/18/23 02:34	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 02:34	VMN
	Total C6-C35	389.76	mg/Kg	1.00	6.20				02/18/23 02:34	VMN
	1-Chlorooctane(surr)	91.1	%	1.00		60-143			02/18/23 02:34	VMN
	Chlorooctadecane(surr)	79.4	%	1.00		60-150			02/18/23 02:34	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-MS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.14

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	199.08	mg/Kg	1.00	8.94	25			02/18/23 03:06	VMN
	>C12-C28	120.85	mg/Kg	1.00	7.35	25			02/18/23 03:06	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 03:06	VMN
	Total C6-C35	319.93	mg/Kg	1.00	6.20				02/18/23 03:06	VMN
	1-Chlorooctane(surr)	70	%	1.00		60-143			02/18/23 03:06	VMN
	Chlorooctadecane(surr)	51	%	1.00		60-150		S6	02/18/23 03:06	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB0983-MSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.15

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	224.64	mg/Kg	1.00	8.94	25			02/18/23 03:38	VMN
	>C12-C28	160.50	mg/Kg	1.00	7.35	25			02/18/23 03:38	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 03:38	VMN
	Total C6-C35	385.15	mg/Kg	1.00	6.20				02/18/23 03:38	VMN
	1-Chlorooctane(surr)	76.5	%	1.00		60-143			02/18/23 03:38	VMN
	Chlorooctadecane(surr)	54.5	%	1.00		60-150		S6	02/18/23 03:38	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-16

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.16

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 04:10	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 04:10	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 04:10	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 04:10	VMN
	1-Chlorooctane(surr)	59.7	%	1.00		60-143		S6	02/18/23 04:10	VMN
	Chlorooctadecane(surr)	48.3	%	1.00		60-150		S6	02/18/23 04:10	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-23

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.17

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 04:42	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 04:42	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 04:42	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 04:42	VMN
	1-Chlorooctane(surr)	53.6	%	1.00		60-143		S6	02/18/23 04:42	VMN
	Chlorooctadecane(surr)	56.2	%	1.00		60-150		S6	02/18/23 04:42	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-28

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.18

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 05:14	VMN
	>C12-C28	10.25	mg/Kg	1.00	7.35	25		J	02/18/23 05:14	VMN
	>C28-C35	10.58	mg/Kg	1.00	6.20	25		J	02/18/23 05:14	VMN
	Total C6-C35	20.83	mg/Kg	1.00	6.20				02/18/23 05:14	VMN
	1-Chlorooctane(surr)	55.8	%	1.00		60-143		S6	02/18/23 05:14	VMN
	Chlorooctadecane(surr)	46.1	%	1.00		60-150		S6	02/18/23 05:14	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-35

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.19

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 05:46	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 05:46	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 05:46	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 05:46	VMN
	1-Chlorooctane(surr)	81.7	%	1.00		60-143			02/18/23 05:46	VMN
	Chlorooctadecane(surr)	74.9	%	1.00		60-150			02/18/23 05:46	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-36

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.20

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 06:17	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 06:17	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 06:17	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 06:17	VMN
	1-Chlorooctane(surr)	57.1	%	1.00		60-143		S6	02/18/23 06:17	VMN
	Chlorooctadecane(surr)	42.3	%	1.00		60-150		S6	02/18/23 06:17	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-54

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.21

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 06:49	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 06:49	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 06:49	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 06:49	VMN
	1-Chlorooctane(surr)	87.8	%	1.00		60-143			02/18/23 06:49	VMN
	Chlorooctadecane(surr)	76.2	%	1.00		60-150			02/18/23 06:49	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-56

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.22

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 8.94	mg/Kg	1.00	8.94	25			02/18/23 07:21	VMN
	>C12-C28	< 7.35	mg/Kg	1.00	7.35	25			02/18/23 07:21	VMN
	>C28-C35	< 6.2	mg/Kg	1.00	6.20	25			02/18/23 07:21	VMN
	Total C6-C35	<6.2	mg/Kg	1.00	6.20				02/18/23 07:21	VMN
	1-Chlorooctane(surr)	82.9	%	1.00		60-143			02/18/23 07:21	VMN
	Chlorooctadecane(surr)	76.7	%	1.00		60-150			02/18/23 07:21	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A4543-01

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.23

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	223.62	mg/Kg	1.00	8.94	25			02/18/23 07:52	VMN
	>C12-C28	3591.96	mg/Kg	20.00	147	25			02/20/23 14:11	VMN
	>C28-C35	7937.44	mg/Kg	20.00	124	25			02/20/23 14:11	VMN
	Total C6-C35	11753.02	mg/Kg	20.00	124				02/20/23 14:11	VMN
	1-Chlorooctane(surr)	119	%	1.00		60-143			02/18/23 07:52	VMN
	1-Chlorooctane(surr)	1115	%	20.00		60-143		S8	02/20/23 14:11	VMN
	Chlorooctadecane(surr)	41.7	%	1.00		60-150		S2	02/18/23 07:52	VMN
	Chlorooctadecane(surr)	439	%	20.00		60-150		S8	02/20/23 14:11	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A4543-02

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.24

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	251.89	mg/Kg	1.00	8.94	25			02/18/23 08:23	VMN
	>C12-C28	4203.56	mg/Kg	20.00	147	25			02/20/23 14:44	VMN
	>C28-C35	10445.04	mg/Kg	20.00	124	25			02/20/23 14:44	VMN
	Total C6-C35	14900.49	mg/Kg	20.00	124				02/20/23 14:44	VMN
	1-Chlorooctane(surr)	128	%	1.00		60-143			02/18/23 08:23	VMN
	1-Chlorooctane(surr)	1230	%	20.00		60-143		S8	02/20/23 14:44	VMN
	Chlorooctadecane(surr)	52	%	1.00		60-150		S2	02/18/23 08:23	VMN
	Chlorooctadecane(surr)	594	%	20.00		60-150		S8	02/20/23 14:44	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A4543-03

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.25

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	250.41	mg/Kg	1.00	8.94	25			02/18/23 08:55	VMN
	>C12-C28	3957.72	mg/Kg	20.00	147	25			02/20/23 15:18	VMN
	>C28-C35	10074.42	mg/Kg	20.00	124	25			02/20/23 15:18	VMN
	Total C6-C35	14282.54	mg/Kg	20.00	124				02/20/23 15:18	VMN
	1-Chlorooctane(surr)	126	%	1.00		60-143			02/18/23 08:55	VMN
	1-Chlorooctane(surr)	1139	%	20.00		60-143		S8	02/20/23 15:18	VMN
	Chlorooctadecane(surr)	44.7	%	1.00		60-150		S2	02/18/23 08:55	VMN
	Chlorooctadecane(surr)	510	%	20.00		60-150		S8	02/20/23 15:18	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-BLK1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.26

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.659	mg/L	1.08	0.659	2.15			02/18/23 09:27	VMN
	>C12-C28	< 0.691	mg/L	1.08	0.691	2.15			02/18/23 09:27	VMN
	>C28-C35	0.813	mg/L	1.08	0.508	2.15		J	02/18/23 09:27	VMN
	Total C6-C35	0.813	mg/L	1.08	0.508				02/18/23 09:27	VMN
	1-Chlorooctane(surr)	120	%	1.08		70-125			02/18/23 09:27	VMN
	Chlorooctadecane(surr)	93.8	%	1.08		70-125			02/18/23 09:27	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-MRL1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.27

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.677	mg/L	1.11	0.677	2.15			02/18/23 09:59	VMN
	>C12-C28	< 0.71	mg/L	1.11	0.710	2.15			02/18/23 09:59	VMN
	>C28-C35	< 0.522	mg/L	1.11	0.522	2.15			02/18/23 09:59	VMN
	Total C6-C35	<0.522	mg/L	1.11	0.522				02/18/23 09:59	VMN
	1-Chlorooctane(surr)	122	%	1.11		70-125			02/18/23 09:59	VMN
	Chlorooctadecane(surr)	101	%	1.11		70-125			02/18/23 09:59	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-BS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.28

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	31.62	mg/L	1.11	0.677	2.15			02/18/23 10:31	VMN
	>C12-C28	29.47	mg/L	1.11	0.710	2.15			02/18/23 10:31	VMN
	>C28-C35	< 0.522	mg/L	1.11	0.522	2.15			02/18/23 10:31	VMN
	Total C6-C35	61.08	mg/L	1.11	0.522				02/18/23 10:31	VMN
	1-Chlorooctane(surr)	125	%	1.11		70-125			02/18/23 10:31	VMN
	Chlorooctadecane(surr)	105	%	1.11		70-125			02/18/23 10:31	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.29

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	28.15	mg/L	1.08	0.659	2.15			02/18/23 12:09	VMN
	>C12-C28	26.88	mg/L	1.08	0.691	2.15			02/18/23 12:09	VMN
	>C28-C35	< 0.508	mg/L	1.08	0.508	2.15			02/18/23 12:09	VMN
	Total C6-C35	55.04	mg/L	1.08	0.508				02/18/23 12:09	VMN
	1-Chlorooctane(surr)	109	%	1.08		70-125			02/18/23 12:09	VMN
	Chlorooctadecane(surr)	93.3	%	1.08		70-125			02/18/23 12:09	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-MS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.30

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	25.83	mg/L	1.04	0.634	2.15			02/18/23 12:40	VMN
	>C12-C28	22.15	mg/L	1.04	0.666	2.15			02/18/23 12:40	VMN
	>C28-C35	< 0.489	mg/L	1.04	0.489	2.15			02/18/23 12:40	VMN
	Total C6-C35	47.98	mg/L	1.04	0.489				02/18/23 12:40	VMN
	1-Chlorooctane(surr)	97	%	1.04		70-125			02/18/23 12:40	VMN
	Chlorooctadecane(surr)	87.4	%	1.04		70-125			02/18/23 12:40	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1373-MSD

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.31

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	29.06	mg/L	1.04	0.634	2.15			02/18/23 13:12	VMN
	>C12-C28	25.28	mg/L	1.04	0.666	2.15			02/18/23 13:12	VMN
	>C28-C35	< 0.489	mg/L	1.04	0.489	2.15			02/18/23 13:12	VMN
	Total C6-C35	54.34	mg/L	1.04	0.489				02/18/23 13:12	VMN
	1-Chlorooctane(surr)	104	%	1.04		70-125			02/18/23 13:12	VMN
	Chlorooctadecane(surr)	90.9	%	1.04		70-125			02/18/23 13:12	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-02

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.32

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.622	mg/L	1.02	0.622	2.15			02/18/23 13:43	VMN
	>C12-C28	0.66	mg/L	1.02	0.653	2.15		J	02/18/23 13:43	VMN
	>C28-C35	< 0.479	mg/L	1.02	0.479	2.15			02/18/23 13:43	VMN
	Total C6-C35	0.66	mg/L	1.02	0.479				02/18/23 13:43	VMN
	1-Chlorooctane(surr)	93.2	%	1.02		70-125			02/18/23 13:43	VMN
	Chlorooctadecane(surr)	81.9	%	1.02		70-125			02/18/23 13:43	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-03

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.33

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.634	mg/L	1.04	0.634	2.15			02/18/23 14:15	VMN
	>C12-C28	0.976	mg/L	1.04	0.666	2.15		J	02/18/23 14:15	VMN
	>C28-C35	< 0.489	mg/L	1.04	0.489	2.15			02/18/23 14:15	VMN
	Total C6-C35	0.976	mg/L	1.04	0.489				02/18/23 14:15	VMN
	1-Chlorooctane(surr)	165	%	1.04		70-125		S1	02/18/23 14:15	VMN
	Chlorooctadecane(surr)	173	%	1.04		70-125		S1	02/18/23 14:15	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-04

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.34

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.628	mg/L	1.03	0.628	2.15			02/18/23 14:47	VMN
	>C12-C28	< 0.659	mg/L	1.03	0.659	2.15			02/18/23 14:47	VMN
	>C28-C35	< 0.484	mg/L	1.03	0.484	2.15			02/18/23 14:47	VMN
	Total C6-C35	<0.484	mg/L	1.03	0.484				02/18/23 14:47	VMN
	1-Chlorooctane(surr)	72.8	%	1.03		70-125			02/18/23 14:47	VMN
	Chlorooctadecane(surr)	87.9	%	1.03		70-125			02/18/23 14:47	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-05

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.35

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.634	mg/L	1.04	0.634	2.15			02/18/23 15:19	VMN
	>C12-C28	< 0.666	mg/L	1.04	0.666	2.15			02/18/23 15:19	VMN
	>C28-C35	< 0.489	mg/L	1.04	0.489	2.15			02/18/23 15:19	VMN
	Total C6-C35	<0.489	mg/L	1.04	0.489				02/18/23 15:19	VMN
	1-Chlorooctane(surr)	85.4	%	1.04		70-125			02/18/23 15:19	VMN
	Chlorooctadecane(surr)	89.8	%	1.04		70-125			02/18/23 15:19	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-49

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.36

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.628	mg/L	1.03	0.628	2.15			02/18/23 15:51	VMN
	>C12-C28	< 0.659	mg/L	1.03	0.659	2.15			02/18/23 15:51	VMN
	>C28-C35	< 0.484	mg/L	1.03	0.484	2.15			02/18/23 15:51	VMN
	Total C6-C35	<0.484	mg/L	1.03	0.484				02/18/23 15:51	VMN
	1-Chlorooctane(surr)	95	%	1.03		70-125			02/18/23 15:51	VMN
	Chlorooctadecane(surr)	83.9	%	1.03		70-125			02/18/23 15:51	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-50

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.37

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.622	mg/L	1.02	0.622	2.15			02/18/23 16:23	VMN
	>C12-C28	< 0.653	mg/L	1.02	0.653	2.15			02/18/23 16:23	VMN
	>C28-C35	1.96	mg/L	1.02	0.479	2.15		J	02/18/23 16:23	VMN
	Total C6-C35	1.96	mg/L	1.02	0.479				02/18/23 16:23	VMN
	1-Chlorooctane(surr)	82.7	%	1.02		70-125			02/18/23 16:23	VMN
	Chlorooctadecane(surr)	88.6	%	1.02		70-125			02/18/23 16:23	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-62

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.38

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.634	mg/L	1.04	0.634	2.15			02/18/23 16:55	VMN
	>C12-C28	< 0.666	mg/L	1.04	0.666	2.15			02/18/23 16:55	VMN
	>C28-C35	1.78	mg/L	1.04	0.489	2.15		J	02/18/23 16:55	VMN
	Total C6-C35	1.78	mg/L	1.04	0.489				02/18/23 16:55	VMN
	1-Chlorooctane(surr)	84.5	%	1.04		70-125			02/18/23 16:55	VMN
	Chlorooctadecane(surr)	87.9	%	1.04		70-125			02/18/23 16:55	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-02

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.39

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.647	mg/L	1.06	0.647	2.15			02/18/23 17:27	VMN
	>C12-C28	< 0.678	mg/L	1.06	0.678	2.15			02/18/23 17:27	VMN
	>C28-C35	0.844	mg/L	1.06	0.498	2.15		J	02/18/23 17:27	VMN
	Total C6-C35	0.844	mg/L	1.06	0.498				02/18/23 17:27	VMN
	1-Chlorooctane(surr)	76	%	1.06		70-125			02/18/23 17:27	VMN
	Chlorooctadecane(surr)	89.8	%	1.06		70-125			02/18/23 17:27	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-04
Date Collected:
Time Collected:
Other Information:

Job Sample ID: 23021792.40
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.653	mg/L	1.07	0.653	2.15			02/18/23 17:59	VMN
	>C12-C28	< 0.685	mg/L	1.07	0.685	2.15			02/18/23 17:59	VMN
	>C28-C35	0.653	mg/L	1.07	0.503	2.15		J	02/18/23 17:59	VMN
	Total C6-C35	0.653	mg/L	1.07	0.503				02/18/23 17:59	VMN
	1-Chlorooctane(surr)	91.5	%	1.07		70-125			02/18/23 17:59	VMN
	Chlorooctadecane(surr)	85.9	%	1.07		70-125			02/18/23 17:59	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A3576-06

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.41

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.653	mg/L	1.07	0.653	2.15			02/18/23 18:30	VMN
	>C12-C28	< 0.685	mg/L	1.07	0.685	2.15			02/18/23 18:30	VMN
	>C28-C35	0.548	mg/L	1.07	0.503	2.15		J	02/18/23 18:30	VMN
	Total C6-C35	0.548	mg/L	1.07	0.503				02/18/23 18:30	VMN
	1-Chlorooctane(surr)	92.1	%	1.07		70-125			02/18/23 18:30	VMN
	Chlorooctadecane(surr)	88.1	%	1.07		70-125			02/18/23 18:30	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-BLK

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.42

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 2.68	mg/Kg	0.30	2.68	25			02/18/23 19:02	VMN
	>C12-C28	< 2.21	mg/Kg	0.30	2.21	25			02/18/23 19:02	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 19:02	VMN
	Total C6-C35	<1.86	mg/Kg	0.30	1.86				02/18/23 19:02	VMN
	1-Chlorooctane(surr)	21.8	%	0.30		60-143		S2	02/18/23 19:02	VMN
	Chlorooctadecane(surr)	23.4	%	0.30		60-150		S2	02/18/23 19:02	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-MRL1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.43

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 2.68	mg/Kg	0.30	2.68	25			02/18/23 19:34	VMN
	>C12-C28	< 2.21	mg/Kg	0.30	2.21	25			02/18/23 19:34	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 19:34	VMN
	Total C6-C35	<1.86	mg/Kg	0.30	1.86				02/18/23 19:34	VMN
	1-Chlorooctane(surr)	18.8	%	0.30		60-143		S2	02/18/23 19:34	VMN
	Chlorooctadecane(surr)	23.3	%	0.30		60-150		S2	02/18/23 19:34	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-BS1
Date Collected:
Time Collected:
Other Information:

Job Sample ID: 23021792.44
Sample Matrix Solid
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	69.16	mg/Kg	0.30	2.68	25			02/18/23 20:06	VMN
	>C12-C28	54.73	mg/Kg	0.30	2.21	25			02/18/23 20:06	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 20:06	VMN
	Total C6-C35	123.89	mg/Kg	0.30	1.86				02/18/23 20:06	VMN
	1-Chlorooctane(surr)	30.3	%	0.30		60-143		S2	02/18/23 20:06	VMN
	Chlorooctadecane(surr)	27.5	%	0.30		60-150		S2	02/18/23 20:06	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.45

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	48.40	mg/Kg	0.30	2.68	25			02/18/23 20:37	VMN
	>C12-C28	47.47	mg/Kg	0.30	2.21	25			02/18/23 20:37	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 20:37	VMN
	Total C6-C35	95.87	mg/Kg	0.30	1.86				02/18/23 20:37	VMN
	1-Chlorooctane(surr)	22.4	%	0.30		60-143		S2	02/18/23 20:37	VMN
	Chlorooctadecane(surr)	30.4	%	0.30		60-150		S2	02/18/23 20:37	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-MS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.46

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	63.19	mg/Kg	0.30	2.68	25			02/18/23 21:09	VMN
	>C12-C28	54.75	mg/Kg	0.30	2.21	25			02/18/23 21:09	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 21:09	VMN
	Total C6-C35	117.95	mg/Kg	0.30	1.86				02/18/23 21:09	VMN
	1-Chlorooctane(surr)	29.1	%	0.30		60-143		S2	02/18/23 21:09	VMN
	Chlorooctadecane(surr)	30.4	%	0.30		60-150		S2	02/18/23 21:09	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: BGB1402-MSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.47

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	51.95	mg/Kg	0.30	2.68	25			02/18/23 21:41	VMN
	>C12-C28	52.42	mg/Kg	0.30	2.21	25			02/18/23 21:41	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 21:41	VMN
	Total C6-C35	104.37	mg/Kg	0.30	1.86				02/18/23 21:41	VMN
	1-Chlorooctane(surr)	23.5	%	0.30		60-143		S2	02/18/23 21:41	VMN
	Chlorooctadecane(surr)	33	%	0.30		60-150		S2	02/18/23 21:41	VMN

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23021792

Date 2/28/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name:

Client Sample ID: 23A1459-66

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23021792.48

Sample Matrix Solid

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 2.68	mg/Kg	0.30	2.68	25			02/18/23 22:13	VMN
	>C12-C28	< 2.21	mg/Kg	0.30	2.21	25			02/18/23 22:13	VMN
	>C28-C35	< 1.86	mg/Kg	0.30	1.86	25			02/18/23 22:13	VMN
	Total C6-C35	<1.86	mg/Kg	0.30	1.86				02/18/23 22:13	VMN
	1-Chlorooctane(surr)	35.1	%	0.30		60-143		S2	02/18/23 22:13	VMN
	Chlorooctadecane(surr)	29.3	%	0.30		60-150		S2	02/18/23 22:13	VMN

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 23021792 **Date :** 2/28/2023

Analysis : Total Petroleum Hydrocarbons **Method : TX 1005** **Reporting Units : mg/Kg**

QC Batch ID : Qb230217150 **Created Date :** 02/17/23 **Created By :** VNair

Samples in This QC Batch : 23021792.01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19,20

Sample Preparation : PB23021753 **Prep Method :** TX 1005 **Prep Date :** 02/17/23 13:01 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	8.94		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	7.35		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.20		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.20		
Chlorooctadecane(surr)	3386-33-2	103	%	1.00				
1-Chlorooctane(surr)	111-85-3	128	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	500	554	111	500	532	106	4.1	20	75-125	
>C12-C28	500	521	104	500	518	104	0.5	20	75-125	
>C28-C35	500	530	106	500	537	107	1.3	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23021792 **Date :** 2/28/2023

Analysis : Total Petroleum Hydrocarbons **Method : TX 1005** **Reporting Units : mg/Kg**

QC Batch ID : Qb230217151 **Created Date :** 02/17/23 **Created By :** VNair

Samples in This QC Batch : 23021792.21,22,23,24,25,42,43,44,45,46,47,48

Sample Preparation : PB23021754 **Prep Method :** TX 1005 **Prep Date :** 02/17/23 13:45 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	8.94		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	7.35		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.20		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.20		
Chlorooctadecane(surr)	3386-33-2	113	%	1.00				
1-Chlorooctane(surr)	111-85-3	141	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	500	431	86.2	500	484	96.8	11.5	20	75-125	
>C12-C28	500	446	89.2	500	471	94.3	5.5	20	75-125	
>C28-C35	500	511	102	500	508	102	0.6	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23021792 **Date :** 2/28/2023

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/L

QC Batch ID : Qb230217152 **Created Date :** 02/17/23 **Created By :** VNair

Samples in This QC Batch : 23021792.26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41

Sample Preparation : PB23021749 **Prep Method :** TX 1005 **Prep Date :** 02/17/23 14:00 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/L	1.00	2.15	0.61		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.64		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.47		
Total C6-C35		< MDL	mg/L	1.00	----	0.47		
Chlorooctadecane(surr)	3386-33-2	92.7	%	1.00				
1-Chlorooctane(surr)	111-85-3	114	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	43	44.4	103	43	42.8	99.5	3.6	20	75-125	
>C12-C28	43	43.4	101	43	40.6	94.5	6.7	20	75-125	
>C28-C35	43	47.5	110	43	44.7	104	6.1	20	75-125	

Prep Doc:	OP117	Batch ID:	TPH 020623-03	Centrifuge:	44323P-7	2nd Review:	OS 021623	Organic Extractions
Extraction Analyst/Date:	RLK 0206-23	Extraction Start Time:	15:05	Hand Shaken or 071401		Scale ID:	838776S245	Comments: BGB07165

Matrix: Aq / Solid / BT / Saline / CW / Non-Aq / DW

Analyte Group: TX1005 TPH / TX1006 TPH / Screen Only / Other:

Extraction Technique: MLLE / MLSE / Other:

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2201668	.250	10,000	S3 TPH3PL 2005642	.250	20,000
S2 MDL 2301827	.015	2000	S4 -	-	-

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R5 Acetone	2210277	R8 pH paper	—	R7 —	—	R9 —	—
R2 Sand	21087703	R4 MeOH	2210712	R6 DI-Water	DI-Water-01	R8 —	—	R10 —	—

Post Extraction Concentration[5]			
Analyst/Date:		or N/A	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

Job ID:23021792

02/17/2023 NWDLS AMS

Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL) [P1]	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL) [P1]	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Cleups, etc.
1A	N/A	BGB5765-MB		10.08	51	N/A	10	N/A	N/A	N/A	N/A	
2A		MDL		10.10	52							
3A		BS1		10.06	3							
4A		BSD1		10.06	54							
5A		MS		10.24	55							23A1459-46MS
6A		MSD		10.06	56							23A1459-46MSD
7A	23A1459-46	✓		10.28								P 23A1459-46
8A	-47	✓		10.17								
9A	-55			10.28								
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												CST 02.16.23

Batch ID: TPH 020623-03 Analyte Group (circle): TX1005 TPH / TX1006 TPH / Screen Only / Other: _____

Prep Doc:	OP117	Batch ID:	TPH-020723-03	Centrifuge:	4432887	2nd Review:	CS 021623	Organic Extractions
Extraction Analyst/Date:	CS 02/07/23	Extraction Start Time:	1100	Hand Shaken or 071401		Scale ID:	8972969000	Comments: BGB0983

Matrix: Aq / Solid / BT / Saline / CW / Non-Aq / DW

Analyte Group: TX1005 TPH / TX1006 TPH / Screen Only / Other:

Extraction Technique: MLLE / MLSE Other:

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2212742	.250	10,000	S2 2205642	.250	20000
S3 2301827	.015	2,000	S4		

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R2 Acetone	2210277	R3 pH paper	—	R7		R9	
R4 Isooctane	2108703	R5 MeOH	2202540	R6 DI-Water	DI-Water-01	R8		R10	

Post Extraction Concentration[P1]			
Analyst/Date:		or N/A	
NEVAP Temp:	°C	Temp ID:	
N2 Blowdown:			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL) P1	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL) P1	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Changes/Other Cleanups, etc.
11A	BGB0983-BLK1		10.13	S1	n/a	10.0						
12A	-MB2		10.30	S2								
13A	-BS1		10.08	S3								
14A	-BSD1		10.13									
15A	-MS1		10.00									
16A	-MSD1		↓	↓								
17A	23A3576-16		10.12									
18A	-23		10.45									
19A	-28		10.43									
20A	-35		10.07									
21A	-36		10.45									
22A	23A1459-54		10.65									
23A	-56		10.23									
24A	23A4543-01		10.15									
25A	-02		10.40									
26A	-03		10.39	↓	↓	↓						

CST 02.16.23

Batch ID: TPH-020723-03 Analyte Group (circle): (TX1005 TPH) / TX1006 TPH / Screen Only / Other:_____

Prep Doc:	OP117	Batch ID:	TPH-020823-03	Centrifuge:	4323P-7	2nd Review:	CJT 02/16/23	Organic Extractions
Extraction Analyst/Date:	CJT 02/08/23	Extraction Start Time:	1252	Hand Shaken at:	07/1401	Scale ID:	8929965d60	Comments: BGB1373

Matrix: (Aq) / Solid / BT / Saline / CW / Non-Aq / DW

Analyte Group: (TX1005 TPH) / TX1006 TPH / Screen Only / Other:

Extraction Technique: (MLLE) / MLSE / Other:

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2212742	.100	10,000	S3 2301827	.003	2,000
S2 2205642	.100	20,000	S4		

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R3 Acetone	2210277	R5 pH paper	2209804	R7		R9	
R2 Sand	—	R4 MeOH	2202340	R6 DI-Water	DI-Water-01	R8		R10	

Post Extraction Concentration[P1]			
Analyst/Date:		or (N/A)	
NEVAP Temp:	°C	Temp ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL)[P1]	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL)[P1]	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Clnups, etc.
26A	BGB1373-BLK		32.31	S1	~6	3.0						
27A	-MB1		31.56	S3								
28A	-BS1		31.63	S2								
29A	-BSD1		32.42									
30A	-MS1		33.80		~1							
31A	-MSD1		33.53									
32A	23A1459-02		34.40									
33A	-03		33.63									
34A	-04		34.00									
35A	-05		33.68									
36A	-49		34.11									
37A	-50		34.21									
38A	-62		33.52									
39A	23A3576-02		32.99									
40A	-04		32.73									
41A	-06		32.69									
	11											
	10											
	9											
	8											
	7											
	6											
	5											
	4											
	3											COT 02.16.23

Batch ID: TPH- 020823-03 Analyte Group (circle): TX1005 TPH / TX1006 TPH / Screen Only / Other:_____

Prep Doc:	OP117	Batch ID:	TPH 020923-01	Centrifuge:	443232-7	2nd Review:	CST 02/16/23	**Organic Extractions**
Extraction Analyst/Date:	CST 02/09/23	Extraction Start Time:	1405	Hand Shaken or (871401)		Scale ID:	89299656660	Comments: BGTB1402
Matrix: Aq / (Solid) / BT / Saline / CW / Non-Aq / DW	**Analyte Group**: (TX1005 TPH) / TX1006 TPH / Screen Only / Other:	**Extraction Technique**: MLLE / (MLSE) Other:						

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2212742	.250	10,000	S3 2205642	.250	20,000
S2 2301827	.015	2,000	S4		

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R3 Acetone	2210277	R5 pH paper	—	R7		R9	
R2 Sand	2108703	R4 MeOH	2202540	R6 DI-Water	DI-Water-01	R8		R10	

Post Extraction Concentration[1]			
Analyst/Date:		or (N/A)	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL)[P]	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL)[P]	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Clnups, etc.
472A	BGB1402-BLK		10.12	S1	n/a	3.0						
473A	-MRL		10.01	S2								
474A	-BS1		10.09	S3								
475A	-BS01		10.04									
476A	-MS1		10.39									
477A	-MS01		10.02									
478A	2391459-666		10.63	↓	↓	↓						
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
	19											
	20											
	21											
	22											
	23											
	24											
	25											CSF 02-16-23

Batch ID: TPH-020923-01 Analyte Group (circle): (TX1005 TPH) / TX1006 TPH / Screen Only / Other:_____

Sample Condition Checklist

A&B JobID : **23021792**	Date Received : **02/17/2023**	Time Received : **9:30AM**
Client Name : **NWDLS**		
Temperature : **1.0°C**	Sample pH : **NA**	
Thermometer ID : **IR4**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☑			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**			X
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Samples came in already extracted. ~JE 02/17/23

Received by : Jedralin

Check in by/date : Jedralin / 02/17/2023

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 80

Job ID : 23022553

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :

Report To :

Client Name: NWDLS
Attn: Monica O. Martin
Client Address: 130 S Trade Center Pkwy
City, State, Zip: Conroe, Texas, 77385

P.O.#.:
Sample Collected By:
Date Collected: 02/01/23 - 02/10/23

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
BGB2106-BLK1	Water	23022553.01
BGB2106-MRL1	Water	23022553.02
BGB2106-BS1	Water	23022553.03
BGB2106-BSD1	Water	23022553.04
BGB2106-MS1	Water	23022553.05
BGB2106-MSD1	Water	23022553.06
23A3576-07	Water	23022553.07
23A3576-08	Water	23022553.08
23A3576-09	Water	23022553.09
23A3576-10	Water	23022553.10
23A3576-11	Water	23022553.11
23A1459-07	Water	23022553.12
23A1459-08	Water	23022553.13
23A1459-09	Water	23022553.14
23A1459-10	Water	23022553.15
23A1459-11	Water	23022553.16
23A1459-12	Water	23022553.17
23A1459-13	Water	23022553.18

Released By: Amanda Shute
Title: Project Manager
Date: 3/3/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/24/2023 11:35

Laboratory Analysis Report

Total Number of Pages: 80

Job ID : 23022553

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A1459-14	Water	23022553.19
23A1459-51	Water	23022553.20
23A1459-52	Water	23022553.21
23A1459-64	Water	23022553.22
23A1459-65	Water	23022553.23
BGA3905-BLK1	Water	23022553.24
BGB0310-BLK1	Water	23022553.25
BGB2204-BLK	Water	23022553.26
BGB2204-MRL1	Water	23022553.27
BGB2204-BS1	Water	23022553.28
BGB2204-BSD1	Water	23022553.29
BGB2204-MS1	Water	23022553.30
BGB2204-MSD1	Water	23022553.31
23B1097-01	Water	23022553.32
23B1047-02	Water	23022553.33
23B1047-05	Water	23022553.34
23B1047-06	Water	23022553.35
23B1331-02	Water	23022553.36
23B1331-04	Water	23022553.37
23A4079-02	Water	23022553.38
23A4079-03	Water	23022553.39
23A4079-04	Water	23022553.40
23A4079-05	Water	23022553.41
23A4079-06	Water	23022553.42
23A4079-07	Water	23022553.43
23A4079-08	Water	23022553.44

Released By: Amanda Shute

Title: Project Manager

Date: 3/3/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023

Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

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ab-q210-0321

Date Received : 02/24/2023 11:35

Laboratory Analysis Report

Total Number of Pages: 80

Job ID : 23022553

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23A4079-09	Water	23022553.45
BGB1372-BLK	Water	23022553.46
	Water	23022553.47

Released By: Amanda Shute

Title: Project Manager

Date: 3/3/2023

This Laboratory is NELAP (T104704213) accredited. Effective: 04/01/2022; Expires: 3/31/2023

Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 02/24/2023 11:35

Laboratory Report: Case Narrative

A&B Job ID: 23022553

Date: 03/03/23

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Date Received: 02/24/23

Collected By:

Extracts were provided and analyzed based on the attached bench sheets.

All samples were calculated using default 35mL:3mL

Please feel free to reach out to me if you have any questions regarding this report.

Released By: Amanda Shute

Title: Project Manager

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23022553 Date: 3/3/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

J	Estimation. Below calibration range but above MDL.
S1	Surrogate recovery is above control limit. Results may be biased high.
S8	Target compounds caused elevation of baseline. Surrogate may be biased high.

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-BLK1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.01

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/24/23 21:20	SKM
	>C12-C28	0.679	mg/L	1.00	0.640	2.15		J	02/24/23 21:20	SKM
	>C28-C35	1.06	mg/L	1.00	0.470	2.15		J	02/24/23 21:20	SKM
	Total C6-C35	1.74	mg/L	1.00	0.470				02/24/23 21:20	SKM
	1-Chlorooctane(surr)	115	%	1.00		70-125			02/24/23 21:20	SKM
	Chlorooctadecane(surr)	106	%	1.00		70-125			02/24/23 21:20	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-MRL1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.02

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/24/23 21:52	SKM
	>C12-C28	0.749	mg/L	1.00	0.640	2.15		J	02/24/23 21:52	SKM
	>C28-C35	0.727	mg/L	1.00	0.470	2.15		J	02/24/23 21:52	SKM
	Total C6-C35	1.48	mg/L	1.00	0.470				02/24/23 21:52	SKM
	1-Chlorooctane(surr)	124	%	1.00		70-125			02/24/23 21:52	SKM
	Chlorooctadecane(surr)	108	%	1.00		70-125			02/24/23 21:52	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-BS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.03

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	29.25	mg/L	1.00	0.610	2.15			02/24/23 22:23	SKM
	>C12-C28	20.48	mg/L	1.00	0.640	2.15			02/24/23 22:23	SKM
	>C28-C35	0.496	mg/L	1.00	0.470	2.15		J	02/24/23 22:23	SKM
	Total C6-C35	50.22	mg/L	1.00	0.470				02/24/23 22:23	SKM
	1-Chlorooctane(surr)	111	%	1.00		70-125			02/24/23 22:23	SKM
	Chlorooctadecane(surr)	104	%	1.00		70-125			02/24/23 22:23	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.04

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	29.65	mg/L	1.00	0.610	2.15			02/24/23 22:55	SKM
	>C12-C28	19.97	mg/L	1.00	0.640	2.15			02/24/23 22:55	SKM
	>C28-C35	0.531	mg/L	1.00	0.470	2.15		J	02/24/23 22:55	SKM
	Total C6-C35	50.15	mg/L	1.00	0.470				02/24/23 22:55	SKM
	1-Chlorooctane(surr)	116	%	1.00		70-125			02/24/23 22:55	SKM
	Chlorooctadecane(surr)	97.5	%	1.00		70-125			02/24/23 22:55	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-MS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.05

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	29.52	mg/L	1.00	0.610	2.15			02/24/23 23:27	SKM
	>C12-C28	21.01	mg/L	1.00	0.640	2.15			02/24/23 23:27	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/24/23 23:27	SKM
	Total C6-C35	50.53	mg/L	1.00	0.470				02/24/23 23:27	SKM
	1-Chlorooctane(surr)	117	%	1.00		70-125			02/24/23 23:27	SKM
	Chlorooctadecane(surr)	103	%	1.00		70-125			02/24/23 23:27	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2106-MSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.06

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	28.78	mg/L	1.00	0.610	2.15			02/24/23 23:59	SKM
	>C12-C28	21.35	mg/L	1.00	0.640	2.15			02/24/23 23:59	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/24/23 23:59	SKM
	Total C6-C35	50.12	mg/L	1.00	0.470				02/24/23 23:59	SKM
	1-Chlorooctane(surr)	118	%	1.00		70-125			02/24/23 23:59	SKM
	Chlorooctadecane(surr)	106	%	1.00		70-125			02/24/23 23:59	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A3576-07	Job Sample ID:	23022553.07
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 00:31	SKM
	>C12-C28	0.666	mg/L	1.00	0.640	2.15		J	02/25/23 00:31	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 00:31	SKM
	Total C6-C35	0.666	mg/L	1.00	0.470				02/25/23 00:31	SKM
	1-Chlorooctane(surr)	105	%	1.00		70-125			02/25/23 00:31	SKM
	Chlorooctadecane(surr)	95.3	%	1.00		70-125			02/25/23 00:31	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A3576-08	Job Sample ID:	23022553.08
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 01:02	SKM
	>C12-C28	0.743	mg/L	1.00	0.640	2.15		J	02/25/23 01:02	SKM
	>C28-C35	0.814	mg/L	1.00	0.470	2.15		J	02/25/23 01:02	SKM
	Total C6-C35	1.56	mg/L	1.00	0.470				02/25/23 01:02	SKM
	1-Chlorooctane(surr)	108	%	1.00		70-125			02/25/23 01:02	SKM
	Chlorooctadecane(surr)	84.5	%	1.00		70-125			02/25/23 01:02	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A3576-09	Job Sample ID:	23022553.09
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 01:34	SKM
	>C12-C28	1.37	mg/L	1.00	0.640	2.15		J	02/25/23 01:34	SKM
	>C28-C35	1.39	mg/L	1.00	0.470	2.15		J	02/25/23 01:34	SKM
	Total C6-C35	2.76	mg/L	1.00	0.470				02/25/23 01:34	SKM
	1-Chlorooctane(surr)	116	%	1.00		70-125			02/25/23 01:34	SKM
	Chlorooctadecane(surr)	85.4	%	1.00		70-125			02/25/23 01:34	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A3576-10	Job Sample ID:	23022553.10
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 02:06	SKM
	>C12-C28	0.742	mg/L	1.00	0.640	2.15		J	02/25/23 02:06	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 02:06	SKM
	Total C6-C35	0.742	mg/L	1.00	0.470				02/25/23 02:06	SKM
	1-Chlorooctane(surr)	101	%	1.00		70-125			02/25/23 02:06	SKM
	Chlorooctadecane(surr)	77	%	1.00		70-125			02/25/23 02:06	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A3576-11	Job Sample ID:	23022553.11
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 03:41	SKM
	>C12-C28	< 0.64	mg/L	1.00	0.640	2.15			02/25/23 03:41	SKM
	>C28-C35	0.604	mg/L	1.00	0.470	2.15		J	02/25/23 03:41	SKM
	Total C6-C35	0.604	mg/L	1.00	0.470				02/25/23 03:41	SKM
	1-Chlorooctane(surr)	103	%	1.00		70-125			02/25/23 03:41	SKM
	Chlorooctadecane(surr)	80.3	%	1.00		70-125			02/25/23 03:41	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-07	Job Sample ID:	23022553.12
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 04:13	SKM
	>C12-C28	0.867	mg/L	1.00	0.640	2.15		J	02/25/23 04:13	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 04:13	SKM
	Total C6-C35	0.867	mg/L	1.00	0.470				02/25/23 04:13	SKM
	1-Chlorooctane(surr)	106	%	1.00		70-125			02/25/23 04:13	SKM
	Chlorooctadecane(surr)	79.9	%	1.00		70-125			02/25/23 04:13	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-08	Job Sample ID:	23022553.13
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 04:45	SKM
	>C12-C28	0.713	mg/L	1.00	0.640	2.15		J	02/25/23 04:45	SKM
	>C28-C35	0.538	mg/L	1.00	0.470	2.15		J	02/25/23 04:45	SKM
	Total C6-C35	1.25	mg/L	1.00	0.470				02/25/23 04:45	SKM
	1-Chlorooctane(surr)	95.1	%	1.00		70-125			02/25/23 04:45	SKM
	Chlorooctadecane(surr)	78.5	%	1.00		70-125			02/25/23 04:45	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-09	Job Sample ID:	23022553.14
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	0.672	mg/L	1.00	0.610	2.15		J	02/25/23 05:16	SKM
	>C12-C28	5.81	mg/L	1.00	0.640	2.15			02/25/23 05:16	SKM
	>C28-C35	2.46	mg/L	1.00	0.470	2.15			02/25/23 05:16	SKM
	Total C6-C35	8.94	mg/L	1.00	0.470				02/25/23 05:16	SKM
	1-Chlorooctane(surr)	101	%	1.00		70-125			02/25/23 05:16	SKM
	Chlorooctadecane(surr)	84.3	%	1.00		70-125			02/25/23 05:16	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A1459-10
Date Collected: 02/01/23
Time Collected: 13:49
Other Information:

Job Sample ID: 23022553.15
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 05:48	SKM
	>C12-C28	0.903	mg/L	1.00	0.640	2.15		J	02/25/23 05:48	SKM
	>C28-C35	0.83	mg/L	1.00	0.470	2.15		J	02/25/23 05:48	SKM
	Total C6-C35	1.73	mg/L	1.00	0.470				02/25/23 05:48	SKM
	1-Chlorooctane(surr)	102	%	1.00		70-125			02/25/23 05:48	SKM
	Chlorooctadecane(surr)	83.3	%	1.00		70-125			02/25/23 05:48	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-11	Job Sample ID:	23022553.16
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 06:20	SKM
	>C12-C28	0.654	mg/L	1.00	0.640	2.15		J	02/25/23 06:20	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 06:20	SKM
	Total C6-C35	0.654	mg/L	1.00	0.470				02/25/23 06:20	SKM
	1-Chlorooctane(surr)	98.5	%	1.00		70-125			02/25/23 06:20	SKM
	Chlorooctadecane(surr)	81	%	1.00		70-125			02/25/23 06:20	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A1459-12
Date Collected: 02/01/23
Time Collected: 13:49
Other Information:

Job Sample ID: 23022553.17
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 06:51	SKM
	>C12-C28	0.649	mg/L	1.00	0.640	2.15		J	02/25/23 06:51	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 06:51	SKM
	Total C6-C35	0.649	mg/L	1.00	0.470				02/25/23 06:51	SKM
	1-Chlorooctane(surr)	93.8	%	1.00		70-125			02/25/23 06:51	SKM
	Chlorooctadecane(surr)	74.1	%	1.00		70-125			02/25/23 06:51	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A1459-13
Date Collected: 02/01/23
Time Collected: 13:49
Other Information:

Job Sample ID: 23022553.18
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 07:21	SKM
	>C12-C28	0.825	mg/L	1.00	0.640	2.15		J	02/25/23 07:21	SKM
	>C28-C35	0.757	mg/L	1.00	0.470	2.15		J	02/25/23 07:21	SKM
	Total C6-C35	1.58	mg/L	1.00	0.470				02/25/23 07:21	SKM
	1-Chlorooctane(surr)	97.3	%	1.00		70-125			02/25/23 07:21	SKM
	Chlorooctadecane(surr)	79.4	%	1.00		70-125			02/25/23 07:21	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-14	Job Sample ID:	23022553.19
Date Collected:	02/03/23	Sample Matrix	Water
Time Collected:	09:05	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 07:53	SKM
	>C12-C28	0.676	mg/L	1.00	0.640	2.15		J	02/25/23 07:53	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 07:53	SKM
	Total C6-C35	0.676	mg/L	1.00	0.470				02/25/23 07:53	SKM
	1-Chlorooctane(surr)	103	%	1.00		70-125			02/25/23 07:53	SKM
	Chlorooctadecane(surr)	79.1	%	1.00		70-125			02/25/23 07:53	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-51	Job Sample ID:	23022553.20
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 08:23	SKM
	>C12-C28	0.721	mg/L	1.00	0.640	2.15		J	02/25/23 08:23	SKM
	>C28-C35	0.684	mg/L	1.00	0.470	2.15		J	02/25/23 08:23	SKM
	Total C6-C35	1.41	mg/L	1.00	0.470				02/25/23 08:23	SKM
	1-Chlorooctane(surr)	95.1	%	1.00		70-125			02/25/23 08:23	SKM
	Chlorooctadecane(surr)	78.4	%	1.00		70-125			02/25/23 08:23	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-52	Job Sample ID:	23022553.21
Date Collected:	02/01/23	Sample Matrix	Water
Time Collected:	13:49	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 08:54	SKM
	>C12-C28	< 0.64	mg/L	1.00	0.640	2.15			02/25/23 08:54	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 08:54	SKM
	Total C6-C35	<0.47	mg/L	1.00	0.470				02/25/23 08:54	SKM
	1-Chlorooctane(surr)	136	%	1.00		70-125		S8	02/25/23 08:54	SKM
	Chlorooctadecane(surr)	73.1	%	1.00		70-125			02/25/23 08:54	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A1459-64	Job Sample ID:	23022553.22
Date Collected:	02/03/23	Sample Matrix	Water
Time Collected:	09:05	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 09:25	SKM
	>C12-C28	1.23	mg/L	1.00	0.640	2.15		J	02/25/23 09:25	SKM
	>C28-C35	0.662	mg/L	1.00	0.470	2.15		J	02/25/23 09:25	SKM
	Total C6-C35	1.90	mg/L	1.00	0.470				02/25/23 09:25	SKM
	1-Chlorooctane(surr)	159	%	1.00		70-125		S8	02/25/23 09:25	SKM
	Chlorooctadecane(surr)	127	%	1.00		70-125		S8	02/25/23 09:25	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A1459-65
Date Collected: 02/03/23
Time Collected: 09:05
Other Information:

Job Sample ID: 23022553.23
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 09:56	SKM
	>C12-C28	0.778	mg/L	1.00	0.640	2.15		J	02/25/23 09:56	SKM
	>C28-C35	0.519	mg/L	1.00	0.470	2.15		J	02/25/23 09:56	SKM
	Total C6-C35	1.30	mg/L	1.00	0.470				02/25/23 09:56	SKM
	1-Chlorooctane(surr)	155	%	1.00		70-125		S8	02/25/23 09:56	SKM
	Chlorooctadecane(surr)	121	%	1.00		70-125			02/25/23 09:56	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGA3905-BLK1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.24

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 10:27	SKM
	>C12-C28	0.749	mg/L	1.00	0.640	2.15		J	02/25/23 10:27	SKM
	>C28-C35	0.6	mg/L	1.00	0.470	2.15		J	02/25/23 10:27	SKM
	Total C6-C35	1.35	mg/L	1.00	0.470				02/25/23 10:27	SKM
	1-Chlorooctane(surr)	161	%	1.00		70-125		S8	02/25/23 10:27	SKM
	Chlorooctadecane(surr)	128	%	1.00		70-125		S8	02/25/23 10:27	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB0310-BLK1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.25

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 10:59	SKM
	>C12-C28	0.782	mg/L	1.00	0.640	2.15		J	02/25/23 10:59	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 10:59	SKM
	Total C6-C35	0.782	mg/L	1.00	0.470				02/25/23 10:59	SKM
	1-Chlorooctane(surr)	154	%	1.00		70-125		S8	02/25/23 10:59	SKM
	Chlorooctadecane(surr)	121	%	1.00		70-125			02/25/23 10:59	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-BLK

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.26

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 11:30	SKM
	>C12-C28	0.93	mg/L	1.00	0.640	2.15		J	02/25/23 11:30	SKM
	>C28-C35	0.86	mg/L	1.00	0.470	2.15		J	02/25/23 11:30	SKM
	Total C6-C35	1.79	mg/L	1.00	0.470				02/25/23 11:30	SKM
	1-Chlorooctane(surr)	160	%	1.00		70-125		S8	02/25/23 11:30	SKM
	Chlorooctadecane(surr)	122	%	1.00		70-125			02/25/23 11:30	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-MRL1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.27

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 12:02	SKM
	>C12-C28	0.923	mg/L	1.00	0.640	2.15		J	02/25/23 12:02	SKM
	>C28-C35	0.934	mg/L	1.00	0.470	2.15		J	02/25/23 12:02	SKM
	Total C6-C35	1.86	mg/L	1.00	0.470				02/25/23 12:02	SKM
	1-Chlorooctane(surr)	157	%	1.00		70-125		S8	02/25/23 12:02	SKM
	Chlorooctadecane(surr)	130	%	1.00		70-125		S8	02/25/23 12:02	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-BS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.28

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	27.24	mg/L	1.00	0.610	2.15			02/25/23 12:34	SKM
	>C12-C28	20.46	mg/L	1.00	0.640	2.15			02/25/23 12:34	SKM
	>C28-C35	0.769	mg/L	1.00	0.470	2.15		J	02/25/23 12:34	SKM
	Total C6-C35	48.47	mg/L	1.00	0.470				02/25/23 12:34	SKM
	1-Chlorooctane(surr)	158	%	1.00		70-125		S8	02/25/23 12:34	SKM
	Chlorooctadecane(surr)	124	%	1.00		70-125			02/25/23 12:34	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-BSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.29

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	27.07	mg/L	1.00	0.610	2.15			02/25/23 13:06	SKM
	>C12-C28	21.99	mg/L	1.00	0.640	2.15			02/25/23 13:06	SKM
	>C28-C35	0.568	mg/L	1.00	0.470	2.15		J	02/25/23 13:06	SKM
	Total C6-C35	49.62	mg/L	1.00	0.470				02/25/23 13:06	SKM
	1-Chlorooctane(surr)	148	%	1.00		70-125		S8	02/25/23 13:06	SKM
	Chlorooctadecane(surr)	120	%	1.00		70-125			02/25/23 13:06	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-MS1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.30

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	28.73	mg/L	1.00	0.610	2.15			02/25/23 13:37	SKM
	>C12-C28	23.64	mg/L	1.00	0.640	2.15			02/25/23 13:37	SKM
	>C28-C35	0.591	mg/L	1.00	0.470	2.15		J	02/25/23 13:37	SKM
	Total C6-C35	52.96	mg/L	1.00	0.470				02/25/23 13:37	SKM
	1-Chlorooctane(surr)	156	%	1.00		70-125		S8	02/25/23 13:37	SKM
	Chlorooctadecane(surr)	123	%	1.00		70-125			02/25/23 13:37	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB2204-MSD1

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.31

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	31.27	mg/L	1.00	0.610	2.15			02/25/23 15:13	SKM
	>C12-C28	24.89	mg/L	1.00	0.640	2.15			02/25/23 15:13	SKM
	>C28-C35	0.8	mg/L	1.00	0.470	2.15		J	02/25/23 15:13	SKM
	Total C6-C35	56.96	mg/L	1.00	0.470				02/25/23 15:13	SKM
	1-Chlorooctane(surr)	167	%	1.00		70-125		S8	02/25/23 15:13	SKM
	Chlorooctadecane(surr)	128	%	1.00		70-125		S8	02/25/23 15:13	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1097-01
Date Collected: 02/02/23
Time Collected: 11:00
Other Information:

Job Sample ID: 23022553.32
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 15:45	SKM
	>C12-C28	0.824	mg/L	1.00	0.640	2.15		J	02/25/23 15:45	SKM
	>C28-C35	0.568	mg/L	1.00	0.470	2.15		J	02/25/23 15:45	SKM
	Total C6-C35	1.39	mg/L	1.00	0.470				02/25/23 15:45	SKM
	1-Chlorooctane(surr)	146	%	1.00		70-125		S8	02/25/23 15:45	SKM
	Chlorooctadecane(surr)	106	%	1.00		70-125			02/25/23 15:45	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1047-02
Date Collected: 02/09/23
Time Collected: 11:40
Other Information:

Job Sample ID: 23022553.33
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 16:17	SKM
	>C12-C28	0.722	mg/L	1.00	0.640	2.15		J	02/25/23 16:17	SKM
	>C28-C35	0.488	mg/L	1.00	0.470	2.15		J	02/25/23 16:17	SKM
	Total C6-C35	1.21	mg/L	1.00	0.470				02/25/23 16:17	SKM
	1-Chlorooctane(surr)	141	%	1.00		70-125		S8	02/25/23 16:17	SKM
	Chlorooctadecane(surr)	105	%	1.00		70-125			02/25/23 16:17	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1047-05
Date Collected: 02/09/23
Time Collected: 11:00
Other Information:

Job Sample ID: 23022553.34
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 16:52	SKM
	>C12-C28	0.729	mg/L	1.00	0.640	2.15		J	02/25/23 16:52	SKM
	>C28-C35	0.625	mg/L	1.00	0.470	2.15		J	02/25/23 16:52	SKM
	Total C6-C35	1.35	mg/L	1.00	0.470				02/25/23 16:52	SKM
	1-Chlorooctane(surr)	160	%	1.00		70-125		S8	02/25/23 16:52	SKM
	Chlorooctadecane(surr)	118	%	1.00		70-125			02/25/23 16:52	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1047-06
Date Collected: 02/09/23
Time Collected: 11:25
Other Information:

Job Sample ID: 23022553.35
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 17:25	SKM
	>C12-C28	0.919	mg/L	1.00	0.640	2.15		J	02/25/23 17:25	SKM
	>C28-C35	0.79	mg/L	1.00	0.470	2.15		J	02/25/23 17:25	SKM
	Total C6-C35	1.71	mg/L	1.00	0.470				02/25/23 17:25	SKM
	1-Chlorooctane(surr)	164	%	1.00		70-125		S8	02/25/23 17:25	SKM
	Chlorooctadecane(surr)	125	%	1.00		70-125		S8	02/25/23 17:25	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1331-02
Date Collected: 02/09/23
Time Collected: 12:10
Other Information:

Job Sample ID: 23022553.36
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 17:58	SKM
	>C12-C28	1.01	mg/L	1.00	0.640	2.15		J	02/25/23 17:58	SKM
	>C28-C35	0.948	mg/L	1.00	0.470	2.15		J	02/25/23 17:58	SKM
	Total C6-C35	1.96	mg/L	1.00	0.470				02/25/23 17:58	SKM
	1-Chlorooctane(surr)	160	%	1.00		70-125		S8	02/25/23 17:58	SKM
	Chlorooctadecane(surr)	132	%	1.00		70-125		S8	02/25/23 17:58	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23B1331-04
Date Collected: 02/09/23
Time Collected: 12:25
Other Information:

Job Sample ID: 23022553.37
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 18:31	SKM
	>C12-C28	1.02	mg/L	1.00	0.640	2.15		J	02/25/23 18:31	SKM
	>C28-C35	0.868	mg/L	1.00	0.470	2.15		J	02/25/23 18:31	SKM
	Total C6-C35	1.89	mg/L	1.00	0.470				02/25/23 18:31	SKM
	1-Chlorooctane(surr)	164	%	1.00		70-125		S8	02/25/23 18:31	SKM
	Chlorooctadecane(surr)	124	%	1.00		70-125			02/25/23 18:31	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A4079-02	Job Sample ID:	23022553.38
Date Collected:	02/07/23	Sample Matrix	Water
Time Collected:	13:02	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 19:05	SKM
	>C12-C28	1.10	mg/L	1.00	0.640	2.15		J	02/25/23 19:05	SKM
	>C28-C35	1.21	mg/L	1.00	0.470	2.15		J	02/25/23 19:05	SKM
	Total C6-C35	2.31	mg/L	1.00	0.470				02/25/23 19:05	SKM
	1-Chlorooctane(surr)	158	%	1.00		70-125		S8	02/25/23 19:05	SKM
	Chlorooctadecane(surr)	123	%	1.00		70-125			02/25/23 19:05	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A4079-03	Job Sample ID:	23022553.39
Date Collected:	02/07/23	Sample Matrix	Water
Time Collected:	12:47	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 19:37	SKM
	>C12-C28	0.998	mg/L	1.00	0.640	2.15		J	02/25/23 19:37	SKM
	>C28-C35	1.08	mg/L	1.00	0.470	2.15		J	02/25/23 19:37	SKM
	Total C6-C35	2.07	mg/L	1.00	0.470				02/25/23 19:37	SKM
	1-Chlorooctane(surr)	158	%	1.00		70-125		S8	02/25/23 19:37	SKM
	Chlorooctadecane(surr)	113	%	1.00		70-125			02/25/23 19:37	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A4079-04	Job Sample ID:	23022553.40
Date Collected:	02/07/23	Sample Matrix	Water
Time Collected:	12:57	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 21:26	SKM
	>C12-C28	1.28	mg/L	1.00	0.640	2.15		J	02/25/23 21:26	SKM
	>C28-C35	1.26	mg/L	1.00	0.470	2.15		J	02/25/23 21:26	SKM
	Total C6-C35	2.55	mg/L	1.00	0.470				02/25/23 21:26	SKM
	1-Chlorooctane(surr)	166	%	1.00		70-125		S8	02/25/23 21:26	SKM
	Chlorooctadecane(surr)	135	%	1.00		70-125		S8	02/25/23 21:26	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A4079-05
Date Collected: 02/07/23
Time Collected: 13:15
Other Information:

Job Sample ID: 23022553.41
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 21:59	SKM
	>C12-C28	1.02	mg/L	1.00	0.640	2.15		J	02/25/23 21:59	SKM
	>C28-C35	1.10	mg/L	1.00	0.470	2.15		J	02/25/23 21:59	SKM
	Total C6-C35	2.11	mg/L	1.00	0.470				02/25/23 21:59	SKM
	1-Chlorooctane(surr)	158	%	1.00		70-125		S8	02/25/23 21:59	SKM
	Chlorooctadecane(surr)	81.1	%	1.00		70-125			02/25/23 21:59	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A4079-06
Date Collected: 02/10/23
Time Collected: 12:24
Other Information:

Job Sample ID: 23022553.42
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 22:31	SKM
	>C12-C28	1.02	mg/L	1.00	0.640	2.15		J	02/25/23 22:31	SKM
	>C28-C35	1.10	mg/L	1.00	0.470	2.15		J	02/25/23 22:31	SKM
	Total C6-C35	2.12	mg/L	1.00	0.470				02/25/23 22:31	SKM
	1-Chlorooctane(surr)	158	%	1.00		70-125		S8	02/25/23 22:31	SKM
	Chlorooctadecane(surr)	115	%	1.00		70-125			02/25/23 22:31	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A4079-07
Date Collected: 02/10/23
Time Collected: 12:24
Other Information:

Job Sample ID: 23022553.43
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 23:03	SKM
	>C12-C28	1.06	mg/L	1.00	0.640	2.15		J	02/25/23 23:03	SKM
	>C28-C35	1.01	mg/L	1.00	0.470	2.15		J	02/25/23 23:03	SKM
	Total C6-C35	2.07	mg/L	1.00	0.470				02/25/23 23:03	SKM
	1-Chlorooctane(surr)	156	%	1.00		70-125		S8	02/25/23 23:03	SKM
	Chlorooctadecane(surr)	117	%	1.00		70-125			02/25/23 23:03	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:	23A4079-08	Job Sample ID:	23022553.44
Date Collected:	02/10/23	Sample Matrix	Water
Time Collected:	12:24	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/25/23 23:35	SKM
	>C12-C28	0.664	mg/L	1.00	0.640	2.15		J	02/25/23 23:35	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/25/23 23:35	SKM
	Total C6-C35	0.664	mg/L	1.00	0.470				02/25/23 23:35	SKM
	1-Chlorooctane(surr)	156	%	1.00		70-125		S8	02/25/23 23:35	SKM
	Chlorooctadecane(surr)	116	%	1.00		70-125			02/25/23 23:35	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: 23A4079-09
Date Collected: 02/10/23
Time Collected: 12:24
Other Information:

Job Sample ID: 23022553.45
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/26/23 00:07	SKM
	>C12-C28	1.22	mg/L	1.00	0.640	2.15		J	02/26/23 00:07	SKM
	>C28-C35	1.13	mg/L	1.00	0.470	2.15		J	02/26/23 00:07	SKM
	Total C6-C35	2.36	mg/L	1.00	0.470				02/26/23 00:07	SKM
	1-Chlorooctane(surr)	168	%	1.00		70-125		S8	02/26/23 00:07	SKM
	Chlorooctadecane(surr)	129	%	1.00		70-125		S8	02/26/23 00:07	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID: BGB1372-BLK

Date Collected:

Time Collected:

Other Information:

Job Sample ID: 23022553.46

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/26/23 00:39	SKM
	>C12-C28	0.896	mg/L	1.00	0.640	2.15		J	02/26/23 00:39	SKM
	>C28-C35	< 0.47	mg/L	1.00	0.470	2.15			02/26/23 00:39	SKM
	Total C6-C35	0.896	mg/L	1.00	0.470				02/26/23 00:39	SKM
	1-Chlorooctane(surr)	157	%	1.00		70-125		S8	02/26/23 00:39	SKM
	Chlorooctadecane(surr)	121	%	1.00		70-125			02/26/23 00:39	SKM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 23022553

Date 3/3/2023

Client Name: NWDLS

Attn: Monica O. Martin

Project Name:

Client Sample ID:
Date Collected:
Time Collected:
Other Information:

Job Sample ID: 23022553.47
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	< 0.61	mg/L	1.00	0.610	2.15			02/26/23 01:10	SKM
	>C12-C28	1.11	mg/L	1.00	0.640	2.15		J	02/26/23 01:10	SKM
	>C28-C35	0.911	mg/L	1.00	0.470	2.15		J	02/26/23 01:10	SKM
	Total C6-C35	2.02	mg/L	1.00	0.470				02/26/23 01:10	SKM
	1-Chlorooctane(surr)	155	%	1.00		70-125		S8	02/26/23 01:10	SKM
	Chlorooctadecane(surr)	118	%	1.00		70-125			02/26/23 01:10	SKM

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 23022553 **Date :** 3/3/2023

Analysis : Total Petroleum Hydrocarbons **Method : TX 1005** **Reporting Units : mg/L**

QC Batch ID : Qb23022506 **Created Date :** 02/24/23 **Created By :** Skannan

Samples in This QC Batch : 23022553.01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19,20

Sample Preparation : PB23022457 **Prep Method :** TX 1005 **Prep Date :** 02/24/23 12:00 **Prep By :** Skannan

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/L	1.00	2.15	0.61		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.64		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.47		
Total C6-C35		< MDL	mg/L	1.00	----	0.47		
Chlorooctadecane(surr)	3386-33-2	108	%	1.00				
1-Chlorooctane(surr)	111-85-3	144	%	1.00				S1

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	43	46.4	108	43	48.0	112	3.4	20	75-125	
>C12-C28	43	45.6	106	43	46.1	107	1.1	20	75-125	
>C28-C35	43	37.1	86.4	43	37.4	86.9	0.7	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23022553 **Date :** 3/3/2023

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/L

QC Batch ID : Qb23022507 **Created Date :** 02/24/23 **Created By :** Skannan

Samples in This QC Batch : 23022553.21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Sample Preparation : PB23022458 **Prep Method :** TX 1005 **Prep Date :** 02/24/23 12:00 **Prep By :** Skannan

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/L	1.00	2.15	0.61		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.64		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.47		
Total C6-C35		< MDL	mg/L	1.00	----	0.47		
Chlorooctadecane(surr)	3386-33-2	110	%	1.00				
1-Chlorooctane(surr)	111-85-3	127	%	1.00				S1

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	43	47.7	111	43	45.5	106	4.6	20	75-125	
>C12-C28	43	46.4	108	43	44.9	104	3.3	20	75-125	
>C28-C35	43	38.3	89.1	43	37.8	87.9	1.3	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 23022553 **Date :** 3/3/2023

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/L

QC Batch ID : Qb23022508 **Created Date :** 02/24/23 **Created By :** Skannan

Samples in This QC Batch : 23022553.41,42,43,44,45,46,47

Sample Preparation : PB23022459 **Prep Method :** TX 1005 **Prep Date :** 02/24/23 12:00 **Prep By :** Skannan

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/L	1.00	2.15	0.61		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.64		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.47		
Total C6-C35		< MDL	mg/L	1.00	----	0.47		
Chlorooctadecane(surr)	3386-33-2	108	%	1.00				
1-Chlorooctane(surr)	111-85-3	128	%	1.00				S1

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
C6-C12	43	44.6	104	43	44.4	103	0.4	20	75-125	
>C12-C28	43	47.1	110	43	45.6	106	3.2	20	75-125	
>C28-C35	43	37.5	87.2	43	37.6	87.3	0.3	20	75-125	

	Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Sph #	Initial pH	Final Vol. (mL) P1	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL) P1	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Cleanps, etc.
01A		BGB2106-BLK1		32.23	S1	6	3.0						
02A		-MRL1		31.63	S2	↓	↓						
03A		-BS1		32.86	S3								
04A		-BSD1		30.80	↓								
05A		-MS1		32.29									
06A		-MSD1		32.53									
07A		23A3576-07		32.28									
08A		-08		32.60									
09A		-09		32.58									
10A		-10		32.20									
11A		-11		32.30									
12A		23A1459-07		33.61									
13A		-08		34.51									
14A		-09		33.59									
15A		-10		33.16									
16A		-11		33.20									
17A		-12		33.40									
18A		-13		34.40									
19A		-14		33.08									
20A		-51		33.26									
21A		-52		34.21									
22A		-64		33.41									
23A		-65		34.20									
24A		BGA3905-BLK1		33.19									BGB2106-LBK1
25A		BGB0310-BLK1		31.83	↓	↓	↓						↓ -LBK2

Batch ID: TPH-021423-01 Analyte Group (circle): (TX1005 TPH) / TX1006 TPH / Screen Only / Other:_____

02-23-23

Job ID:23022553

02/24/2023 NWDLS AMS

Prep Doc:	OP117	Batch ID:	TPH- 021423-01	Centrifuge:	443238-7	2nd Review:	CJT 02.23.23	Organic Extractions
Extraction Analyst/Date: ①	CJT 02.14.23	Extraction Start Time:	1037	Hand Shaken or 071401		Scale ID:	833717652 45	Comments: BGB2106

Matrix: (Aq) / Soil / BT / Saline / CW / Non-Aq / DW **Analyte Group:** (TX1005 TPH) / TX1006 TPH / Screen Only / Other: **Extraction Technique** (MLLE) / MLSE / Other:

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2212742	.100	10,000	S3 2205642	.100	20,000
S2 2301827	.003	2,000	S4		

① IE CJT 02.14.23 → (Aq:)

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R3 Acetone	2213777	R5 pH paper	2103151	R7		R9	
R2 Sand	—	R4 MeOH	2215144	R6 DI-Water	DI-Water-01	R8		R10	

Post Extraction Concentration[P1]			
Analyst/Date:		or (N/A)	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

	Vial ID	Sample ID	Re-extraction	Amt. Extracted (g / mL)	Spk #	Initial pH	Final Vol. (mL) P1	TX1006	Fraction #1 initial vol.(mL)	Fraction #1 final vol.(mL) P1	Fraction #2 initial vol.(mL)	Fraction #2 final vol.(mL) P2	Comments/Dilutions/ Reagent Change/Other Chnges, etc.
26A		BGB2204-BLK		32.32	S1	6	3.0						
27A		-MS1		32.42	S2								
28A		-BS1		31.89	S3								
29A		-BSD1		32.47		↓							
30A		-MS1		32.84		1							
31A		-MSD1		32.81	↓								
32A		2381097-01		33.01									
33A		2381047-02		32.62									
34A		-05		33.66									
35A		-06		33.18									
36A		2381331-02		33.36									
37A		-04		33.22									
38A		23A4079-02		33.12									"
39A		-03		33.04									"
40A		-04		33.00									"
41A		-05		32.80									
42A		-06		33.46									
43A		-07		33.03									
44A		-08		32.98									
45A		-09		33.27									
46A		BGB1372-BLK		32.92	↓	↓	↓						BGB2204-LBK1
47A													
													CJT 02.23.23

Batch ID: TPH-021523-01 Analyte Group (circle): (TX1005 TPH) / TX1006 TPH / Screen Only / Other:_____

Prep Doc:	OP117	Batch ID:	TPH-021523-01	Centrifuge:	443238-7	2nd Review:	CJT 022323	Organic Extractions
Extraction Analyst/Date:	CJT 02/15/23	Extraction Start Time:	1147	Hand Shaken or 071401		Scale ID:	838776245	Comments: BGB2204

Matrix: (Aq) / Solid / BT / Saline / CW / Non-Aq / DW

Analyte Group: (TX1005 TPH) / TX1006 TPH / Screen Only / Other:

Extraction Technique: (MLLE) / MLSE / Other:

Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)	Spike ID	Spike Amt.(mL)	Spike Conc. (mcg/mL)
S1 2212742	.100	10,000	S3 2205642	.100	20,000
S2 2301827	.003	2,000	S4		

Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID	Reagents	ID
R1 n-Pentane	2302226	R3 Acetone	2213777	R5 pH paper	2103151	R7		R9	
R2 Sand	—	R4 MeOH	2215144	R6 DI-Water	DI-Water-01	R8		R10	

Post Extraction Concentration[5]			
Analyst/Date:		or (N/A)	
NEVAP Temp:	°C	Temp. ID	
N_2 Blowdown			
Final Solvent: n-Pentane / Other:			

Note: Continued on next page.

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A3576

Analysis	Due	Expires	Comments
Sample ID: 23A3576-02 *Marine Water* *Sampled: 01/26/2023 08:30*			
TOC-415.1	02/23/2023	02/23/2023 08:30	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	02/23/2023	02/09/2023 08:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-04 *Marine Water* *Sampled: 01/26/2023 09:00*			
TOC-415.1	02/23/2023	02/23/2023 09:00	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	02/23/2023	02/09/2023 09:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-06 *Marine Water* *Sampled: 01/26/2023 08:45*			
TOC-415.1	02/23/2023	02/23/2023 08:45	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	02/23/2023	02/09/2023 08:45	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A3576 (Continued)

Analysis	Due	Expires	Comments

Sample ID: 23A3576-07 *Elutriate* *Sampled: 01/25/2023 10:15*

[redacted]

Analyte(s):
Total Organic Carbon (TOC)
TPH-1005-ELUT — 02/23/2023 — 02/08/2023 10:15 — Leached: 02/01/2023 13:49

07A

Analyte(s):
1-Chlorooctadecane-surr — 1-Chlorooctane-surr — Total Petroleum Hydrocarbons (TPH), C6-C35

Containers Supplied:

Sample ID: 23A3576-08 *Elutriate* *Sampled: 01/26/2023 10:35*

[redacted]

Analyte(s):
Total Organic Carbon (TOC)
TPH-1005-ELUT — 02/23/2023 — 02/09/2023 10:35 — Leached: 02/01/2023 13:49

08A

Analyte(s):
1-Chlorooctadecane-surr — 1-Chlorooctane-surr — Total Petroleum Hydrocarbons (TPH), C6-C35

Containers Supplied:

Sample ID: 23A3576-09 *Elutriate* *Sampled: 01/25/2023 10:30*

[redacted]

Analyte(s):
Total Organic Carbon (TOC)
TPH-1005-ELUT — 02/23/2023 — 02/08/2023 10:30 — Leached: 02/01/2023 13:49

09A

Analyte(s):
1-Chlorooctadecane-surr — 1-Chlorooctane-surr — Total Petroleum Hydrocarbons (TPH), C6-C35

Containers Supplied:

Sample ID: 23A3576-10 *Elutriate* *Sampled: 01/26/2023 10:15*

[redacted]

Analyte(s):
Total Organic Carbon (TOC)
TPH-1005-ELUT — 02/23/2023 — 02/09/2023 10:15 — Leached: 02/01/2023 13:49

10A

Analyte(s):
1-Chlorooctadecane-surr — 1-Chlorooctane-surr — Total Petroleum Hydrocarbons (TPH), C6-C35

Containers Supplied:

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A3576 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A3576-11 *Elutriate* *Sampled: 01/25/2023 13:45*			
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	02/23/2023	02/08/2023 13:45	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-16 *Sediment* *Sampled: 01/25/2023 10:15*			
TPH-1005	02/23/2023	02/08/2023 10:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-23 *Sediment* *Sampled: 01/26/2023 10:35*			
TPH-1005	02/23/2023	02/09/2023 10:35	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-28 *Sediment* *Sampled: 01/25/2023 10:30*			
TPH-1005	02/23/2023	02/08/2023 10:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-35 *Sediment* *Sampled: 01/26/2023 10:15*			
TPH-1005	02/23/2023	02/09/2023 10:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A3576-36 *Sediment* *Sampled: 01/25/2023 13:45*			
TPH-1005	02/23/2023	02/08/2023 13:45	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Andrew Rodriguez — Released By
2-24-23 — Date
Received By
02/24/23 1135 — Date

3.6°C
IRR

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02	***Marine Water***	***Sampled: 01/25/2023 09:30***	
TOC-415.1	03/06/2023	02/22/2023 09:30	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	03/06/2023	02/08/2023 09:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-03	***Marine Water***	***Sampled: 01/25/2023 12:50***	
TOC-415.1	03/06/2023	02/22/2023 12:50	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	03/06/2023	02/08/2023 12:50	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-04	***Marine Water***	***Sampled: 01/25/2023 14:50***	
TOC-415.1	03/06/2023	02/22/2023 14:50	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	03/06/2023	02/08/2023 14:50	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/24/2023 11:25	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	03/06/2023	02/10/2023 11:25	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-07 ***Elutriate*** ***Sampled: 01/16/2023 14:20***			
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 12A	03/06/2023	01/30/2023 14:20	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-08 ***Elutriate*** ***Sampled: 01/16/2023 17:20***			
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 13A	03/06/2023	01/30/2023 17:20	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-09 ***Elutriate*** ***Sampled: 01/19/2023 15:20***			
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 14A	03/06/2023	02/02/2023 15:20	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-10 *Elutriate* *Sampled: 01/19/2023 17:00*			
[redacted]	[redacted]		Leached: 02/01/2023 10:00
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 15A	03/06/2023	02/02/2023 17:00	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-11 *Elutriate* *Sampled: 01/18/2023 09:40*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 16A	03/06/2023	02/01/2023 09:40	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-12 *Elutriate* *Sampled: 01/18/2023 11:15*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 17A	03/06/2023	02/01/2023 11:15	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-13 *Elutriate* *Sampled: 01/16/2023 16:37*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 18A	03/06/2023	01/30/2023 16:37	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-14	***Elutriate***	***Sampled: 01/18/2023 14:10***	
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	03/06/2023	02/01/2023 14:10	Leached: 02/03/2023 09:05
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-16	***Sediment***	***Sampled: 01/16/2023 14:20***	
TPH-1005	03/06/2023	01/30/2023 14:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-17	***Sediment***	***Sampled: 01/17/2023 09:40***	
TPH-1005	03/06/2023	01/31/2023 09:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-18	***Sediment***	***Sampled: 01/17/2023 14:40***	
TPH-1005	03/06/2023	01/31/2023 14:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-20	***Sediment***	***Sampled: 01/16/2023 17:20***	
TPH-1005	03/06/2023	01/30/2023 17:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-21	***Sediment***	***Sampled: 01/17/2023 11:30***	
TPH-1005	03/06/2023	01/31/2023 11:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-51 ***Elutriate*** ***Sampled: 01/23/2023 13:05***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	03/06/2023	02/06/2023 13:05	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr 20A	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-52 ***Elutriate*** ***Sampled: 01/21/2023 10:00***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	03/06/2023	02/04/2023 10:00	Leached: 02/01/2023 13:49
Analyte(s): 1-Chlorooctadecane-surr 21A	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-54 ***Sediment*** ***Sampled: 01/25/2023 08:00***			
TPH-1005	03/06/2023	02/08/2023 08:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-55 ***Sediment*** ***Sampled: 01/23/2023 16:00***			
TPH-1005	03/06/2023	02/06/2023 16:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-56 ***Sediment*** ***Sampled: 01/23/2023 13:05***			
TPH-1005	03/06/2023	02/06/2023 13:05	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-58 ***Sediment*** ***Sampled: 01/21/2023 10:00***			
TPH-1005	03/06/2023	02/04/2023 10:00	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-59 ***Sediment*** ***Sampled: 01/21/2023 15:10***			
TPH-1005	03/06/2023	02/04/2023 15:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-60 ***Sediment*** ***Sampled: 01/21/2023 11:45***			
TPH-1005	03/06/2023	02/04/2023 11:45	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-62 ***Marine Water*** ***Sampled: 01/27/2023 13:10***			
TOC-415.1	03/06/2023	02/24/2023 13:10	
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005	03/06/2023	02/10/2023 13:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A1459-64 ***Elutriate*** ***Sampled: 01/19/2023 14:00***			
[redacted]			
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005-ELUT	03/06/2023	02/02/2023 14:00	Leached: 02/03/2023 09:05
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments

Sample ID: 23A1459-65 *Elutriate* *Sampled: 01/21/2023 11:45*

[redacted]

Analyte(s):
Total Organic Carbon (TOC)
TPH-1005-ELUT 23A 03/06/2023 02/04/2023 11:45 Leached: 02/03/2023 09:05
Analyte(s):
1-Chlorooctadecane-surr 1-Chlorooctane-surr Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:

[redacted]

Analyte(s):
1-Chlorooctadecane-surr 1-Chlorooctane-surr Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:

Andrew Rodriguez 2-24-23 02/24/23 1135
Released By Date Received By Date

3.6°C
IRM

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Deena Higginbotham

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23B1097

Analysis	Due	Expires	Comments
Sample ID: 23B1097-01 *Waste Water* *Sampled: 02/02/2023 11:00*			
[redacted]	[redacted]		
Analyte(s): Total Phenolics			
TPH-1005 32A	02/16/2023	02/16/2023 11:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Andrew Rodriguez — Released By — 2-24-23 — Date

Received By — 02/24/23 1135 — Date

3.6 °C IR4

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23B1047

Analysis	Due	Expires	Comments
Sample ID: 23B1047-02 ***Marine Water*** ***Sampled: 02/09/2023 11:40***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 33A	02/23/2023	02/23/2023 11:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23B1047-05 ***Marine Water*** ***Sampled: 02/09/2023 11:00***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 34A	02/23/2023	02/23/2023 11:00	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23B1047-06 ***Marine Water*** ***Sampled: 02/09/2023 11:25***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 35A	02/23/2023	02/23/2023 11:25	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23B1047 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23B1047-08 *Elutriate* *Sampled: 02/09/2023 09:37*			
TOC-5310 C-ELUT	02/23/2023	03/09/2023 09:37	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23B1047-09 *Elutriate* *Sampled: 02/09/2023 10:06*			
TOC-5310 C-ELUT	02/23/2023	03/09/2023 10:06	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23B1047-10 *Elutriate* *Sampled: 02/09/2023 10:36*			
TOC-5310 C-ELUT	02/23/2023	03/09/2023 10:36	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 23B1047-11 *Elutriate* *Sampled: 02/09/2023 10:45*			
TOC-5310 C-ELUT	02/23/2023	03/09/2023 10:45	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

Andrew Rodriguez — Released By — 2-24-23 — Date

Received By — 02/24/23 1135 — Date

3.6°C IR

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23B1331

Analysis	Due	Expires	Comments
Sample ID: 23B1331-02 ***Marine Water*** ***Sampled: 02/09/2023 12:10***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 36A	02/23/2023	02/23/2023 12:10	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23B1331-04 ***Marine Water*** ***Sampled: 02/09/2023 12:25***			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 37A	02/23/2023	02/23/2023 12:25	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23B1331-05 ***Elutriate*** ***Sampled: 02/09/2023 12:48***			
TOC-5310 C-ELUT	02/23/2023	03/09/2023 12:[illegible]	
Analyte(s): Total Organic Carbon [illegible]			
Containers Supplied:			
Sample ID: 23B1331-06 ***Elutriate*** ***Sampled: 02/09/2023 13:17***			
TOC-5310 C-ELUT	02/23/2023	[illegible]/09/2023 13:17	
Analyte(s): Total Organic [illegible] (TOC)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Andrew Rodriguez
Released By

2-24-23
Date

[signature]
Received By

02/24/23 1135
Date

36°C
IR4

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23A4079

Analysis	Due	Expires	Comments
Sample ID: 23A4079-02 *Marine Water* *Sampled: 02/07/2023 13:02*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 38A	03/10/2023	02/21/2023 13:02	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-03 *Marine Water* *Sampled: 02/07/2023 12:47*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 39A	03/10/2023	02/21/2023 12:47	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-04 *Marine Water* *Sampled: 02/07/2023 12:57*			
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005 40A	03/10/2023	02/21/2023 12:57	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A4079 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A4079-05	***Marine Water***	***Sampled: 02/07/2023 13:15***	
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC) TPH-1005	03/10/2023	02/21/2023 13:15	
41A *Analyte(s):* 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-06	***Elutriate***	***Sampled: 02/07/2023 10:07***	
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC) TPH-1005-ELUT	03/10/2023	02/21/2023 10:07	Leached: 02/10/2023 12:24
42A *Analyte(s):* 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-07	***Elutriate***	***Sampled: 02/07/2023 10:07***	
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC) TPH-1005-ELUT	03/10/2023	02/21/2023 10:07	Leached: 02/10/2023 12:24
43A *Analyte(s):* 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-08	***Elutriate***	***Sampled: 02/07/2023 10:57***	
[redacted]	[redacted]		
Analyte(s): Total Organic Carbon (TOC) TPH-1005-ELUT	03/10/2023	02/21/2023 10:57	Leached: 02/10/2023 12:24
44A *Analyte(s):* 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A4079 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A4079-09 *Elutriate* *Sampled: 02/07/2023 10:37*			
[redacted]			
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT 45A	03/10/2023	02/21/2023 10:37	Leached: 02/10/2023 12:24
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 23A4079-10 *Sediment* *Sampled: 02/07/2023 11:57*			
VOA-8260-MedS	03/10/2023	02/21/2023 11:57	
Analyte(s): 1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			
Sample ID: 23A4079-11 *Sediment* *Sampled: 02/07/2023 11:29*			
VOA-8260-MedS	03/10/2023	02/21/2023 11:29	
Analyte(s): 1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			
Sample ID: 23A4079-12 *Sediment* *Sampled: 02/07/2023 09:23*			
VOA-8260-MedS	03/10/2023	02/21/2023 09:23	
Analyte(s): 1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A4079 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A4079-13 *Sediment* *Sampled: 02/07/2023 10:57*			
VOA-8260-MedS	03/10/2023	02/21/2023 10:57	
Analyte(s):			
1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			
Sample ID: 23A4079-14 *Sediment* *Sampled: 02/07/2023 10:07*			
VOA-8260-MedS	03/10/2023	02/21/2023 10:07	
Analyte(s):			
1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			
Sample ID: 23A4079-15 *Sediment* *Sampled: 02/07/2023 10:37*			
VOA-8260-MedS	03/10/2023	02/21/2023 10:37	
Analyte(s):			
1,2-Dichloroethane-d4-surr	4-Bromofluorobenzene-surr		Dibromofluoromethane-surr
Ethylbenzene	m+p-xylene		o-Xylene
Tetrachloroethylene (Perchloroethylene)	Toluene-d8-surr		Trichloroethene (Trichloroethylene)
Xylene (total)			
Containers Supplied:			

Andrew Rodriguez — Released By — 2-24-23 — Date

Received By — 02/24/23 1155 — Date

3.6°C IR4

Sample Condition Checklist

A&B JobID : **23022553**	Date Received : **02/24/2023**	Time Received : **11:35AM**
Client Name : **NWDLS**		
Temperature : **3.6°C**	Sample pH : **NA**	
Thermometer ID : **IR4**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**			X
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**		X	
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received an extra vial. AM 02/24/23

Received by : Jedralin

Check in by/date : EValdez / 02/24/2023

ab-s005-0321

February 16, 2023 Service Request No:K2301449

Monica Martin
North Water District Lab Services (NWDLS)
130 South Trade Center Parkway
Conroe, TX 77385

Laboratory Results for: 23A1459

Dear Monica,

Enclosed are the results of the sample(s) submitted to our laboratory February 03, 2023
For your reference, these analyses have been assigned our service request number **K2301449.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Sample Matrix: Elutriate, Liquid

Service Request: K2301449
Date Received: 02/03/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Nine elutriate, liquid samples were received for analysis at ALS Environmental on 02/03/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 02/16/2023

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: North Water District Lab Services (NWDLS) **Service Request:**K2301449
Project: 23A1459

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2301449-001	23A1459-07	2/1/2023	1000
K2301449-002	23A1459-08	2/1/2023	1000
K2301449-003	23A1459-09	2/1/2023	1000
K2301449-004	23A1459-10	2/1/2023	1000
K2301449-005	23A1459-11	2/1/2023	1000
K2301449-006	23A1459-12	2/1/2023	1000
K2301449-007	23A1459-13	2/1/2023	1000
K2301449-008	23A1459-51	2/1/2023	1000
K2301449-009	23A1459-52	2/1/2023	1000

NWDLS
North Water District Laboratory Services, Inc.

K2301449

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

ALS Kelso
1317 South 13th Avenue
Kelso, WA 98626
Phone: (360) 577-7222
Fax:

Work Order: 23A1459

Analysis	Due	Expires	Comments
[redacted]	***Marine Water Sampled: 01/25/2023 11:20***		
[redacted]	03/06/2023	02/08/2023 11:20	
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/25/2023 14:17***		
[redacted]	03/06/2023	02/08/2023 14:17	
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/25/2023 15:45***		
[redacted]	03/06/2023	02/08/2023 15:45	
[redacted]	03/06/2023	02/01/2023 15:45	
	Monobutyltin		Tributyltin
	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/27/2023 12:00***		
[redacted]	03/06/2023	02/10/2023 12:00	
[redacted]	03/06/2023	02/03/2023 12:00	
	Monobutyltin		Tributyltin
	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-07 ***Elutriate*** ***Sampled: 01/16/2023 14:20***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 14:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-08 ***Elutriate*** ***Sampled: 01/16/2023 17:20***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 17:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-09 ***Elutriate*** ***Sampled: 01/19/2023 15:20***			
Sub_CN T-ELUT	03/06/2023	02/02/2023 15:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-10 ***Elutriate*** ***Sampled: 01/19/2023 17:00***			
Sub_CN T-ELUT	03/06/2023	02/02/2023 17:00	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-11 ***Elutriate*** ***Sampled: 01/18/2023 09:40***			
Sub_CN T-ELUT	03/06/2023	02/01/2023 09:40	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-12 ***Elutriate*** ***Sampled: 01/18/2023 11:15***			
Sub_CN T-ELUT	03/06/2023	02/01/2023 11:15	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-13 ***Elutriate*** ***Sampled: 01/16/2023 16:37***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 16:37	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/16/2023 14:20***			
[redacted]	03/06/2023	01/30/2023 14:20	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/17/2023 09:40***			
[redacted]	03/06/2023	01/31/2023 09:40	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/17/2023 14:40***			
[redacted]	03/06/2023	01/31/2023 14:40	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/16/2023 17:20***			
[redacted]	03/06/2023	01/30/2023 17:20	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/17/2023 11:30***			
[redacted]	03/06/2023	01/31/2023 11:30	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]	***Sediment Sampled: 01/20/2023 09:30***		
[redacted]	03/06/2023	02/03/2023 09:30	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/27/2023 16:07***		
[redacted]	03/06/2023	02/10/2023 16:07	
[redacted]	03/06/2023	02/03/2023 16:07	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/27/2023 15:20***		
[redacted]	03/06/2023	02/10/2023 15:20	
[redacted]	03/06/2023	02/03/2023 15:20	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-51	***Elutriate Sampled: 01/23/2023 13:05***		
Sub_CN T-ELUT	03/06/2023	02/06/2023 13:05	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-52	***Elutriate Sampled: 01/21/2023 10:00***		
Sub_CN T-ELUT	03/06/2023	02/04/2023 10:00	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			

NWDLS
North Water District Laboratory Services, Inc.

K2301449

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted] *Sediment* ***Sampled: 01/21/2023 16:45***			
[redacted]	03/06/2023	02/04/2023 16:45	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Marine Water Sampled: 01/27/2023 13:26***			
[redacted]	03/06/2023	02/10/2023 13:26	
[redacted]	03/06/2023	02/03/2023 13:26	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			

SM — Released By
02/02/23 — Date
UPS — Received By
02/02/23 — Date
ALS 2/3/23 1010

PM LR

Cooler Receipt and Preservation Form

lient NWDLS Service Request K23 01449

eceived: 2/3/23 Opened: 2/3/23 By: VM Unloaded: 2/3/23 By: VM

Samples were received via? (USPS) Fed Ex UPS DHL PDX Courier Hand Delivered

Samples were received in: (circle) (Cooler) Box Envelope Other _____ NA

Were custody seals on coolers? NA Y (N) If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	0.9	IR01				1Z12W40V0194058120	

. Was a Temperature Blank present in cooler? NA Y (N) If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

. Were samples received within the method specified temperature ranges? NA (Y) N

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

f applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____

. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

. Were samples received in good condition (unbroken) NA (Y) N

. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N

0. Did all sample labels and tags agree with custody papers? NA (Y) N

1. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

2. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N

3. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N

4. Was C12/Res negative? (NA) Y N

5. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N

6. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: DIC not Pb due to limited volume

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301449
Project: 23A1459/

Sample Name: 23A1459-07 **Date Collected:** 02/1/23
Lab Code: K2301449-001 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-08 **Date Collected:** 02/1/23
Lab Code: K2301449-002 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-09 **Date Collected:** 02/1/23
Lab Code: K2301449-003 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-10 **Date Collected:** 02/1/23
Lab Code: K2301449-004 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-11 **Date Collected:** 02/1/23
Lab Code: K2301449-005 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Analyst Summary report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301449
Project: 23A1459/

Sample Name: 23A1459-12 **Date Collected:** 02/1/23
Lab Code: K2301449-006 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-13 **Date Collected:** 02/1/23
Lab Code: K2301449-007 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-51 **Date Collected:** 02/1/23
Lab Code: K2301449-008 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-52 **Date Collected:** 02/1/23
Lab Code: K2301449-009 **Date Received:** 02/3/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Results

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General Chemistry

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www.alsglobal.com

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-07	**Basis:**	NA
Lab Code:	K2301449-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-08	**Basis:**	NA
Lab Code:	K2301449-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-09	**Basis:**	NA
Lab Code:	K2301449-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-10	**Basis:**	NA
Lab Code:	K2301449-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-11	**Basis:**	NA
Lab Code:	K2301449-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-12	**Basis:**	NA
Lab Code:	K2301449-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-13	**Basis:**	NA
Lab Code:	K2301449-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-51	**Basis:**	NA
Lab Code:	K2301449-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	02/01/23 10:00
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/03/23 10:10
Sample Name:	23A1459-52	**Basis:**	NA
Lab Code:	K2301449-009		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

QC Summary Forms

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General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Elutriate, Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2301449-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Elutriate, Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2301449-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Elutriate, Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2301449-MB3		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

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dba ALS Environmental

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Analyzed:**	02/09/23
Sample Matrix:	Elutriate, Liquid	**Date Extracted:**	02/09/23

Lab Control Sample Summary
Cyanide, Total

Analysis Method:	SM 4500-CN- E	**Units:**	mg/L
Prep Method:	SM 4500-CN-C	**Basis:**	NA
		Analysis Lot:	794191

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2301449-LCS3	0.073	0.075	98	84-115

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Analyzed:**	02/04/23
Sample Matrix:	Elutriate, Liquid	**Date Extracted:**	02/04/23

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 4500-CN- E	**Units:**	mg/L
Prep Method:	SM 4500-CN-C	**Basis:**	NA
		Analysis Lot:	793766

	Lab Control Sample K2301449-LCS1			Duplicate Lab Control Sample K2301449-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.076	0.075	101	0.079	0.075	106	84-115	4	20

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301449
Project:	23A1459	**Date Analyzed:**	02/14/23
Sample Matrix:	Elutriate, Liquid	**Date Extracted:**	02/14/23

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 4500-CN- E	**Units:**	mg/L
Prep Method:	SM 4500-CN-C	**Basis:**	NA
		Analysis Lot:	794621

	Lab Control Sample K2301449-LCS2			Duplicate Lab Control Sample K2301449-DLCS2					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.0758	0.075	101	0.0727	0.075	97	84-115	4	20

March 10, 2023 Service Request No:K2301665

Monica Martin
North Water District Lab Services (NWDLS)
130 South Trade Center Parkway
Conroe, TX 77385

Laboratory Results for: 23A1459

Dear Monica,

Enclosed are the results of the sample(s) submitted to our laboratory February 08, 2023
For your reference, these analyses have been assigned our service request number **K2301665.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

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PHONE +1 360 577 7222 | **FAX** +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

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Client: North Water District Lab Services (NWDLS)
Service Request: K2301665
Project: 23A1459
Date Received: 02/08/2023
Sample Matrix: Sediment, Elutriate, Liquid

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Four sediment, elutriate, liquid samples were received for analysis at ALS Environmental on 02/08/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method ALS SOP, 02/25/2023: Sample K2301665-004 was received past holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 03/10/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-66			Lab ID: K2301665-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	77.3				Percent	160.3 Modified

Sample Receipt Information

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Client: North Water District Lab Services (NWDLS) **Service Request:**K2301665
Project: 23A1459

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2301665-001	23A1459-14	2/3/2023	0905
K2301665-002	23A1459-64	2/3/2023	0905
K2301665-003	23A1459-65	2/3/2023	0905
K2301665-004	23A1459-66	1/21/2023	0000

K2301665

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

ALS Kelso
1317 South 13th Avenue
Kelso, WA 98626
Phone: (360) 577-7222
Fax:

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 ***Marine Water Sampled: 01/25/2023 11:20***			
Sub_CN T-4500	03/06/2023	02/08/2023 11:20	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-03 ***Marine Water Sampled: 01/25/2023 14:17***			
Sub_CN T-4500	03/06/2023	02/08/2023 14:17	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-04 ***Marine Water Sampled: 01/25/2023 15:45***			
Sub_CN T-4500	03/06/2023	02/08/2023 15:45	
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001	03/06/2023	02/01/2023 15:45	
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-05 ***Marine Water Sampled: 01/27/2023 12:00***			
Sub_CN T-4500	03/06/2023	02/10/2023 12:00	
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001	03/06/2023	02/03/2023 12:00	
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	01/30/2023 16:37	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-14 ***Elutriate Sampled: 01/23/2023 00:00***			
Sub_CN T-ELUT	03/06/2023	02/06/2023 00:00	Leached: 02/03/2023 09:05
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	01/30/2023 14:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	01/31/2023 09:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	01/31/2023 14:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	01/30/2023 17:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

K2301665

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/04/2023 16:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/10/2023 13:26	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/03/2023 13:26	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-64 ***Elutriate Sampled: 01/20/2023 09:30***			
Sub_CN T-ELUT	03/06/2023	02/03/2023 09:30	Leached: 02/03/2023 09:05
Analyte(s):			
Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-65 ***Elutriate Sampled: 01/21/2023 16:45***			
Sub_CN T-ELUT	03/06/2023	02/04/2023 16:45	Leached: 02/03/2023 09:05
Analyte(s):			
Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-66 ***Sediment Sampled: 01/21/2023 00:00***			
Sub_Organotins-TX1001	03/06/2023	02/04/2023 00:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Released By — 2/7/23 Date — UPS Received By — 2/7/23 Date

Rec by NReeder 2/8/23 1050

PM [illegible]

Cooler Receipt and Preservation Form

ient NWDLS Service Request K23 D16665

eceived: 2/8/23 Opened: 2/8/23 By: AP Unloaded: 2/8/23 By: AP

Samples were received via? *USPS* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*

Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*

Were custody seals on coolers? NA Y (N) If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
	1.2	IR07				1Z 12W 40V 01 98934314	

Was a Temperature Blank present in cooler? NA Y (N) If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

Were samples received within the method specified temperature ranges? NA (Y) N

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____

Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

Were samples received in good condition (unbroken) NA (Y) N

Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N

0. Did all sample labels and tags agree with custody papers? NA (Y) N

1. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

2. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N

3. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N

4. Was C12/Res negative? (NA) Y N

5. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N

6. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Miscellaneous Forms

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301665
Project: 23A1459/

Sample Name: 23A1459-14 **Date Collected:** 02/3/23
Lab Code: K2301665-001 **Date Received:** 02/8/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-64 **Date Collected:** 02/3/23
Lab Code: K2301665-002 **Date Received:** 02/8/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-65 **Date Collected:** 02/3/23
Lab Code: K2301665-003 **Date Received:** 02/8/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-66 **Date Collected:** 01/21/23
Lab Code: K2301665-004 **Date Received:** 02/8/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Results

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Semivolatile Organic Compounds by GC

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	01/21/23 00:00
Sample Matrix:	Sediment	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-66	**Units:**	ug/Kg
Lab Code:	K2301665-004	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.3	0.34	1	02/25/23 15:08	2/9/23	*
Di-n-butyltin Cation	ND U	1.3	0.25	1	02/25/23 15:08	2/9/23	*
Tri-n-butyltin Cation	ND U	1.3	0.56	1	02/25/23 15:08	2/9/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	60	10 - 152	02/25/23 15:08	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	01/21/23 00:00
Sample Matrix:	Sediment	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-66	**Units:**	ug/Kg
Lab Code:	K2301665-004	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.99	0.26	1	02/25/23 15:08	2/9/23	*
Di-n-butyltin Cation	ND U	0.99	0.19	1	02/25/23 15:08	2/9/23	*
Tri-n-butyltin Cation	ND U	0.99	0.43	1	02/25/23 15:08	2/9/23	*

General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-14	**Basis:**	NA
Lab Code:	K2301665-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-64	**Basis:**	NA
Lab Code:	K2301665-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-65	**Basis:**	NA
Lab Code:	K2301665-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	01/21/23 00:00
Sample Matrix:	Sediment	**Date Received:**	02/08/23 10:50
Sample Name:	23A1459-66	**Basis:**	As Received
Lab Code:	K2301665-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**77.3**	Percent	-	-	1	02/02/23 16:57	

QC Summary Forms

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Semivolatile Organic Compounds by GC

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Client: North Water District Lab Services (NWDLS) **Service Request:** K2301665
Project: 23A1459
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: Method

Sample Name	Lab Code	Tri-n-propyltin 10-152
23A1459-66	K2301665-004	60
Method Blank	KQ2302128-04	78
Lab Control Sample	KQ2302128-05	62

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302128-04	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/25/23 11:34	2/9/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/25/23 11:34	2/9/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/25/23 11:34	2/9/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	78	10 - 152	02/25/23 11:34	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302128-04	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/25/23 11:34	2/9/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/25/23 11:34	2/9/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/25/23 11:34	2/9/23	

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Analyzed:**	02/25/23
Sample Matrix:	Sediment	**Date Extracted:**	02/09/23

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	795850

Lab Control Sample
KQ2302128-05

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Di-n-butyltin Cation	16.3	19.2	85	10-190
n-Butyltin Cation	14.7	15.6	94	10-200
Tri-n-butyltin Cation	15.5	22.3	70	10-186

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301665
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2302128-05

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	16.3	17.7	8		1	02/25/23 11:51
Tri-n-butyltin Cation	0.43	15.5	17.3	11		1	02/25/23 11:51
n-Butyltin Cation	0.26	14.7	15.2	3		1	02/25/23 11:51

General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Elutriate, Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2301665-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/14/23 16:53	02/14/23	

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project	23A1459	**Date Collected:**	01/21/23
Sample Matrix:	Sediment	**Date Received:**	02/08/23
		Date Analyzed:	02/02/23

Replicate Sample Summary
Inorganic Parameters

Sample Name:	23A1459-66	**Units:**	Percent
Lab Code:	K2301665-004	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K2301665-004DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	-	77.3	75.5	76.4	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301665
Project:	23A1459	**Date Analyzed:**	02/14/23
Sample Matrix:	Elutriate, Liquid	**Date Extracted:**	02/14/23

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 4500-CN- E	**Units:**	mg/L
Prep Method:	SM 4500-CN-C	**Basis:**	NA
		Analysis Lot:	794621

	Lab Control Sample K2301665-LCS			Duplicate Lab Control Sample K2301665-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.0758	0.075	101	0.0727	0.075	97	84-115	4	20

March 14, 2023 Service Request No:K2301370

Monica Martin
North Water District Lab Services (NWDLS)
130 South Trade Center Parkway
Conroe, TX 77385

Laboratory Results for: 23A1459

Dear Monica,

Enclosed are the results of the sample(s) submitted to our laboratory February 02, 2023
For your reference, these analyses have been assigned our service request number **K2301370.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

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ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

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Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Sample Matrix: Sediment

Service Request: K2301370
Date Received: 02/02/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Two sediment samples were received for analysis at ALS Environmental on 02/02/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Approved by _____ Date 03/14/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-46			Lab ID: K2301370-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	67.2				Percent	160.3 Modified

CLIENT ID: 23A1459-47			Lab ID: K2301370-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	64.7				Percent	160.3 Modified

Sample Receipt Information

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Client: North Water District Lab Services (NWDLS) **Service Request:**K2301370
Project: 23A1459

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2301370-001	23A1459-46	1/23/2023	
K2301370-002	23A1459-47	1/23/2023	

Work Order: 23A1459 (Continued)

1(2301320

Analysis	Due	Expires	Comments
[redacted] ***Sediment Sampled: 01/18/2023 14:10***			
[redacted]	03/06/2023	02/01/2023 14:10	
Analyte(s):			
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment Sampled: 01/19/2023 08:15***			
[redacted]	03/06/2023	02/02/2023 08:15	
Analyte(s):			
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment Sampled: 01/20/2023 09:15***			
[redacted]	03/06/2023	02/03/2023 09:15	
Analyte(s):			
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-46 ***Sediment Sampled: 01/23/2023 00:00***			
Sub_Organotins-TX1001	03/06/2023	02/06/2023 00:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-47 ***Sediment Sampled: 01/23/2023 00:00***			
Sub_Organotins-TX1001	03/06/2023	02/06/2023 00:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

PM Luke

Cooler Receipt and Preservation Form

lient NWDLS Service Request K23 01320

eceived: 2/2/23 Opened: 2/2/23 By: VM Unloaded: 2/2/23 By: VM

Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*

Were custody seals on coolers? NA Y N If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	0.5	IR01				1Z12W40V0199584487	

. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

. Were samples received within the method specified temperature ranges? NA Y N

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N

f applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____

. Were custody papers properly filled out (ink, signed, etc.)? NA Y N

. Were samples received in good condition (unbroken) NA Y N

. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N

0. Did all sample labels and tags agree with custody papers? NA Y N

1. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N

2. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N

3. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N

4. Was C12/Res negative? NA Y N

5. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N

6. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Miscellaneous Forms

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Analyst Summary report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459/		

Sample Name:	23A1459-46	**Date Collected:**	01/23/23
Lab Code:	K2301370-001	**Date Received:**	02/2/23
Sample Matrix:	Sediment		

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	JMOORE	BBRIGHT

Sample Name:	23A1459-47	**Date Collected:**	01/23/23
Lab Code:	K2301370-002	**Date Received:**	02/2/23
Sample Matrix:	Sediment		

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	JMOORE	BBRIGHT

Sample Results

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Semivolatile Organic Compounds by GC

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-46	**Units:**	ug/Kg
Lab Code:	K2301370-001	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.5	0.39	1	02/26/23 23:49	2/6/23	
Di-n-butyltin Cation	ND U	1.5	0.28	1	02/26/23 23:49	2/6/23	
Tri-n-butyltin Cation	ND U	1.5	0.63	1	02/26/23 23:49	2/6/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	98	10 - 152	02/26/23 23:49	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-46	**Units:**	ug/Kg
Lab Code:	K2301370-001	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.98	0.26	1	02/26/23 23:49	2/6/23	
Di-n-butyltin Cation	ND U	0.98	0.19	1	02/26/23 23:49	2/6/23	
Tri-n-butyltin Cation	ND U	0.98	0.43	1	02/26/23 23:49	2/6/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-47	**Units:**	ug/Kg
Lab Code:	K2301370-002	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.5	0.40	1	02/27/23 00:38	2/6/23	
Di-n-butyltin Cation	ND U	1.5	0.29	1	02/27/23 00:38	2/6/23	
Tri-n-butyltin Cation	ND U	1.5	0.66	1	02/27/23 00:38	2/6/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	42	10 - 152	02/27/23 00:38	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-47	**Units:**	ug/Kg
Lab Code:	K2301370-002	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.98	0.26	1	02/27/23 00:38	2/6/23	
Di-n-butyltin Cation	ND U	0.98	0.19	1	02/27/23 00:38	2/6/23	
Tri-n-butyltin Cation	ND U	0.98	0.43	1	02/27/23 00:38	2/6/23	

General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-46	**Basis:**	As Received
Lab Code:	K2301370-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**67.2**	Percent	-	-	1	02/22/23 09:47	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23 10:10
Sample Name:	23A1459-47	**Basis:**	As Received
Lab Code:	K2301370-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**64.7**	Percent	-	-	1	02/22/23 09:47	

QC Summary Forms

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Semivolatile Organic Compounds by GC

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www.alsglobal.com

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301370
Project: 23A1459
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: Method

Sample Name	Lab Code	Tri-n-propyltin 10-152
23A1459-46	K2301370-001	98
23A1459-47	K2301370-002	42
Method Blank	KQ2302045-03	91
Lab Control Sample	KQ2302045-04	124
23A1459-46	KQ2302045-01	84
23A1459-46	KQ2302045-02	53

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23
		Date Analyzed:	02/27/23
		Date Extracted:	02/6/23

Duplicate Matrix Spike Summary
Butyltins

Sample Name:	23A1459-46	**Units:**	ug/Kg
Lab Code:	K2301370-001	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

		Matrix Spike KQ2302045-01			Duplicate Matrix Spike KQ2302045-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
n-Butyltin Cation	ND U	15.0	22.4	67	13.5	22.6	60	10-200	10	40
Di-n-butyltin Cation	ND U	21.3 P	27.5	77	17.2	27.9	62	10-190	21	40
Tri-n-butyltin Cation	ND U	14.5 P	32.0	45	19.4	32.4	60	10-186	29	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302045-03	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/26/23 23:16	2/6/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/26/23 23:16	2/6/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/26/23 23:16	2/6/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	91	10 - 152	02/26/23 23:16	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302045-03	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/26/23 23:16	2/6/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/26/23 23:16	2/6/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/26/23 23:16	2/6/23	

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Analyzed:**	02/26/23
Sample Matrix:	Sediment	**Date Extracted:**	02/06/23

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	796038

Lab Control Sample
KQ2302045-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Di-n-butyltin Cation	28.5 P	19.2	149	10-190
n-Butyltin Cation	20.0 P	15.6	128	10-200
Tri-n-butyltin Cation	30.7	22.3	138	10-186

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301370
Date Collected: 01/23/23
Date Received: 2/2/23

Sample Name: 23A1459-46
Lab Code: KQ2302045-01

Units: ug/Kg
Basis: Dry
Percent Solids: 67.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.28	21.3	32.7	42	P	1	02/27/23 00:05
Tri-n-butyltin Cation	0.62	14.5	27.4	62	P	1	02/27/23 00:05
n-Butyltin Cation	0.38	15.0	20.6	31		1	02/27/23 00:05

ALS Group USA, Corp.
dba ALS Environmental

Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project:	23A1459	**Date Collected:**	01/23/23
Matrix:	Sediment	**Date Received:**	2/2/23
Sample Name:	23A1459-46		
Lab Code:	KQ2302045-02	**Units:**	ug/Kg
		Basis:	Dry
		Percent Solids:	67.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.28	17.2	17.9	4		1	02/27/23 00:22
Tri-n-butyltin Cation	0.63	19.4	19.5	<1		1	02/27/23 00:22
n-Butyltin Cation	0.38	13.5	14.5	7		1	02/27/23 00:22

ALS Group USA, Corp.
dba ALS Environmental

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301370
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2302045-04

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	28.5	42.8	40	P	1	02/26/23 23:33
Tri-n-butyltin Cation	0.43	30.7	39.6	25		1	02/26/23 23:33
n-Butyltin Cation	0.26	20.0	48.6	83	P	1	02/26/23 23:33

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301370
Project	23A1459	**Date Collected:**	01/23/23
Sample Matrix:	Sediment	**Date Received:**	02/02/23
		Date Analyzed:	02/22/23

Replicate Sample Summary
Inorganic Parameters

Sample Name:	23A1459-46	**Units:**	Percent
Lab Code:	K2301370-001	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K2301370-001DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	67.2	72.3	69.8	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

March 16, 2023 Service Request No:K2301786

Monica Martin
North Water District Lab Services (NWDLS)
130 South Trade Center Parkway
Conroe, TX 77385

Laboratory Results for: 23A1459

Dear Monica,

Enclosed are the results of the sample(s) submitted to our laboratory February 10, 2023
For your reference, these analyses have been assigned our service request number **K2301786.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | **FAX** +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: North Water District Lab Services (NWDLS)
Service Request: K2301786
Project: 23A1459
Date Received: 02/10/2023
Sample Matrix: Elutriate, Liquid, Ocean Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Fourteen elutriate, liquid, ocean water samples were received for analysis at ALS Environmental on 02/10/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method ALS SOP, 02/26/2023:Samples were received past or with insufficient holding time remaining. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.
Method ALS SOP, 02/26/2023:The analysis of Butyltins by ALS SOP requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Di-n-butyltin Cation, Tri-n-butyltin Cation, and Tri-n-propyltin. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.
Method ALS SOP, 02/26/2023:The upper control criterion was exceeded for Di-n-butyltin Cation in Duplicate Laboratory Control Sample (LCS) KQ2302966-03. The analyte in question was not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. The recovery for this analyte and the LCS/DLCS RPD were acceptable. No further corrective action was appropriate.

Method ALS SOP, 02/26/2023:The upper control criterion was exceeded for Tri-n-propyltin in samples 23A1459-07 and 23A1459-51 . No target analytes were detected in the samples. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Approved by _____ Date 03/16/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-03			Lab ID: K2301786-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.13		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-08			Lab ID: K2301786-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.13		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-10			Lab ID: K2301786-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.064		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-11			Lab ID: K2301786-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.031	J	0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-52			Lab ID: K2301786-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.065		0.033	0.056	ug/L	ALS SOP

CLIENT ID: 23A1459-64			Lab ID: K2301786-013			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.044	J	0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-65			Lab ID: K2301786-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.17		0.029	0.050	ug/L	ALS SOP

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: North Water District Lab Services (NWDLS) **Service Request:**K2301786
Project: 23A1459

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2301786-001	23A1459-02	1/25/2023	0930
K2301786-002	23A1459-03	1/25/2023	1250
K2301786-003	23A1459-07	2/1/2023	1349
K2301786-004	23A1459-08	2/1/2023	1349
K2301786-005	23A1459-09	2/1/2023	1349
K2301786-006	23A1459-10	2/1/2023	1349
K2301786-007	23A1459-11	2/1/2023	1349
K2301786-008	23A1459-12	2/1/2023	1349
K2301786-009	23A1459-13	2/1/2023	1349
K2301786-010	23A1459-14	2/3/2023	0905
K2301786-011	23A1459-51	2/1/2023	1349
K2301786-012	23A1459-52	2/1/2023	1349
K2301786-013	23A1459-64	2/3/2023	0905
K2301786-014	23A1459-65	2/3/2023	0905

K23017 86

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

ALS Kelso
1317 South 13th Avenue
Kelso, WA 98626
Phone: (360) 577-7222
Fax:

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 ***Marine Water Sampled: 01/25/2023 09:30***			
[redacted]	03/06/2023	02/08/2023 09:30	
Analyte(s):			
[redacted]de			
Sub_Organotins-TX1001	03/06/2023	02/01/2023 09:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-03 ***Marine Water Sampled: 01/25/2023 12:50***			
Sub_CN T-4500	03/06/2023	02/08/2023 12:50	
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001	03/06/2023	02/01/2023 12:50	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]			
[redacted]	03/06/2023	02/08/2023 14:50	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/01/2023 14:50	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

KZ3017860

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	03/06/2023	02/10/2023 12:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Released By	2/9/23 Date	UPS Received By	2/9/23 Date

Rec by MRodella 2/10/23 1020

K230178-86

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

ALS Kelso
1317 South 13th Avenue
Kelso, WA 98626
Phone: (360) 577-7222
Fax:

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: [redacted]	***Marine Water***	***Sampled: 01/25/2023 09:30***	
[redacted]	03/06/2023	02/08/2023 09:30	
Containers Supplied:			
[redacted]	***Marine Water***	***Sampled: 01/25/2023 12:50***	
[redacted]	03/06/2023	02/08/2023 12:50	
Containers Supplied:			
[redacted]	***Marine Water***	***Sampled: 01/25/2023 14:50***	
[redacted]	03/06/2023	02/08/2023 14:50	
[redacted]	03/06/2023	02/01/2023 14:50	
[redacted]	Monobutyltin		Tributyltin
[redacted]	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]	***Marine Water***	***Sampled: 01/27/2023 11:25***	
[redacted]	03/06/2023	02/10/2023 11:25	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/03/2023 11:25	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

K2301786

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-07 ***Elutriate*** ***Sampled: 01/16/2023 14:20***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 14:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/23/2023 14:20	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-08 ***Elutriate*** ***Sampled: 01/16/2023 17:20***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 17:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/23/2023 17:20	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-09 ***Elutriate*** ***Sampled: 01/19/2023 15:20***			
Sub_CN T-ELUT	03/06/2023	02/02/2023 15:20	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/26/2023 15:20	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-10 ***Elutriate*** ***Sampled: 01/19/2023 17:00***			
Sub_CN T-ELUT	03/06/2023	02/02/2023 17:00	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/26/2023 17:00	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

K2301786

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-11 ***Elutriate*** ***Sampled: 01/18/2023 09:40***			
Sub_CN T-ELUT	03/06/2023	02/01/2023 09:40	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/25/2023 09:40	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-12 ***Elutriate*** ***Sampled: 01/18/2023 11:15***			
Sub_CN T-ELUT	03/06/2023	02/01/2023 11:15	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/25/2023 11:15	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-13 ***Elutriate*** ***Sampled: 01/16/2023 16:37***			
Sub_CN T-ELUT	03/06/2023	01/30/2023 16:37	Leached: 02/01/2023 10:00
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/23/2023 16:37	Leached: 02/01/2023 13:49
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-14 ***Elutriate*** ***Sampled: 01/18/2023 14:10***			
Sub_CN T-ELUT	03/06/2023	02/01/2023 14:10	Leached: 02/03/2023 09:05
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/25/2023 14:10	Leached: 02/03/2023 09:05
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment*** ***Sampled: 01/16/2023 14:20***			
[redacted]	03/06/2023	01/30/2023 14:20	
Analyte(s): Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

K2301786

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted]	***Marine Water Sampled: 01/27/2023 15:32***		
[redacted]	03/06/2023	02/10/2023 15:32	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/03/2023 15:32	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]	***Marine Water Sampled: 01/27/2023 14:40***		
[redacted]	03/06/2023	02/10/2023 14:40	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/03/2023 14:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted]D: 23A1459-51	***Elutriate Sampled: 01/23/2023 13:05***		
Sub_CN T-ELUT	03/06/2023	02/06/2023 13:05	Leached: 02/01/2023 10:00
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/30/2023 13:05	Leached: 02/01/2023 13:49
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-52	***Elutriate Sampled: 01/21/2023 10:00***		
Sub_CN T-ELUT	03/06/2023	02/04/2023 10:00	Leached: 02/01/2023 10:00
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/28/2023 10:00	Leached: 02/01/2023 13:49
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

K7301786

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
[redacted] ***Sediment Sampled: 01/21/2023 11:45***			
[redacted]	03/06/2023	02/04/2023 11:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Marine Water Sampled: 01/27/2023 13:10***			
[redacted]	03/06/2023	02/10/2023 13:10	
Analyte(s):			
Total Cyanide			
[redacted]	03/06/2023	02/03/2023 13:10	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-64 ***Elutriate Sampled: 01/19/2023 14:00***			
Sub_CN T-ELUT	03/06/2023	02/02/2023 14:00	Leached: 02/03/2023 09:05
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/26/2023 14:00	Leached: 02/03/2023 09:05
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-65 ***Elutriate Sampled: 01/21/2023 11:45***			
Sub_CN T-ELUT	03/06/2023	02/04/2023 11:45	Leached: 02/03/2023 09:05
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001-ELUT	03/06/2023	01/28/2023 11:45	Leached: 02/03/2023 09:05
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
[redacted] ***Sediment Sampled: 01/27/2023 12:30***			
[redacted]	03/06/2023	02/10/2023 12:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

KZ3017786

SUBCONTRACT ORDER
(Continued)

Released By	Date	Received By	Date
SRL	02/09/23	UPS	02/09/23

Ruby Mkeller 2/10/23 1020

PM KF

Cooler Receipt and Preservation Form

Client NWDLS Service Request K23 01786

Received: 2/10/23 Opened: 2/10/23 By: AP Unloaded: 2/10/23 By: AP

1. Samples were received via? *USPS* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
	2.8	1801				1Z 12W40V0 1977 12789	
	3.2	↓				" 1985 7 8361	

4. Was a Temperature Blank present in cooler? NA Y (N) If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y (N)
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: Did not receive CN bottles

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301786
Project: 23A1459/

Sample Name: 23A1459-02 **Date Collected:** 01/25/23
Lab Code: K2301786-001 **Date Received:** 02/10/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-03 **Date Collected:** 01/25/23
Lab Code: K2301786-002 **Date Received:** 02/10/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-07 **Date Collected:** 02/1/23
Lab Code: K2301786-003 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-08 **Date Collected:** 02/1/23
Lab Code: K2301786-004 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-09 **Date Collected:** 02/1/23
Lab Code: K2301786-005 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301786
Project: 23A1459/

Sample Name: 23A1459-10 **Date Collected:** 02/1/23
Lab Code: K2301786-006 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-11 **Date Collected:** 02/1/23
Lab Code: K2301786-007 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-12 **Date Collected:** 02/1/23
Lab Code: K2301786-008 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-13 **Date Collected:** 02/1/23
Lab Code: K2301786-009 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-14 **Date Collected:** 02/3/23
Lab Code: K2301786-010 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Analyst Summary report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301786
Project: 23A1459/

Sample Name: 23A1459-51 **Date Collected:** 02/1/23
Lab Code: K2301786-011 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-52 **Date Collected:** 02/1/23
Lab Code: K2301786-012 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-64 **Date Collected:** 02/3/23
Lab Code: K2301786-013 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-65 **Date Collected:** 02/3/23
Lab Code: K2301786-014 **Date Received:** 02/10/23
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT

Sample Results

ALS Environmental—Kelso Laboratory
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Semivolatile Organic Compounds by GC

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	01/25/23 09:30
Sample Matrix:	Ocean Water	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-02	**Units:**	ug/L
Lab Code:	K2301786-001	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 18:06	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 18:06	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 18:06	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	136	10 - 195	02/26/23 18:06	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	01/25/23 12:50
Sample Matrix:	Ocean Water	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-03	**Units:**	ug/L
Lab Code:	K2301786-002	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.13**	0.050	0.029	1	02/26/23 18:22	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 18:22	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 18:22	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	78	10 - 195	02/26/23 18:22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-07	**Units:**	ug/L
Lab Code:	K2301786-003	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 18:38	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 18:38	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 18:38	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	215	10 - 195	02/26/23 18:38	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-08	**Units:**	ug/L
Lab Code:	K2301786-004	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.13**	0.050	0.029	1	02/26/23 18:55	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 18:55	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 18:55	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	115	10 - 195	02/26/23 18:55	

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dba ALS Environmental

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-09	**Units:**	ug/L
Lab Code:	K2301786-005	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 19:11	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 19:11	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 19:11	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	168	10 - 195	02/26/23 19:11	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-10	**Units:**	ug/L
Lab Code:	K2301786-006	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.064**	0.050	0.029	1	02/26/23 19:27	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 19:27	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 19:27	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	157	10 - 195	02/26/23 19:27	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-11	**Units:**	ug/L
Lab Code:	K2301786-007	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.031**	**J**	0.050	0.029	1	02/26/23 19:44	2/16/23	*
Di-n-butyltin Cation	ND	U	0.050	0.0073	1	02/26/23 19:44	2/16/23	*
Tri-n-butyltin Cation	ND	U	0.050	0.012	1	02/26/23 19:44	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	180	10 - 195	02/26/23 19:44	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-12	**Units:**	ug/L
Lab Code:	K2301786-008	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 20:00	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 20:00	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 20:00	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	169	10 - 195	02/26/23 20:00	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-13	**Units:**	ug/L
Lab Code:	K2301786-009	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 20:16	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 20:16	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 20:16	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	121	10 - 195	02/26/23 20:16	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-14	**Units:**	ug/L
Lab Code:	K2301786-010	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	02/26/23 20:33	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 20:33	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 20:33	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	135	10 - 195	02/26/23 20:33	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-51	**Units:**	ug/L
Lab Code:	K2301786-011	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.10	0.058	1	02/26/23 21:22	2/16/23	*
Di-n-butyltin Cation	ND U	0.10	0.015	1	02/26/23 21:22	2/16/23	*
Tri-n-butyltin Cation	ND U	0.10	0.024	1	02/26/23 21:22	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	339	10 - 195	02/26/23 21:22	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/01/23 13:49
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-52	**Units:**	ug/L
Lab Code:	K2301786-012	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.065**	0.056	0.033	1	02/26/23 21:38	2/16/23	*
Di-n-butyltin Cation	ND U	0.056	0.0083	1	02/26/23 21:38	2/16/23	*
Tri-n-butyltin Cation	ND U	0.056	0.014	1	02/26/23 21:38	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	74	10 - 195	02/26/23 21:38	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-64	**Units:**	ug/L
Lab Code:	K2301786-013	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.044**	**J**	0.050	0.029	1	02/26/23 21:54	2/16/23	*
Di-n-butyltin Cation	ND	U	0.050	0.0073	1	02/26/23 21:54	2/16/23	*
Tri-n-butyltin Cation	ND	U	0.050	0.012	1	02/26/23 21:54	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	147	10 - 195	02/26/23 21:54	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	02/03/23 09:05
Sample Matrix:	Elutriate, Liquid	**Date Received:**	02/10/23 10:20
Sample Name:	23A1459-65	**Units:**	ug/L
Lab Code:	K2301786-014	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.17**	0.050	0.029	1	02/26/23 22:11	2/16/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	02/26/23 22:11	2/16/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	02/26/23 22:11	2/16/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	128	10 - 195	02/26/23 22:11	

QC Summary Forms

ALS Environmental—Kelso Laboratory
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Semivolatile Organic Compounds by GC

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Client: North Water District Lab Services (NWDLS) **Service Request:** K2301786
Project: 23A1459
Sample Matrix: Ocean Water

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: EPA 3520C

Sample Name	Lab Code	Tri-n-propyltin 10-195
23A1459-02	K2301786-001	136
23A1459-03	K2301786-002	78
Method Blank	KQ2302966-01	148
Lab Control Sample	KQ2302966-02	149
Duplicate Lab Control Sample	KQ2302966-03	187

QA/QC Report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301786
Project: 23A1459
Sample Matrix: Elutriate, Liquid

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: EPA 3520C

Sample Name	Lab Code	Tri-n-propyltin 10-195
23A1459-07	K2301786-003	215*
23A1459-08	K2301786-004	115
23A1459-09	K2301786-005	168
23A1459-10	K2301786-006	157
23A1459-11	K2301786-007	180
23A1459-12	K2301786-008	169
23A1459-13	K2301786-009	121
23A1459-14	K2301786-010	135
23A1459-51	K2301786-011	339*
23A1459-52	K2301786-012	74
23A1459-64	K2301786-013	147
23A1459-65	K2301786-014	128

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2302966-01	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND	U	0.050	0.029	1	02/26/23 17:16	2/16/23	
Di-n-butyltin Cation	**0.014**	**J**	0.050	0.0073	1	02/26/23 17:16	2/16/23	
Tri-n-butyltin Cation	ND	U	0.050	0.012	1	02/26/23 17:16	2/16/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	148	10 - 195	02/26/23 17:16	

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Analyzed:**	02/26/23
Sample Matrix:	Ocean Water	**Date Extracted:**	02/16/23

Duplicate Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/L
Prep Method:	EPA 3520C	**Basis:**	NA
		Analysis Lot:	795862

	Lab Control Sample KQ2302966-02			Duplicate Lab Control Sample KQ2302966-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Di-n-butyltin Cation	0.711	0.383	186	0.847	0.383	221 *	10-200	17	30
n-Butyltin Cation	0.435 P	0.312	140	0.455	0.312	146	10-200	5	30
Tri-n-butyltin Cation	0.553	0.446	124	0.677	0.446	152	10-200	20	30

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Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301786
Project:	23A1459	**Date Collected:**	01/25/23 12:50
Matrix:	Ocean Water	**Date Received:**	2/10/23
Sample Name:	23A1459-03		
Lab Code:	K2301786-002	**Units:**	ug/L
		Basis:	NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.13	0.14	7		1	02/26/23 18:22

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/01/23 13:49
Date Received: 2/10/23

Sample Name: 23A1459-08
Lab Code: K2301786-004

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.13	0.15	14		1	02/26/23 18:55

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/01/23 13:49
Date Received: 2/10/23

Sample Name: 23A1459-10
Lab Code: K2301786-006

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.064	0.080	22		1	02/26/23 19:27

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/01/23 13:49
Date Received: 2/10/23

Sample Name: 23A1459-11
Lab Code: K2301786-007

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.031	0.031	<1	J	1	02/26/23 19:44

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/01/23 13:49
Date Received: 2/10/23

Sample Name: 23A1459-52
Lab Code: K2301786-012

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.033	0.065	0.087	29		1	02/26/23 21:38

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/03/23 09:05
Date Received: 2/10/23

Sample Name: 23A1459-64
Lab Code: K2301786-013

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.044	0.059	29	J	1	02/26/23 21:54

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Elutriate, Liquid

Service Request: K2301786
Date Collected: 02/03/23 09:05
Date Received: 2/10/23

Sample Name: 23A1459-65
Lab Code: K2301786-014

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.17	0.24	34		1	02/26/23 22:11

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301786
Date Collected: NA
Date Received:

Sample Name: Method Blank
Lab Code: KQ2302966-01

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.0073	0.014	0.019	30	J	1	02/26/23 17:16

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301786
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2302966-02

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.0073	0.711	0.672	6		1	02/26/23 17:33
Tri-n-butyltin Cation	0.012	0.553	0.691	22		1	02/26/23 17:33
n-Butyltin Cation	0.029	0.435	0.673	43	P	1	02/26/23 17:33

ALS Group USA, Corp.
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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301786
Date Collected: NA
Date Received:

Sample Name: Duplicate Lab Control Sample
Lab Code: KQ2302966-03

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.0073	0.847	0.912	7		1	02/26/23 17:49
Tri-n-butyltin Cation	0.012	0.677	0.853	23		1	02/26/23 17:49
n-Butyltin Cation	0.029	0.455	0.485	6		1	02/26/23 17:49

March 29, 2023 Service Request No:K2301289

Monica Martin
North Water District Lab Services (NWDLS)
130 South Trade Center Parkway
Conroe, TX 77385

Laboratory Results for: 23A1459

Dear Monica,

Enclosed are the results of the sample(s) submitted to our laboratory February 01, 2023
For your reference, these analyses have been assigned our service request number **K2301289.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

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Narrative Documents

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Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Sample Matrix: Sediment, Ocean Water

Service Request: K2301289
Date Received: 02/01/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Thirty seven sediment, ocean water samples were received for analysis at ALS Environmental on 02/01/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method ALS SOP, 03/28/2023:The analysis of sample K2301289-031 was initially performed within the recommended holding time. Reanalysis was required due to Continuing Calibration Verification (CCV) failure. The reanalysis was performed past the recommended holding time. The results from the second analysis were reported.
Method ALS SOP, 03/09/2023: Many samples received past the recommended holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.
Method ALS SOP, 03/09/2023:The upper control criterion was exceeded for Tri-n-propyltin in sample 23A1459-28. No target analytes were detected in the sample at concentrations above the MRL. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Method ALS SOP, 03/28/2023:The analysis of K2301289 samples was initially performed within the recommended holding time. Rederivitization and reanalysis were required. The reanalysis was performed past the recommended holding time. The results from the second analysis were reported.
Method ALS SOP, 03/28/2023:The Relative Percent Difference (RPD) for n-Butyltin Cation in the replicate Laboratory Control Sample (LCS) analyses (KQ2301926-02 and KQ2301926-03) was outside control criteria. All recoveries for target analytes were acceptable.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 03/29/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-18			Lab ID: K2301289-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Di-n-butyltin Cation	1.4	JP	0.27	1.4	ug/Kg	ALS SOP
Di-n-butyltin Cation	0.95	JP	0.19	1.0	ug/Kg	ALS SOP
n-Butyltin Cation	1.6		0.37	1.4	ug/Kg	ALS SOP
n-Butyltin Cation	1.1		0.26	1.0	ug/Kg	ALS SOP
Solids, Total	70.3				Percent	160.3 Modified

CLIENT ID: 23A1459-58			Lab ID: K2301289-034			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Di-n-butyltin Cation	0.75	J	0.22	1.2	ug/Kg	ALS SOP
Di-n-butyltin Cation	0.63	J	0.19	0.98	ug/Kg	ALS SOP
n-Butyltin Cation	1.5		0.31	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	1.3		0.26	0.98	ug/Kg	ALS SOP
Solids, Total	84.9				Percent	160.3 Modified

CLIENT ID: 23A1459-04			Lab ID: K2301289-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.072		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-05			Lab ID: K2301289-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.049	JP	0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-16			Lab ID: K2301289-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.39	J	0.35	1.3	ug/Kg	ALS SOP
n-Butyltin Cation	0.29	J	0.26	0.99	ug/Kg	ALS SOP
Solids, Total	74.0				Percent	160.3 Modified

CLIENT ID: 23A1459-17			Lab ID: K2301289-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.63	J	0.35	1.3	ug/Kg	ALS SOP
n-Butyltin Cation	0.46	J	0.26	0.96	ug/Kg	ALS SOP
Solids, Total	72.4				Percent	160.3 Modified

CLIENT ID: 23A1459-21			Lab ID: K2301289-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.39	J	0.38	1.4	ug/Kg	ALS SOP
n-Butyltin Cation	0.26	U	0.26	0.95	ug/Kg	ALS SOP
Solids, Total	66.1				Percent	160.3 Modified

CLIENT ID: 23A1459-22			Lab ID: K2301289-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	1.1	J	0.44	1.7	ug/Kg	ALS SOP
n-Butyltin Cation	0.62	J	0.26	0.99	ug/Kg	ALS SOP

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-22			Lab ID: K2301289-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	59.0				Percent	160.3 Modified

CLIENT ID: 23A1459-24			Lab ID: K2301289-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.70	J	0.35	1.3	ug/Kg	ALS SOP
n-Butyltin Cation	0.52	J	0.26	0.98	ug/Kg	ALS SOP
Solids, Total	74.0				Percent	160.3 Modified

CLIENT ID: 23A1459-25			Lab ID: K2301289-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.67	J	0.36	1.4	ug/Kg	ALS SOP
n-Butyltin Cation	0.48	J	0.26	0.98	ug/Kg	ALS SOP
Solids, Total	71.7				Percent	160.3 Modified

CLIENT ID: 23A1459-27			Lab ID: K2301289-013			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.41	J	0.41	1.6	ug/Kg	ALS SOP
n-Butyltin Cation	0.26	J	0.26	0.99	ug/Kg	ALS SOP
Solids, Total	63.5				Percent	160.3 Modified

CLIENT ID: 23A1459-28			Lab ID: K2301289-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.40	JP	0.37	1.4	ug/Kg	ALS SOP
n-Butyltin Cation	0.27	JP	0.26	0.97	ug/Kg	ALS SOP
Solids, Total	68.7				Percent	160.3 Modified

CLIENT ID: 23A1459-30			Lab ID: K2301289-015			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.63	J	0.35	1.3	ug/Kg	ALS SOP
n-Butyltin Cation	0.46	J	0.26	0.98	ug/Kg	ALS SOP
Solids, Total	72.9				Percent	160.3 Modified

CLIENT ID: 23A1459-31			Lab ID: K2301289-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.51	J	0.38	1.4	ug/Kg	ALS SOP
n-Butyltin Cation	0.35	J	0.26	0.99	ug/Kg	ALS SOP
Solids, Total	68.2				Percent	160.3 Modified

CLIENT ID: 23A1459-32			Lab ID: K2301289-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.53	J	0.32	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	0.41	J	0.26	0.95	ug/Kg	ALS SOP
Solids, Total	78.0				Percent	160.3 Modified

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-39			Lab ID: K2301289-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	1.4	J	0.41	1.5	ug/Kg	ALS SOP
n-Butyltin Cation	0.90	J	0.26	0.99	ug/Kg	ALS SOP
Solids, Total	64.2				Percent	160.3 Modified
Tri-n-butyltin Cation	1.3	J	0.67	1.5	ug/Kg	ALS SOP
Tri-n-butyltin Cation	0.82	J	0.43	0.99	ug/Kg	ALS SOP

CLIENT ID: 23A1459-40			Lab ID: K2301289-023			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.63	JP	0.32	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	0.50	JP	0.26	0.96	ug/Kg	ALS SOP
Solids, Total	79.3				Percent	160.3 Modified

CLIENT ID: 23A1459-43			Lab ID: K2301289-025			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.59	J	0.31	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	0.50	J	0.26	0.99	ug/Kg	ALS SOP
Solids, Total	85.6				Percent	160.3 Modified

CLIENT ID: 23A1459-50			Lab ID: K2301289-030			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.083		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-54			Lab ID: K2301289-031			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.37	JP	0.32	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	0.30	J	0.26	0.97	ug/Kg	ALS SOP
Solids, Total	79.4				Percent	160.3 Modified
Tri-n-butyltin Cation	0.78	JP	0.53	1.2	ug/Kg	ALS SOP
Tri-n-butyltin Cation	0.62	JP	0.43	0.97	ug/Kg	ALS SOP

CLIENT ID: 23A1459-60			Lab ID: K2301289-036			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.47	J	0.32	1.2	ug/Kg	ALS SOP
n-Butyltin Cation	0.37	J	0.26	0.96	ug/Kg	ALS SOP
Solids, Total	78.0				Percent	160.3 Modified

CLIENT ID: 23A1459-62			Lab ID: K2301289-037			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
n-Butyltin Cation	0.067		0.029	0.050	ug/L	ALS SOP

CLIENT ID: 23A1459-20			Lab ID: K2301289-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	66.0				Percent	160.3 Modified

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 23A1459-34			Lab ID: K2301289-018			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	73.6				Percent	160.3 Modified

CLIENT ID: 23A1459-35			Lab ID: K2301289-019			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	71.8				Percent	160.3 Modified

CLIENT ID: 23A1459-36			Lab ID: K2301289-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	68.5				Percent	160.3 Modified

CLIENT ID: 23A1459-38			Lab ID: K2301289-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	65.6				Percent	160.3 Modified

CLIENT ID: 23A1459-41			Lab ID: K2301289-024			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	78.8				Percent	160.3 Modified

CLIENT ID: 23A1459-44			Lab ID: K2301289-026			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	84.5				Percent	160.3 Modified

CLIENT ID: 23A1459-45			Lab ID: K2301289-027			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	70.0				Percent	160.3 Modified

CLIENT ID: 23A1459-48			Lab ID: K2301289-028			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	70.2				Percent	160.3 Modified

CLIENT ID: 23A1459-55			Lab ID: K2301289-032			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	83.6				Percent	160.3 Modified

CLIENT ID: 23A1459-56			Lab ID: K2301289-033			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	81.9				Percent	160.3 Modified

CLIENT ID: 23A1459-59			Lab ID: K2301289-035			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	77.8				Percent	160.3 Modified

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: North Water District Lab Services (NWDLS) **Service Request:**K2301289
Project: 23A1459

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2301289-001	23A1459-02	1/25/2023	1120
K2301289-002	23A1459-03	1/25/2023	1417
K2301289-003	23A1459-04	1/25/2023	1545
K2301289-004	23A1459-05	1/27/2023	1200
K2301289-005	23A1459-16	1/16/2023	1420
K2301289-006	23A1459-17	1/17/2023	0940
K2301289-007	23A1459-18	1/17/2023	1440
K2301289-008	23A1459-20	1/16/2023	1720
K2301289-009	23A1459-21	1/17/2023	1130
K2301289-010	23A1459-22	1/17/2023	1630
K2301289-011	23A1459-24	1/19/2023	1520
K2301289-012	23A1459-25	1/20/2023	1100
K2301289-013	23A1459-27	1/19/2023	1700
K2301289-014	23A1459-28	1/20/2023	1250
K2301289-015	23A1459-30	1/18/2023	0940
K2301289-016	23A1459-31	1/18/2023	1400
K2301289-017	23A1459-32	1/19/2023	0920
K2301289-018	23A1459-34	1/18/2023	1115
K2301289-019	23A1459-35	1/18/2023	1545
K2301289-020	23A1459-36	1/19/2023	1110
K2301289-021	23A1459-38	1/17/2023	1412
K2301289-022	23A1459-39	1/18/2023	0925
K2301289-023	23A1459-40	1/16/2023	1637
K2301289-024	23A1459-41	1/17/2023	0920
K2301289-025	23A1459-43	1/18/2023	1410
K2301289-026	23A1459-44	1/19/2023	0815
K2301289-027	23A1459-45	1/20/2023	0915
K2301289-028	23A1459-48	1/20/2023	0930
K2301289-029	23A1459-49	1/27/2023	1607
K2301289-030	23A1459-50	1/27/2023	1520
K2301289-031	23A1459-54	1/25/2023	0800
K2301289-032	23A1459-55	1/23/2023	1600
K2301289-033	23A1459-56	1/26/2023	1305
K2301289-034	23A1459-58	1/21/2023	1000
K2301289-035	23A1459-59	1/21/2023	1645
K2301289-036	23A1459-60	1/21/2023	1645
K2301289-037	23A1459-62	1/27/2023	1326

NWDLS
North Water District Laboratory Services, Inc.

K2301289

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Monica O. Martin

Subcontracted Laboratory:

ALS Kelso
1317 South 13th Avenue
Kelso, WA 98626
Phone: (360) 577-7222
Fax:

Work Order: 23A1459

Analysis	Due	Expires	Comments
Sample ID: 23A1459-02 ***Marine Water Sampled: 01/25/2023 11:20***			
Sub_CN T-4500	02/02/2023	02/08/2023 11:20	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-03 ***Marine Water Sampled: 01/25/2023 14:17***			
Sub_CN T-4500	02/02/2023	02/08/2023 14:17	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 23A1459-04 ***Marine Water Sampled: 01/25/2023 15:45***			
Sub_CN T-4500	02/02/2023	02/08/2023 15:45	
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001	02/02/2023	02/01/2023 15:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-05 ***Marine Water Sampled: 01/27/2023 12:00***			
Sub_CN T-4500	02/02/2023	02/10/2023 12:00	
Analyte(s): Total Cyanide			
Sub_Organotins-TX1001	02/02/2023	02/03/2023 12:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-16 ***Sediment Sampled: 01/16/2023 14:20***			
Sub_Organotins-TX1001	02/02/2023	01/30/2023 14:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-17 ***Sediment Sampled: 01/17/2023 09:40***			
Sub_Organotins-TX1001	02/02/2023	01/31/2023 09:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-18 ***Sediment Sampled: 01/17/2023 14:40***			
Sub_Organotins-TX1001	02/02/2023	01/31/2023 14:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-20 ***Sediment Sampled: 01/16/2023 17:20***			
Sub_Organotins-TX1001	02/02/2023	01/30/2023 17:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-21 ***Sediment Sampled: 01/17/2023 11:30***			
Sub_Organotins-TX1001	02/02/2023	01/31/2023 11:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-22	***Sediment***	***Sampled: 01/17/2023 16:30***	
Sub_Organotins-TX1001	02/02/2023	01/31/2023 16:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-24	***Sediment***	***Sampled: 01/19/2023 15:20***	
Sub_Organotins-TX1001	02/02/2023	02/02/2023 15:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-25	***Sediment***	***Sampled: 01/20/2023 11:00***	
Sub_Organotins-TX1001	02/02/2023	02/03/2023 11:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-27	***Sediment***	***Sampled: 01/19/2023 17:00***	
Sub_Organotins-TX1001	02/02/2023	02/02/2023 17:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-28	***Sediment***	***Sampled: 01/20/2023 12:50***	
Sub_Organotins-TX1001	02/02/2023	02/03/2023 12:50	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-30 ***Sediment*** ***Sampled: 01/18/2023 09:40***			
Sub_Organotins-TX1001	02/02/2023	02/01/2023 09:40	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-31 ***Sediment*** ***Sampled: 01/18/2023 14:00***			
Sub_Organotins-TX1001	02/02/2023	02/01/2023 14:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-32 ***Sediment*** ***Sampled: 01/19/2023 09:20***			
Sub_Organotins-TX1001	02/02/2023	02/02/2023 09:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-34 ***Sediment*** ***Sampled: 01/18/2023 11:15***			
Sub_Organotins-TX1001	02/02/2023	02/01/2023 11:15	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-35 ***Sediment*** ***Sampled: 01/18/2023 15:45***			
Sub_Organotins-TX1001	02/02/2023	02/01/2023 15:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-36	***Sediment Sampled: 01/19/2023 11:10***		
Sub_Organotins-TX1001	02/02/2023	02/02/2023 11:10	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-38	***Sediment Sampled: 01/17/2023 14:12***		
Sub_Organotins-TX1001	02/02/2023	01/31/2023 14:12	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-39	***Sediment Sampled: 01/18/2023 09:25***		
Sub_Organotins-TX1001	02/02/2023	02/01/2023 09:25	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-40	***Sediment Sampled: 01/16/2023 16:37***		
Sub_Organotins-TX1001	02/02/2023	01/30/2023 16:37	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-41	***Sediment Sampled: 01/17/2023 09:20***		
Sub_Organotins-TX1001	02/02/2023	01/31/2023 09:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

h2301289

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments

Sample ID: 23A1459-43 ***Sediment Sampled: 01/18/2023 14:10***

Sub_Organotins-TX1001	02/02/2023	02/01/2023 14:10	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Sample ID: 23A1459-44 ***Sediment Sampled: 01/19/2023 08:15***

Sub_Organotins-TX1001	02/02/2023	02/02/2023 08:15	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Sample ID: 23A1459-45 ***Sediment Sampled: 01/20/2023 09:15***

Sub_Organotins-TX1001	02/02/2023	02/03/2023 09:15	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Sample ID: 23A1459-48 ***Sediment Sampled: 01/20/2023 09:30***

Sub_Organotins-TX1001	02/02/2023	02/03/2023 09:30	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Sample ID: 23A1459-49 ***Marine Water Sampled: 01/27/2023 16:07***

Sub_CN T-4500	02/02/2023	02/10/2023 16:07	
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001	02/02/2023	02/03/2023 16:07	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

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North Water District Laboratory Services, Inc.

SUBCONTRACT ORDER
(Continued)

h23012B9

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-50	***Marine Water Sampled: 01/27/2023 15:20***		
Sub_CN T-4500	02/02/2023	02/10/2023 15:20	
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001	02/02/2023	02/03/2023 15:20	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-54	***Sediment Sampled: 01/25/2023 08:00***		
Sub_Organotins-TX1001	02/02/2023	02/08/2023 08:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-55	***Sediment Sampled: 01/23/2023 16:00***		
Sub_Organotins-TX1001	02/02/2023	02/06/2023 16:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-56	***Sediment Sampled: 01/26/2023 13:05***		
Sub_Organotins-TX1001	02/02/2023	02/09/2023 13:05	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-58	***Sediment Sampled: 01/21/2023 10:00***		
Sub_Organotins-TX1001	02/02/2023	02/04/2023 10:00	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

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K2301289

SUBCONTRACT ORDER
(Continued)

Work Order: 23A1459 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 23A1459-59 ***Sediment Sampled: 01/21/2023 16:45***			
Sub_Organotins-TX1001	02/02/2023	02/04/2023 16:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-60 ***Sediment Sampled: 01/21/2023 16:45***			
Sub_Organotins-TX1001	02/02/2023	02/04/2023 16:45	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			
Sample ID: 23A1459-62 ***Marine Water Sampled: 01/27/2023 13:26***			
Sub_CN T-4500	02/02/2023	02/10/2023 13:26	
Analyte(s):			
Total Cyanide			
Sub_Organotins-TX1001	02/02/2023	02/03/2023 13:26	
Analyte(s):			
Dibutyltin	Monobutyltin		Tributyltin
Dibutyltin	Monobutyltin		Tributyltin
Containers Supplied:			

Released By — 1/30/23 Date

UPS Received By — 1/30/23 Date

ALS 2/1/23 1030

PM UR

Cooler Receipt and Preservation Form

Client NWDLS Service Request K23 01289

Received: 2/1/23 Opened: 2/1/23 By: VM Unloaded: 2/1/23 By: VM

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
	3.4	IR01	Cooler 1			1Z12W40V0198230011	
	0.5	IR01	Cooler 2			1Z12W40V0199466024	

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

5. Were samples received within the method specified temperature ranges? NA Y N

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:
		SHORT HOLD TIME

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-02 **Date Collected:** 01/25/23
Lab Code: K2301289-001 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-03 **Date Collected:** 01/25/23
Lab Code: K2301289-002 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-04 **Date Collected:** 01/25/23
Lab Code: K2301289-003 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-05 **Date Collected:** 01/27/23
Lab Code: K2301289-004 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT
SM 4500-CN- E	MRICH	MRICH

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-16 **Date Collected:** 01/16/23
Lab Code: K2301289-005 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-17 **Date Collected:** 01/17/23
Lab Code: K2301289-006 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-18 **Date Collected:** 01/17/23
Lab Code: K2301289-007 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-20 **Date Collected:** 01/16/23
Lab Code: K2301289-008 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-21 **Date Collected:** 01/17/23
Lab Code: K2301289-009 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-22 **Date Collected:** 01/17/23
Lab Code: K2301289-010 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-24 **Date Collected:** 01/19/23
Lab Code: K2301289-011 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-25 **Date Collected:** 01/20/23
Lab Code: K2301289-012 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-27 **Date Collected:** 01/19/23
Lab Code: K2301289-013 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-28 **Date Collected:** 01/20/23
Lab Code: K2301289-014 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-30 **Date Collected:** 01/18/23
Lab Code: K2301289-015 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-31 **Date Collected:** 01/18/23
Lab Code: K2301289-016 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-32 **Date Collected:** 01/19/23
Lab Code: K2301289-017 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-34 **Date Collected:** 01/18/23
Lab Code: K2301289-018 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-35 **Date Collected:** 01/18/23
Lab Code: K2301289-019 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-36 **Date Collected:** 01/19/23
Lab Code: K2301289-020 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-38 **Date Collected:** 01/17/23
Lab Code: K2301289-021 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-39 **Date Collected:** 01/18/23
Lab Code: K2301289-022 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-40 **Date Collected:** 01/16/23
Lab Code: K2301289-023 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-41 **Date Collected:** 01/17/23
Lab Code: K2301289-024 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-43 **Date Collected:** 01/18/23
Lab Code: K2301289-025 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-44 **Date Collected:** 01/19/23
Lab Code: K2301289-026 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-45 **Date Collected:** 01/20/23
Lab Code: K2301289-027 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-48 **Date Collected:** 01/20/23
Lab Code: K2301289-028 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-49 **Date Collected:** 01/27/23
Lab Code: K2301289-029 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-50 **Date Collected:** 01/27/23
Lab Code: K2301289-030 **Date Received:** 02/1/23
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT
SM 4500-CN- E	MRICH	MRICH

Sample Name: 23A1459-54 **Date Collected:** 01/25/23
Lab Code: K2301289-031 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	JMOORE	BBRIGHT

Sample Name: 23A1459-55 **Date Collected:** 01/23/23
Lab Code: K2301289-032 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459/

Sample Name: 23A1459-56 **Date Collected:** 01/26/23
Lab Code: K2301289-033 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-58 **Date Collected:** 01/21/23
Lab Code: K2301289-034 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-59 **Date Collected:** 01/21/23
Lab Code: K2301289-035 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Sample Name: 23A1459-60 **Date Collected:** 01/21/23
Lab Code: K2301289-036 **Date Received:** 02/1/23
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		ZBIBI
ALS SOP	ZPRIM	BBRIGHT

Analyst Summary report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459/		

Sample Name:	23A1459-62	**Date Collected:**	01/27/23
Lab Code:	K2301289-037	**Date Received:**	02/1/23
Sample Matrix:	Ocean Water		

Analysis Method	Extracted/Digested By	Analyzed By
ALS SOP	ZPRIM	BBRIGHT
SM 4500-CN- E	MRICH	MRICH

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Semivolatile Organic Compounds by GC

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 15:45
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-04	**Units:**	ug/L
Lab Code:	K2301289-003	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.072**	0.050	0.029	1	03/28/23 16:55	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 16:55	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 16:55	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	106	10 - 195	03/28/23 16:55	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 12:00
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-05	**Units:**	ug/L
Lab Code:	K2301289-004	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.049 JP**	0.050	0.029	1	03/28/23 17:11	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 17:11	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 17:11	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	97	10 - 195	03/28/23 17:11	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 14:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-16	**Units:**	ug/Kg
Lab Code:	K2301289-005	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.39**	**J**	1.3	0.35	1	03/09/23 14:25	2/2/23	*
Di-n-butyltin Cation	ND	U	1.3	0.26	1	03/09/23 14:25	2/2/23	*
Tri-n-butyltin Cation	ND	U	1.3	0.58	1	03/09/23 14:25	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	102	10 - 152	03/09/23 14:25	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 14:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-16	**Units:**	ug/Kg
Lab Code:	K2301289-005	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.29**	**J**	0.99	0.26	1	03/09/23 14:25	2/2/23	*
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 14:25	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.99	0.43	1	03/09/23 14:25	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-17	**Units:**	ug/Kg
Lab Code:	K2301289-006	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.63 J**	1.3	0.35	1	03/09/23 15:51	2/2/23	*
Di-n-butyltin Cation	ND U	1.3	0.26	1	03/09/23 15:51	2/2/23	*
Tri-n-butyltin Cation	ND U	1.3	0.58	1	03/09/23 15:51	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	106	10 - 152	03/09/23 15:51	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-17	**Units:**	ug/Kg
Lab Code:	K2301289-006	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.46**	**J**	0.96	0.26	1	03/09/23 15:51	2/2/23	*
Di-n-butyltin Cation	ND	U	0.96	0.19	1	03/09/23 15:51	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.96	0.43	1	03/09/23 15:51	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-18	**Units:**	ug/Kg
Lab Code:	K2301289-007	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.6**	1.4	0.37	1	03/09/23 16:09	2/2/23	*
Di-n-butyltin Cation	**1.4 JP**	1.4	0.27	1	03/09/23 16:09	2/2/23	*
Tri-n-butyltin Cation	ND U	1.4	0.62	1	03/09/23 16:09	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	125	10 - 152	03/09/23 16:09	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-18	**Units:**	ug/Kg
Lab Code:	K2301289-007	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.1**	1.0	0.26	1	03/09/23 16:09	2/2/23	*
Di-n-butyltin Cation	**0.95 JP**	1.0	0.19	1	03/09/23 16:09	2/2/23	*
Tri-n-butyltin Cation	ND U	1.0	0.43	1	03/09/23 16:09	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 17:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-20	**Units:**	ug/Kg
Lab Code:	K2301289-008	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND Ui	1.5	0.52	1	03/09/23 16:26	2/2/23	*
Di-n-butyltin Cation	ND U	1.5	0.29	1	03/09/23 16:26	2/2/23	*
Tri-n-butyltin Cation	ND U	1.5	0.65	1	03/09/23 16:26	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	106	10 - 152	03/09/23 16:26	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 17:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-20	**Units:**	ug/Kg
Lab Code:	K2301289-008	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND Ui	0.99	0.35	1	03/09/23 16:26	2/2/23	*
Di-n-butyltin Cation	ND U	0.99	0.19	1	03/09/23 16:26	2/2/23	*
Tri-n-butyltin Cation	ND U	0.99	0.43	1	03/09/23 16:26	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 11:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-21	**Units:**	ug/Kg
Lab Code:	K2301289-009	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.39**	**J**	1.4	0.38	1	03/09/23 16:43	2/2/23	*
Di-n-butyltin Cation	ND	U	1.4	0.28	1	03/09/23 16:43	2/2/23	*
Tri-n-butyltin Cation	ND	U	1.4	0.63	1	03/09/23 16:43	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	55	10 - 152	03/09/23 16:43	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 11:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-21	**Units:**	ug/Kg
Lab Code:	K2301289-009	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.95	0.26	1	03/09/23 16:43	2/2/23	*
Di-n-butyltin Cation	ND U	0.95	0.19	1	03/09/23 16:43	2/2/23	*
Tri-n-butyltin Cation	ND U	0.95	0.43	1	03/09/23 16:43	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 16:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-22	**Units:**	ug/Kg
Lab Code:	K2301289-010	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.1**	**J**	1.7	0.44	1	03/09/23 17:00	2/2/23	*
Di-n-butyltin Cation	ND	U	1.7	0.32	1	03/09/23 17:00	2/2/23	*
Tri-n-butyltin Cation	ND	U	1.7	0.72	1	03/09/23 17:00	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	100	10 - 152	03/09/23 17:00	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 16:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-22	**Units:**	ug/Kg
Lab Code:	K2301289-010	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.62**	**J**	0.99	0.26	1	03/09/23 17:00	2/2/23	*
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 17:00	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.99	0.43	1	03/09/23 17:00	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 15:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-24	**Units:**	ug/Kg
Lab Code:	K2301289-011	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.70**	**J**	1.3	0.35	1	03/09/23 17:17	2/2/23	
Di-n-butyltin Cation	ND	U	1.3	0.26	1	03/09/23 17:17	2/2/23	
Tri-n-butyltin Cation	ND	U	1.3	0.57	1	03/09/23 17:17	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	125	10 - 152	03/09/23 17:17	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 15:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-24	**Units:**	ug/Kg
Lab Code:	K2301289-011	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.52**	**J**	0.98	0.26	1	03/09/23 17:17	2/2/23	
Di-n-butyltin Cation	ND	U	0.98	0.19	1	03/09/23 17:17	2/2/23	
Tri-n-butyltin Cation	ND	U	0.98	0.43	1	03/09/23 17:17	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 11:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-25	**Units:**	ug/Kg
Lab Code:	K2301289-012	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.67**	**J**	1.4	0.36	1	03/09/23 17:35	2/2/23	
Di-n-butyltin Cation	ND	U	1.4	0.26	1	03/09/23 17:35	2/2/23	
Tri-n-butyltin Cation	ND	U	1.4	0.59	1	03/09/23 17:35	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	83	10 - 152	03/09/23 17:35	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 11:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-25	**Units:**	ug/Kg
Lab Code:	K2301289-012	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.48**	**J**	0.98	0.26	1	03/09/23 17:35	2/2/23	
Di-n-butyltin Cation	ND	U	0.98	0.19	1	03/09/23 17:35	2/2/23	
Tri-n-butyltin Cation	ND	U	0.98	0.43	1	03/09/23 17:35	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 17:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-27	**Units:**	ug/Kg
Lab Code:	K2301289-013	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.41**	**J**	1.6	0.41	1	03/09/23 17:52	2/2/23	
Di-n-butyltin Cation	ND	U	1.6	0.30	1	03/09/23 17:52	2/2/23	
Tri-n-butyltin Cation	ND	U	1.6	0.68	1	03/09/23 17:52	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	64	10 - 152	03/09/23 17:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 17:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-27	**Units:**	ug/Kg
Lab Code:	K2301289-013	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.26**	**J**	0.99	0.26	1	03/09/23 17:52	2/2/23	
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 17:52	2/2/23	
Tri-n-butyltin Cation	ND	U	0.99	0.43	1	03/09/23 17:52	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 12:50
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-28	**Units:**	ug/Kg
Lab Code:	K2301289-014	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.40**	**JP**	1.4	0.37	1	03/09/23 18:09	2/2/23	
Di-n-butyltin Cation	ND	U	1.4	0.27	1	03/09/23 18:09	2/2/23	
Tri-n-butyltin Cation	ND	U	1.4	0.61	1	03/09/23 18:09	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	156	10 - 152	03/09/23 18:09	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 12:50
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-28	**Units:**	ug/Kg
Lab Code:	K2301289-014	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.27**	**JP**	0.97	0.26	1	03/09/23 18:09	2/2/23	
Di-n-butyltin Cation	ND	U	0.97	0.19	1	03/09/23 18:09	2/2/23	
Tri-n-butyltin Cation	ND	U	0.97	0.43	1	03/09/23 18:09	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-30	**Units:**	ug/Kg
Lab Code:	K2301289-015	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.63 J**	1.3	0.35	1	03/09/23 18:26	2/2/23	*
Di-n-butyltin Cation	ND U	1.3	0.26	1	03/09/23 18:26	2/2/23	*
Tri-n-butyltin Cation	ND U	1.3	0.58	1	03/09/23 18:26	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	98	10 - 152	03/09/23 18:26	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-30	**Units:**	ug/Kg
Lab Code:	K2301289-015	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.46**	**J**	0.98	0.26	1	03/09/23 18:26	2/2/23	*
Di-n-butyltin Cation	ND	U	0.98	0.19	1	03/09/23 18:26	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.98	0.43	1	03/09/23 18:26	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-31	**Units:**	ug/Kg
Lab Code:	K2301289-016	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.51**	**J**	1.4	0.38	1	03/09/23 18:43	2/2/23	*
Di-n-butyltin Cation	ND	U	1.4	0.28	1	03/09/23 18:43	2/2/23	*
Tri-n-butyltin Cation	ND	U	1.4	0.63	1	03/09/23 18:43	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	107	10 - 152	03/09/23 18:43	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-31	**Units:**	ug/Kg
Lab Code:	K2301289-016	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.35**	**J**	0.99	0.26	1	03/09/23 18:43	2/2/23	*
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 18:43	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.99	0.43	1	03/09/23 18:43	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-32	**Units:**	ug/Kg
Lab Code:	K2301289-017	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.53**	**J**	1.2	0.32	1	03/09/23 19:34	2/2/23	
Di-n-butyltin Cation	ND	U	1.2	0.24	1	03/09/23 19:34	2/2/23	
Tri-n-butyltin Cation	ND	U	1.2	0.53	1	03/09/23 19:34	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	73	10 - 152	03/09/23 19:34	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-32	**Units:**	ug/Kg
Lab Code:	K2301289-017	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.41**	**J**	0.95	0.26	1	03/09/23 19:34	2/2/23	
Di-n-butyltin Cation	ND	U	0.95	0.19	1	03/09/23 19:34	2/2/23	
Tri-n-butyltin Cation	ND	U	0.95	0.43	1	03/09/23 19:34	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 11:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-34	**Units:**	ug/Kg
Lab Code:	K2301289-018	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.3	0.36	1	03/09/23 19:51	2/2/23	*
Di-n-butyltin Cation	ND U	1.3	0.26	1	03/09/23 19:51	2/2/23	*
Tri-n-butyltin Cation	ND U	1.3	0.59	1	03/09/23 19:51	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	96	10 - 152	03/09/23 19:51	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 11:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-34	**Units:**	ug/Kg
Lab Code:	K2301289-018	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.99	0.26	1	03/09/23 19:51	2/2/23	*
Di-n-butyltin Cation	ND U	0.99	0.19	1	03/09/23 19:51	2/2/23	*
Tri-n-butyltin Cation	ND U	0.99	0.43	1	03/09/23 19:51	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 15:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-35	**Units:**	ug/Kg
Lab Code:	K2301289-019	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.4	0.36	1	03/09/23 20:09	2/2/23	*
Di-n-butyltin Cation	ND U	1.4	0.26	1	03/09/23 20:09	2/2/23	*
Tri-n-butyltin Cation	ND U	1.4	0.59	1	03/09/23 20:09	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	86	10 - 152	03/09/23 20:09	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 15:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-35	**Units:**	ug/Kg
Lab Code:	K2301289-019	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	03/09/23 20:09	2/2/23	*
Di-n-butyltin Cation	ND U	0.97	0.19	1	03/09/23 20:09	2/2/23	*
Tri-n-butyltin Cation	ND U	0.97	0.43	1	03/09/23 20:09	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 11:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-36	**Units:**	ug/Kg
Lab Code:	K2301289-020	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.4	0.38	1	03/09/23 20:26	2/2/23	
Di-n-butyltin Cation	ND U	1.4	0.28	1	03/09/23 20:26	2/2/23	
Tri-n-butyltin Cation	ND U	1.4	0.63	1	03/09/23 20:26	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	72	10 - 152	03/09/23 20:26	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 11:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-36	**Units:**	ug/Kg
Lab Code:	K2301289-020	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.99	0.26	1	03/09/23 20:26	2/2/23	
Di-n-butyltin Cation	ND U	0.99	0.19	1	03/09/23 20:26	2/2/23	
Tri-n-butyltin Cation	ND U	0.99	0.43	1	03/09/23 20:26	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:12
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-38	**Units:**	ug/Kg
Lab Code:	K2301289-021	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.5	0.39	1	03/09/23 09:17	2/2/23	*
Di-n-butyltin Cation	ND U	1.5	0.28	1	03/09/23 09:17	2/2/23	*
Tri-n-butyltin Cation	ND U	1.5	0.64	1	03/09/23 09:17	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	86	10 - 152	03/09/23 09:17	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:12
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-38	**Units:**	ug/Kg
Lab Code:	K2301289-021	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.96	0.26	1	03/09/23 09:17	2/2/23	*
Di-n-butyltin Cation	ND U	0.96	0.19	1	03/09/23 09:17	2/2/23	*
Tri-n-butyltin Cation	ND U	0.96	0.43	1	03/09/23 09:17	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:25
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-39	**Units:**	ug/Kg
Lab Code:	K2301289-022	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.4 J**	1.5	0.41	1	03/09/23 09:34	2/2/23	*
Di-n-butyltin Cation	ND U	1.5	0.30	1	03/09/23 09:34	2/2/23	*
Tri-n-butyltin Cation	**1.3 J**	1.5	0.67	1	03/09/23 09:34	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	89	10 - 152	03/09/23 09:34	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:25
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-39	**Units:**	ug/Kg
Lab Code:	K2301289-022	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.90**	**J**	0.99	0.26	1	03/09/23 09:34	2/2/23	*
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 09:34	2/2/23	*
Tri-n-butyltin Cation	**0.82**	**J**	0.99	0.43	1	03/09/23 09:34	2/2/23	*

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 16:37
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-40	**Units:**	ug/Kg
Lab Code:	K2301289-023	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.63 JP**	1.2	0.32	1	03/09/23 10:09	2/2/23	*
Di-n-butyltin Cation	ND U	1.2	0.24	1	03/09/23 10:09	2/2/23	*
Tri-n-butyltin Cation	ND U	1.2	0.53	1	03/09/23 10:09	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	89	10 - 152	03/09/23 10:09	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 16:37
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-40	**Units:**	ug/Kg
Lab Code:	K2301289-023	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.50 JP**	0.96	0.26	1	03/09/23 10:09	2/2/23	*
Di-n-butyltin Cation	ND U	0.96	0.19	1	03/09/23 10:09	2/2/23	*
Tri-n-butyltin Cation	ND U	0.96	0.43	1	03/09/23 10:09	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-41	**Units:**	ug/Kg
Lab Code:	K2301289-024	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.2	0.33	1	03/09/23 10:26	2/2/23	*
Di-n-butyltin Cation	ND U	1.2	0.24	1	03/09/23 10:26	2/2/23	*
Tri-n-butyltin Cation	ND U	1.2	0.54	1	03/09/23 10:26	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	82	10 - 152	03/09/23 10:26	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-41	**Units:**	ug/Kg
Lab Code:	K2301289-024	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.98	0.26	1	03/09/23 10:26	2/2/23	*
Di-n-butyltin Cation	ND U	0.98	0.19	1	03/09/23 10:26	2/2/23	*
Tri-n-butyltin Cation	ND U	0.98	0.43	1	03/09/23 10:26	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-43	**Units:**	ug/Kg
Lab Code:	K2301289-025	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.59**	**J**	1.2	0.31	1	03/09/23 11:17	2/2/23	*
Di-n-butyltin Cation	ND	U	1.2	0.23	1	03/09/23 11:17	2/2/23	*
Tri-n-butyltin Cation	ND	U	1.2	0.50	1	03/09/23 11:17	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	109	10 - 152	03/09/23 11:17	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-43	**Units:**	ug/Kg
Lab Code:	K2301289-025	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.50**	**J**	0.99	0.26	1	03/09/23 11:17	2/2/23	*
Di-n-butyltin Cation	ND	U	0.99	0.19	1	03/09/23 11:17	2/2/23	*
Tri-n-butyltin Cation	ND	U	0.99	0.43	1	03/09/23 11:17	2/2/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 08:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-44	**Units:**	ug/Kg
Lab Code:	K2301289-026	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.2	0.30	1	03/09/23 11:34	2/2/23	
Di-n-butyltin Cation	ND U	1.2	0.22	1	03/09/23 11:34	2/2/23	
Tri-n-butyltin Cation	ND U	1.2	0.50	1	03/09/23 11:34	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	64	10 - 152	03/09/23 11:34	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 08:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-44	**Units:**	ug/Kg
Lab Code:	K2301289-026	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	03/09/23 11:34	2/2/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	03/09/23 11:34	2/2/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	03/09/23 11:34	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-45	**Units:**	ug/Kg
Lab Code:	K2301289-027	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.4	0.37	1	03/09/23 11:51	2/2/23	
Di-n-butyltin Cation	ND U	1.4	0.27	1	03/09/23 11:51	2/2/23	
Tri-n-butyltin Cation	ND U	1.4	0.61	1	03/09/23 11:51	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	90	10 - 152	03/09/23 11:51	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-45	**Units:**	ug/Kg
Lab Code:	K2301289-027	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.99	0.26	1	03/09/23 11:51	2/2/23	
Di-n-butyltin Cation	ND U	0.99	0.19	1	03/09/23 11:51	2/2/23	
Tri-n-butyltin Cation	ND U	0.99	0.43	1	03/09/23 11:51	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-48	**Units:**	ug/Kg
Lab Code:	K2301289-028	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.4	0.37	1	03/09/23 12:09	2/2/23	
Di-n-butyltin Cation	ND U	1.4	0.27	1	03/09/23 12:09	2/2/23	
Tri-n-butyltin Cation	ND U	1.4	0.61	1	03/09/23 12:09	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	136	10 - 152	03/09/23 12:09	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-48	**Units:**	ug/Kg
Lab Code:	K2301289-028	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.99	0.26	1	03/09/23 12:09	2/2/23	
Di-n-butyltin Cation	ND U	0.99	0.19	1	03/09/23 12:09	2/2/23	
Tri-n-butyltin Cation	ND U	0.99	0.43	1	03/09/23 12:09	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 16:07
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-49	**Units:**	ug/L
Lab Code:	K2301289-029	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	03/28/23 17:28	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 17:28	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 17:28	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	94	10 - 195	03/28/23 17:28	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 15:20
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-50	**Units:**	ug/L
Lab Code:	K2301289-030	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.083**	0.050	0.029	1	03/28/23 17:44	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 17:44	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 17:44	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	83	10 - 195	03/28/23 17:44	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 08:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-54	**Units:**	ug/Kg
Lab Code:	K2301289-031	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.37 JP**	1.2	0.32	1	03/28/23 18:17	2/6/23	*
Di-n-butyltin Cation	ND U	1.2	0.24	1	03/28/23 18:17	2/6/23	*
Tri-n-butyltin Cation	**0.78 JP**	1.2	0.53	1	03/28/23 18:17	2/6/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	84	10 - 152	03/28/23 18:17	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 08:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-54	**Units:**	ug/Kg
Lab Code:	K2301289-031	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.30**	**J**	0.97	0.26	1	03/28/23 18:17	2/6/23	*
Di-n-butyltin Cation	ND	U	0.97	0.19	1	03/28/23 18:17	2/6/23	*
Tri-n-butyltin Cation	**0.62**	**JP**	0.97	0.43	1	03/28/23 18:17	2/6/23	*

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/23/23 16:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-55	**Units:**	ug/Kg
Lab Code:	K2301289-032	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.2	0.30	1	03/09/23 12:26	2/2/23	
Di-n-butyltin Cation	ND U	1.2	0.22	1	03/09/23 12:26	2/2/23	
Tri-n-butyltin Cation	ND U	1.2	0.50	1	03/09/23 12:26	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	65	10 - 152	03/09/23 12:26	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/23/23 16:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-55	**Units:**	ug/Kg
Lab Code:	K2301289-032	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.96	0.26	1	03/09/23 12:26	2/2/23	
Di-n-butyltin Cation	ND U	0.96	0.19	1	03/09/23 12:26	2/2/23	
Tri-n-butyltin Cation	ND U	0.96	0.43	1	03/09/23 12:26	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/26/23 13:05
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-56	**Units:**	ug/Kg
Lab Code:	K2301289-033	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.2	0.32	1	03/09/23 12:43	2/2/23	
Di-n-butyltin Cation	ND U	1.2	0.23	1	03/09/23 12:43	2/2/23	
Tri-n-butyltin Cation	ND U	1.2	0.52	1	03/09/23 12:43	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	72	10 - 152	03/09/23 12:43	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/26/23 13:05
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-56	**Units:**	ug/Kg
Lab Code:	K2301289-033	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.98	0.26	1	03/09/23 12:43	2/2/23	
Di-n-butyltin Cation	ND U	0.98	0.19	1	03/09/23 12:43	2/2/23	
Tri-n-butyltin Cation	ND U	0.98	0.43	1	03/09/23 12:43	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 10:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-58	**Units:**	ug/Kg
Lab Code:	K2301289-034	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.5**		1.2	0.31	1	03/09/23 13:00	2/2/23	
Di-n-butyltin Cation	**0.75**	**J**	1.2	0.22	1	03/09/23 13:00	2/2/23	
Tri-n-butyltin Cation	ND	U	1.2	0.50	1	03/09/23 13:00	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	84	10 - 152	03/09/23 13:00	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 10:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-58	**Units:**	ug/Kg
Lab Code:	K2301289-034	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**1.3**		0.98	0.26	1	03/09/23 13:00	2/2/23	
Di-n-butyltin Cation	**0.63**	**J**	0.98	0.19	1	03/09/23 13:00	2/2/23	
Tri-n-butyltin Cation	ND	U	0.98	0.43	1	03/09/23 13:00	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-59	**Units:**	ug/Kg
Lab Code:	K2301289-035	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	1.3	0.33	1	03/09/23 13:17	2/2/23	
Di-n-butyltin Cation	ND U	1.3	0.24	1	03/09/23 13:17	2/2/23	
Tri-n-butyltin Cation	ND U	1.3	0.54	1	03/09/23 13:17	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	57	10 - 152	03/09/23 13:17	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-59	**Units:**	ug/Kg
Lab Code:	K2301289-035	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	03/09/23 13:17	2/2/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	03/09/23 13:17	2/2/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	03/09/23 13:17	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-60	**Units:**	ug/Kg
Lab Code:	K2301289-036	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.47**	**J**	1.2	0.32	1	03/09/23 13:35	2/2/23	
Di-n-butyltin Cation	ND	U	1.2	0.24	1	03/09/23 13:35	2/2/23	
Tri-n-butyltin Cation	ND	U	1.2	0.53	1	03/09/23 13:35	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	65	10 - 152	03/09/23 13:35	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-60	**Units:**	ug/Kg
Lab Code:	K2301289-036	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.37**	**J**	0.96	0.26	1	03/09/23 13:35	2/2/23	
Di-n-butyltin Cation	ND	U	0.96	0.19	1	03/09/23 13:35	2/2/23	
Tri-n-butyltin Cation	ND	U	0.96	0.43	1	03/09/23 13:35	2/2/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 13:26
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-62	**Units:**	ug/L
Lab Code:	K2301289-037	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	**0.067**	0.050	0.029	1	03/28/23 18:01	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 18:01	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 18:01	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	66	10 - 195	03/28/23 18:01	

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 11:20
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-02	**Basis:**	NA
Lab Code:	K2301289-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 14:17
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-03	**Basis:**	NA
Lab Code:	K2301289-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 15:45
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-04	**Basis:**	NA
Lab Code:	K2301289-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 12:00
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-05	**Basis:**	NA
Lab Code:	K2301289-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 14:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-16	**Basis:**	As Received
Lab Code:	K2301289-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**74.0**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-17	**Basis:**	As Received
Lab Code:	K2301289-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**72.4**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-18	**Basis:**	As Received
Lab Code:	K2301289-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**70.3**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 17:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-20	**Basis:**	As Received
Lab Code:	K2301289-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**66.0**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 11:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-21	**Basis:**	As Received
Lab Code:	K2301289-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**66.1**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 16:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-22	**Basis:**	As Received
Lab Code:	K2301289-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**59.0**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 15:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-24	**Basis:**	As Received
Lab Code:	K2301289-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**74.0**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 11:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-25	**Basis:**	As Received
Lab Code:	K2301289-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**71.7**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 17:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-27	**Basis:**	As Received
Lab Code:	K2301289-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**63.5**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 12:50
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-28	**Basis:**	As Received
Lab Code:	K2301289-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**68.7**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:40
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-30	**Basis:**	As Received
Lab Code:	K2301289-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**72.9**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-31	**Basis:**	As Received
Lab Code:	K2301289-016		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**68.2**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-32	**Basis:**	As Received
Lab Code:	K2301289-017		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**78.0**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 11:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-34	**Basis:**	As Received
Lab Code:	K2301289-018		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**73.6**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 15:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-35	**Basis:**	As Received
Lab Code:	K2301289-019		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**71.8**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 11:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-36	**Basis:**	As Received
Lab Code:	K2301289-020		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**68.5**	Percent	-	-	1	02/02/23 11:07	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 14:12
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-38	**Basis:**	As Received
Lab Code:	K2301289-021		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**65.6**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:25
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-39	**Basis:**	As Received
Lab Code:	K2301289-022		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**64.2**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23 16:37
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-40	**Basis:**	As Received
Lab Code:	K2301289-023		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**79.3**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 09:20
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-41	**Basis:**	As Received
Lab Code:	K2301289-024		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**78.8**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 14:10
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-43	**Basis:**	As Received
Lab Code:	K2301289-025		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**85.6**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/19/23 08:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-44	**Basis:**	As Received
Lab Code:	K2301289-026		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**84.5**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:15
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-45	**Basis:**	As Received
Lab Code:	K2301289-027		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**70.0**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/20/23 09:30
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-48	**Basis:**	As Received
Lab Code:	K2301289-028		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**70.2**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 16:07
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-49	**Basis:**	NA
Lab Code:	K2301289-029		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/04/23 15:04	02/04/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 15:20
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-50	**Basis:**	NA
Lab Code:	K2301289-030		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/25/23 08:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-54	**Basis:**	As Received
Lab Code:	K2301289-031		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**79.4**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/23/23 16:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-55	**Basis:**	As Received
Lab Code:	K2301289-032		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**83.6**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/26/23 13:05
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-56	**Basis:**	As Received
Lab Code:	K2301289-033		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**81.9**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 10:00
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-58	**Basis:**	As Received
Lab Code:	K2301289-034		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**84.9**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-59	**Basis:**	As Received
Lab Code:	K2301289-035		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**77.8**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/21/23 16:45
Sample Matrix:	Sediment	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-60	**Basis:**	As Received
Lab Code:	K2301289-036		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**78.0**	Percent	-	-	1	02/02/23 13:52	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/27/23 13:26
Sample Matrix:	Ocean Water	**Date Received:**	02/01/23 10:30
Sample Name:	23A1459-62	**Basis:**	NA
Lab Code:	K2301289-037		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	ND U	mg/L	0.020	0.0005	1	02/09/23 16:15	02/09/23	

QC Summary Forms

ALS Environmental—Kelso Laboratory
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Semivolatile Organic Compounds by GC

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QA/QC Report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459
Sample Matrix: Ocean Water

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: EPA 3520C

Sample Name	Lab Code	Tri-n-propyltin 10-195
23A1459-04	K2301289-003	106
23A1459-05	K2301289-004	97
23A1459-49	K2301289-029	94
23A1459-50	K2301289-030	83
23A1459-62	K2301289-037	66
Method Blank	KQ2301926-01	72
Lab Control Sample	KQ2301926-02	90
Duplicate Lab Control Sample	KQ2301926-03	70

QA/QC Report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: Method

Sample Name	Lab Code	Tri-n-propyltin 10-152
23A1459-16	K2301289-005	102
23A1459-17	K2301289-006	106
23A1459-18	K2301289-007	125
23A1459-20	K2301289-008	106
23A1459-21	K2301289-009	55
23A1459-22	K2301289-010	100
23A1459-24	K2301289-011	125
23A1459-25	K2301289-012	83
23A1459-27	K2301289-013	64
23A1459-28	K2301289-014	156*
23A1459-30	K2301289-015	98
23A1459-31	K2301289-016	107
23A1459-32	K2301289-017	73
23A1459-34	K2301289-018	96
23A1459-35	K2301289-019	86
23A1459-36	K2301289-020	72
23A1459-38	K2301289-021	86
23A1459-39	K2301289-022	89
23A1459-40	K2301289-023	89
23A1459-41	K2301289-024	82
23A1459-43	K2301289-025	109
23A1459-44	K2301289-026	64
23A1459-45	K2301289-027	90
23A1459-48	K2301289-028	136
23A1459-54	K2301289-031	84
23A1459-55	K2301289-032	65
23A1459-56	K2301289-033	72
23A1459-58	K2301289-034	84
23A1459-59	K2301289-035	57
23A1459-60	K2301289-036	65
Method Blank	KQ2301898-04	54
Method Blank	KQ2302045-03	91
Method Blank	KQ2304287-02	88
Lab Control Sample	KQ2301898-03	69
Lab Control Sample	KQ2302045-04	124
Lab Control Sample	KQ2304287-03	37
23A1459-16	KQ2301898-01	56

Client: North Water District Lab Services (NWDLS) **Service Request:** K2301289
Project: 23A1459
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: Method

Sample Name	Lab Code	Tri-n-propyltin 10-152
23A1459-16	KQ2301898-02	91
23A1459-39	KQ2304287-01	76

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23
Sample Matrix:	Sediment	**Date Received:**	02/01/23
		Date Analyzed:	03/9/23
		Date Extracted:	02/2/23

Matrix Spike Summary
Butyltins

Sample Name:	23A1459-39	**Units:**	ug/Kg
Lab Code:	K2301289-022	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

Matrix Spike
KQ2304287-01

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
n-Butyltin Cation	1.4 J	26.2	24.1	103	10-200
Di-n-butyltin Cation	ND U	17.4	29.7	59	10-190
Tri-n-butyltin Cation	1.3 J	29.2	34.5	81	10-186

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/16/23
Sample Matrix:	Sediment	**Date Received:**	02/01/23
		Date Analyzed:	03/9/23
		Date Extracted:	02/2/23

Duplicate Matrix Spike Summary
Butyltins

Sample Name:	23A1459-16	**Units:**	ug/Kg
Lab Code:	K2301289-005	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

		Matrix Spike KQ2301898-01			Duplicate Matrix Spike KQ2301898-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
n-Butyltin Cation	0.39 J	21.8	20.8	103	20.3	20.2	99	10-200	7	40
Di-n-butyltin Cation	ND U	24.4	25.5	95	21.0	24.8	85	10-190	15	40
Tri-n-butyltin Cation	ND U	25.5	29.7	86	24.3	28.8	84	10-186	5	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2301898-04	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.95	0.26	1	03/09/23 13:52	2/2/23	
Di-n-butyltin Cation	ND U	0.95	0.19	1	03/09/23 13:52	2/2/23	
Tri-n-butyltin Cation	ND U	0.95	0.43	1	03/09/23 13:52	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	54	10 - 152	03/09/23 13:52	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2301898-04	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.95	0.26	1	03/09/23 13:52	2/2/23	
Di-n-butyltin Cation	ND U	0.95	0.19	1	03/09/23 13:52	2/2/23	
Tri-n-butyltin Cation	ND U	0.95	0.43	1	03/09/23 13:52	2/2/23	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2301926-01	**Basis:**	NA

Butyltins

Analysis Method: ALS SOP
Prep Method: EPA 3520C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.050	0.029	1	03/28/23 16:04	2/2/23	*
Di-n-butyltin Cation	ND U	0.050	0.0073	1	03/28/23 16:04	2/2/23	*
Tri-n-butyltin Cation	ND U	0.050	0.012	1	03/28/23 16:04	2/2/23	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	72	10 - 195	03/28/23 16:04	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302045-03	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/26/23 23:16	2/6/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/26/23 23:16	2/6/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/26/23 23:16	2/6/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	91	10 - 152	02/26/23 23:16	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2302045-03	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.97	0.26	1	02/26/23 23:16	2/6/23	
Di-n-butyltin Cation	ND U	0.97	0.19	1	02/26/23 23:16	2/6/23	
Tri-n-butyltin Cation	ND U	0.97	0.43	1	02/26/23 23:16	2/6/23	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2304287-02	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.96	0.26	1	03/09/23 08:43	2/2/23	
Di-n-butyltin Cation	ND U	0.96	0.19	1	03/09/23 08:43	2/2/23	
Tri-n-butyltin Cation	ND U	0.96	0.43	1	03/09/23 08:43	2/2/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	88	10 - 152	03/09/23 08:43	

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2304287-02	**Basis:**	As Received

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
n-Butyltin Cation	ND U	0.96	0.26	1	03/09/23 08:43	2/2/23	
Di-n-butyltin Cation	ND U	0.96	0.19	1	03/09/23 08:43	2/2/23	
Tri-n-butyltin Cation	ND U	0.96	0.43	1	03/09/23 08:43	2/2/23	

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Analyzed:**	03/09/23
Sample Matrix:	Sediment	**Date Extracted:**	02/02/23

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	797467

Lab Control Sample
KQ2301898-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Di-n-butyltin Cation	26.3	19.2	137	10-190
n-Butyltin Cation	27.1	15.6	174	10-200
Tri-n-butyltin Cation	25.9	22.3	116	10-186

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Analyzed:**	02/26/23
Sample Matrix:	Sediment	**Date Extracted:**	02/06/23

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	796038

Lab Control Sample
KQ2302045-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Di-n-butyltin Cation	28.5 P	19.2	149	10-190
n-Butyltin Cation	20.0 P	15.6	128	10-200
Tri-n-butyltin Cation	30.7	22.3	138	10-186

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Analyzed:**	03/09/23
Sample Matrix:	Sediment	**Date Extracted:**	02/02/23

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	797477

Lab Control Sample
KQ2304287-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Di-n-butyltin Cation	15.4	19.2	81	10-190
n-Butyltin Cation	30.2	15.6	194	10-200
Tri-n-butyltin Cation	11.8	22.3	53	10-186

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Analyzed:**	03/28/23
Sample Matrix:	Ocean Water	**Date Extracted:**	02/02/23

Duplicate Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/L
Prep Method:	EPA 3520C	**Basis:**	NA
		Analysis Lot:	799194

	Lab Control Sample KQ2301926-02			Duplicate Lab Control Sample KQ2301926-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Di-n-butyltin Cation	0.317	0.383	83	0.292	0.383	76	10-200	8	30
n-Butyltin Cation	0.451	0.312	145	0.270	0.312	87	10-200	50 *	30
Tri-n-butyltin Cation	0.346	0.446	78	0.298	0.446	67	10-200	15	30

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301289
Date Collected: 01/25/23 15:45
Date Received: 2/1/23

Sample Name: 23A1459-04
Lab Code: K2301289-003

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.072	0.098	31		1	03/28/23 16:55

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301289
Date Collected: 01/27/23 12:00
Date Received: 2/1/23

Sample Name: 23A1459-05
Lab Code: K2301289-004

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.049	0.074	41	JP	1	03/28/23 17:11

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/16/23 14:20
Date Received: 2/1/23

Sample Name: 23A1459-16
Lab Code: K2301289-005

Units: ug/Kg
Basis: As Received
Percent Solids: 74.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.26	0.29	0.30	3	J	1	03/09/23 14:25
n-Butyltin Cation	0.35	0.39	0.40	3	J	1	03/09/23 14:25

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/17/23 09:40
Date Received: 2/1/23

Sample Name: 23A1459-17
Lab Code: K2301289-006

Units: ug/Kg
Basis: Dry
Percent Solids: 72.4

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.35	0.63	0.63	<1	J	1	03/09/23 15:51
n-Butyltin Cation	0.26	0.46	0.46	<1	J	1	03/09/23 15:51

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/17/23 14:40
Date Received: 2/1/23

Sample Name: 23A1459-18
Lab Code: K2301289-007

Units: ug/Kg
Basis: Dry
Percent Solids: 70.3

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.27	1.4	2.8	67	JP	1	03/09/23 16:09
Di-n-butyltin Cation	0.19	0.95	1.9	67	JP	1	03/09/23 16:09
n-Butyltin Cation	0.26	1.1	1.4	24		1	03/09/23 16:09
n-Butyltin Cation	0.37	1.6	2.0	22		1	03/09/23 16:09

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/17/23 11:30
Date Received: 2/1/23

Sample Name: 23A1459-21
Lab Code: K2301289-009

Units: ug/Kg
Basis: Dry
Percent Solids: 66.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.38	0.39	0.48	21	J	1	03/09/23 16:43

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Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/17/23 16:30
Matrix:	Sediment	**Date Received:**	2/1/23
Sample Name:	23A1459-22		
Lab Code:	K2301289-010	**Units:**	ug/Kg
		Basis:	Dry
		Percent Solids:	59.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.44	1.1	1.2	9	J	1	03/09/23 17:00
n-Butyltin Cation	0.26	0.62	0.71	14	J	1	03/09/23 17:00

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/19/23 15:20
Date Received: 2/1/23

Sample Name: 23A1459-24
Lab Code: K2301289-011

Units: ug/Kg
Basis: Dry
Percent Solids: 74.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.35	0.70	0.88	23	J	1	03/09/23 17:17
n-Butyltin Cation	0.26	0.52	0.65	22	J	1	03/09/23 17:17

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/20/23 11:00
Date Received: 2/1/23

Sample Name: 23A1459-25
Lab Code: K2301289-012

Units: ug/Kg
Basis: Dry
Percent Solids: 71.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.36	0.67	0.74	10	J	1	03/09/23 17:35
n-Butyltin Cation	0.26	0.48	0.53	10	J	1	03/09/23 17:35

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/19/23 17:00
Date Received: 2/1/23

Sample Name: 23A1459-27
Lab Code: K2301289-013

Units: ug/Kg
Basis: Dry
Percent Solids: 63.5

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.41	0.41	0.47	14	J	1	03/09/23 17:52
n-Butyltin Cation	0.26	0.26	0.30	14	J	1	03/09/23 17:52

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/20/23 12:50
Date Received: 2/1/23

Sample Name: 23A1459-28
Lab Code: K2301289-014

Units: ug/Kg
Basis: Dry
Percent Solids: 68.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.37	0.40	0.98	84	JP	1	03/09/23 18:09
n-Butyltin Cation	0.26	0.27	0.68	86	JP	1	03/09/23 18:09

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/18/23 09:40
Date Received: 2/1/23

Sample Name: 23A1459-30
Lab Code: K2301289-015

Units: ug/Kg
Basis: Dry
Percent Solids: 72.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.35	0.63	0.77	20	J	1	03/09/23 18:26
n-Butyltin Cation	0.26	0.46	0.56	20	J	1	03/09/23 18:26

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/18/23 14:00
Date Received: 2/1/23

Sample Name: 23A1459-31
Lab Code: K2301289-016

Units: ug/Kg
Basis: Dry
Percent Solids: 68.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.38	0.51	0.55	8	J	1	03/09/23 18:43
n-Butyltin Cation	0.26	0.35	0.38	8	J	1	03/09/23 18:43

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/19/23 09:20
Date Received: 2/1/23

Sample Name: 23A1459-32
Lab Code: K2301289-017

Units: ug/Kg
Basis: Dry
Percent Solids: 78.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.32	0.53	0.59	11	J	1	03/09/23 19:34
n-Butyltin Cation	0.26	0.41	0.46	11	J	1	03/09/23 19:34

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/18/23 09:25
Date Received: 2/1/23

Sample Name: 23A1459-39
Lab Code: K2301289-022

Units: ug/Kg
Basis: Dry
Percent Solids: 64.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.67	1.3	1.5	14	J	1	03/09/23 09:34
Tri-n-butyltin Cation	0.43	0.82	0.96	16	J	1	03/09/23 09:34
n-Butyltin Cation	0.26	0.90	1.1	20	J	1	03/09/23 09:34
n-Butyltin Cation	0.41	1.4	1.7	19	J	1	03/09/23 09:34

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/16/23 16:37
Date Received: 2/1/23

Sample Name: 23A1459-40
Lab Code: K2301289-023

Units: ug/Kg
Basis: As Received
Percent Solids: 79.3

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.26	0.50	0.95	62	JP	1	03/09/23 10:09
n-Butyltin Cation	0.32	0.63	1.2	62	JP	1	03/09/23 10:09

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/18/23 14:10
Date Received: 2/1/23

Sample Name: 23A1459-43
Lab Code: K2301289-025

Units: ug/Kg
Basis: As Received
Percent Solids: 85.6

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.26	0.50	0.54	8	J	1	03/09/23 11:17
n-Butyltin Cation	0.31	0.59	0.63	7	J	1	03/09/23 11:17

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301289
Date Collected: 01/27/23 15:20
Date Received: 2/1/23

Sample Name: 23A1459-50
Lab Code: K2301289-030

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.083	0.092	10		1	03/28/23 17:44

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/25/23 08:00
Date Received: 2/1/23

Sample Name: 23A1459-54
Lab Code: K2301289-031

Units: ug/Kg
Basis: As Received
Percent Solids: 79.4

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.43	0.62	0.94	41	JP	1	03/28/23 18:17
Tri-n-butyltin Cation	0.53	0.78	1.2	42	JP	1	03/28/23 18:17
n-Butyltin Cation	0.32	0.37	0.56	41	JP	1	03/28/23 18:17
n-Butyltin Cation	0.26	0.30	0.45	40	J	1	03/28/23 18:17

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/21/23 10:00
Date Received: 2/1/23

Sample Name: 23A1459-58
Lab Code: K2301289-034

Units: ug/Kg
Basis: As Received
Percent Solids: 84.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	0.63	0.72	13	J	1	03/09/23 13:00
Di-n-butyltin Cation	0.22	0.75	0.85	12	J	1	03/09/23 13:00
n-Butyltin Cation	0.31	1.5	1.5	<1		1	03/09/23 13:00
n-Butyltin Cation	0.26	1.3	1.3	<1		1	03/09/23 13:00

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/21/23 16:45
Date Received: 2/1/23

Sample Name: 23A1459-60
Lab Code: K2301289-036

Units: ug/Kg
Basis: Dry
Percent Solids: 78.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.32	0.47	0.50	6	J	1	03/09/23 13:35
n-Butyltin Cation	0.26	0.37	0.39	5	J	1	03/09/23 13:35

Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301289
Date Collected: 01/27/23 13:26
Date Received: 2/1/23

Sample Name: 23A1459-62
Lab Code: K2301289-037

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
n-Butyltin Cation	0.029	0.067	0.076	13		1	03/28/23 18:01

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/16/23 14:20
Date Received: 2/1/23

Sample Name: 23A1459-16
Lab Code: KQ2301898-01

Units: ug/Kg
Basis: Dry
Percent Solids: 74.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.26	24.4	25.1	3		1	03/09/23 14:42
Tri-n-butyltin Cation	0.58	25.5	26.0	2		1	03/09/23 14:42
n-Butyltin Cation	0.35	21.8	25.0	14		1	03/09/23 14:42

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: 01/16/23 14:20
Date Received: 2/1/23

Sample Name: 23A1459-16
Lab Code: KQ2301898-02

Units: ug/Kg
Basis: Dry
Percent Solids: 74.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.25	21.0	21.6	3		1	03/09/23 15:00
Tri-n-butyltin Cation	0.56	24.3	24.4	<1		1	03/09/23 15:00
n-Butyltin Cation	0.34	20.3	23.7	15		1	03/09/23 15:00

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2301898-03

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	26.3	27.0	3		1	03/09/23 14:09
Tri-n-butyltin Cation	0.43	25.9	26.1	<1		1	03/09/23 14:09
n-Butyltin Cation	0.26	27.1	30.4	11		1	03/09/23 14:09

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Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Matrix:	Ocean Water	**Date Received:**	
Sample Name:	Lab Control Sample		
Lab Code:	KQ2301926-02	**Units:**	ug/L
		Basis:	NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.0073	0.317	0.325	2		1	03/28/23 16:22
Tri-n-butyltin Cation	0.012	0.346	0.375	8		1	03/28/23 16:22
n-Butyltin Cation	0.029	0.451	0.453	<1		1	03/28/23 16:22

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Ocean Water

Service Request: K2301289
Date Collected: NA
Date Received:

Sample Name: Duplicate Lab Control Sample
Lab Code: KQ2301926-03

Units: ug/L
Basis: NA

Butyltins

Analytical Method: ALS SOP
Prep Method: EPA 3520C

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.0073	0.292	0.316	8		1	03/28/23 16:39
Tri-n-butyltin Cation	0.012	0.298	0.345	15		1	03/28/23 16:39
n-Butyltin Cation	0.029	0.270	0.308	13		1	03/28/23 16:39

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Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	NA
Matrix:	Sediment	**Date Received:**	
Sample Name:	Lab Control Sample		
Lab Code:	KQ2302045-04	**Units:**	ug/Kg
		Basis:	Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	28.5	42.8	40	P	1	02/26/23 23:33
Tri-n-butyltin Cation	0.43	30.7	39.6	25		1	02/26/23 23:33
n-Butyltin Cation	0.26	20.0	48.6	83	P	1	02/26/23 23:33

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Confirmation Results

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2301289
Project:	23A1459	**Date Collected:**	01/18/23 09:25
Matrix:	Sediment	**Date Received:**	2/1/23
Sample Name:	23A1459-39		
Lab Code:	KQ2304287-01	**Units:**	ug/Kg
		Basis:	Dry
		Percent Solids:	64.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.30	17.4	20.1	14		1	03/09/23 09:51
Tri-n-butyltin Cation	0.67	29.2	29.6	1		1	03/09/23 09:51
n-Butyltin Cation	0.41	26.2	31.0	17		1	03/09/23 09:51

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Confirmation Results

Client: North Water District Lab Services (NWDLS)
Project: 23A1459
Matrix: Sediment

Service Request: K2301289
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ2304287-03

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Di-n-butyltin Cation	0.19	15.4	16.2	5		1	03/09/23 09:00
Tri-n-butyltin Cation	0.43	11.8	11.9	<1		1	03/09/23 09:00
n-Butyltin Cation	0.26	30.2	34.7	14		1	03/09/23 09:00

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Rpt_Final_Pt 2