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

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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: 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

Gregg Pawlak
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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
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APPENDIX A

SAP ERRATA 2

PCCA CDP MPRSA Section 103 Project
Errata Sheet 2
Variance to Proposed Sampling Locations Requested in PCCA CDP SAP

Introduction

This document has been prepared to request variances to sampling locations provided in the Port of Corpus Christi Authority (PCCA) Channel Deepening Project (CDP) project-specific sampling and analysis plan (SAP) and make suggestions for the proposed sampling variances based on real time conditions and health/safety concerns that have arisen throughout field sampling operations to date. This document will be reviewed by the United States Army Corps of Engineers (USACE) and United States Environmental Protection Agency (EPA), and they will provide feedback on the suggested variances.

General Notes/Variance Requests

Inland Borings

As previously discussed with the USACE, EPA and PCCA, Terracon requests a variance for sediment sampling locations within DMMU CPD-06. Note that on the morning of February 13th Terracon mobilized the liftboat and set up on boring location CDP-06B. Both the Pilots and Harbor Master were aware of our drilling location. After allowing the liftboat to stabilize, which took roughly two hours, drilling activities commenced. Upon achieving a depth of 10 feet below the mudline, a tug and associated barge passed the liftboat from the Corpus Christi Channel. The tug had an extremely difficult time maneuvering around the liftboat due to the current off the point of Harbor Island at the Martin Energy Facility and passed within 100 feet of our vessel (see attached photo 1). Shortly after the tug and associated barge passed we received a call from the Harbor Masters office indicating that we needed to move off of Station CDP-06B.

Upon further communications with the Harbor Master and Harbor Pilots, concerns have been raised regarding the locations of both CDP-06B and CDP-06C. At location CDP-06B, in order to handle the strong currents within the channel, the tug captains traverse the corner of Harbor Island off the point of Martin Energy extremely close (see attached photo 2). This ultimately raises a safety concern at boring location CDP-06B as we risk being struck by passing tugs and associated barges. The Harbor Pilots are also concerned that boring location CDP-06C could be unsafe due to the speed at which the large vessels come in and out of the port to address the currents. The large vessels typically swing wide in this location, and potential loss of control by these vessels could ultimately endanger the liftboat.

Challenges and Limitations with CDP-06 Boring Locations

- The DuLarge liftboat has a difficult time maneuvering in strong tides and winds. Therefore, it can take significant time to maneuver the liftboat into position. It is strictly up to the Captain to decide when it is safe to maneuver the liftboat.

- The ingoing and outgoing tides are at their strongest and converge from the various channels off the point near Martin Energy.

- The preload times required to stabilize the DuLarge liftboat prior to commencing any operations on deck can take upwards of two (2) hours for inshore work. It is strictly up to the Captain to decide when it is safe to gain access to the deck and begin drilling operations.

- Once in position it can several minutes to free the liftboat legs from the bottom sediment, sometimes periods greater than 30 minutes. Therefore, to move the liftboat quickly to avoid oncoming vessel traffic is not feasible.

To address the health and safety issues created by the tug barges and large vessel traffic, Terracon requests the following variance to the originally approved boring locations for CDP-06B and CDP-06C (see attached PCCA CDP-06 Sampling Locations map):

1) Based on the safety concern created by the threat of the liftboat being struck by a large vessel at boring location CDP-06C, Terracon proposes to utilize the sediment collected from sample CDP-06A (second location) as sediment sample CDP-06C. This sample was collected on February 14th after the Harbor Master's and Harbor Pilot's expressed safety concerns related to vessel traffic and proximity of these stations to where the vessels have to navigate. This location falls within the dredge prism, and based on its distance from the original CDP-06A boring, located 175 feet southwest of CDP-06A (original location), would help to accurately characterize the sediment within the turning area dredging unit. Site water and duplicate water were also collected from this location as the sediment duplicate had been collected from CDP-06A prior to the safety issues with the remaining sampling locations arising.

2) In order to provide adequate distance for the tug barges to traverse the current off the point of the Martin Energy Facility, and to reduce the potential of the liftboat being struck by passing tug barges, Terracon proposes to move boring CDP-6B over 600 feet to the east. This boring will be advanced within the proposed dredge prism and would serve as the requested third boring to accurately characterize the sediment within the wide turning area dredging unit. We have provided two alternate locations for the proposed boring CDP-06B, with (ALT 1) being our preferred drilling location.

Offshore Borings

According to the PCCA CDP SAP, there are three proposed boring locations within each DMMU at CDP-01 through CDP-05 (i.e., CDP-01A through CDP-01C, …). Note that the location of the proposed borings of the channel extension, located between 5 and 10 nautical miles offshore, is considered a *"New Work"* area. At these distances offshore, the project area is far removed from any source contaminants and represents completely virgin material. Thus, the sediment at sample locations A or B would likely be similar and representative of the sediment from sample location C, or vice versa. Given that the material is likely to be similar between the three target sampling locations (e.g. CDP-01A, B, C), Terracon proposes to decrease the number of sampling locations from three across the width of the channel to one location in the center of the channel (e.g. CDP-01B) and sample within a 300-ft radius of that one centerline location.

The modifications Terracon is requesting to the SAP for offshore operations are based on real time conditions experienced throughout the course of the field operations due to environmental challenges, drilling limitations, limitations of the DuLarge liftboat, and holding time criteria for the analytical samples as discussed below:

a) Environmental Challenges

- The water at the proposed boring locations is extremely deep, ranging from 55 to 75 feet MLLW.
- These depths require a significant length of conductor casing to reach the mudline. Thus, the force of the current and seas will potentially impact the drillers ability to deploy the casing vertically.
- This time of year, fronts come in frequently and impact sea state, with wave heights typically ranging between 4 and 9 feet. There is no way to predict the impact weather will have on sampling operations or the number of weather days that will be encountered.

b) Drilling Challenges

- In order to achieve the required 40-gallons of sediment from each dredging unit, the following number of cores (pushes) and liftboat moves, at a minimum, would be required. CDP-01 = four to five pushes and two moves with estimated 20 foot cores.
- CDP-02 = four to five pushes and two moves with estimated 19 foot cores.
- CDP-03 = seven to eight pushes and up to three moves with estimated 12 foot cores.

- CDP-04 = 14 to 15 pushes and up to five moves with estimated 5 to 6 foot cores.

Note that several assumptions were made to calculate the number of pushes and moves of the liftboat required to achieve the full 40 gallons of material for testing within each dredging unit. These assumptions are explained below.

- The number of cores (pushes) per move estimated above is based on the assumption that the drillers can successfully perform three pushes within the confines of the moonpool before having to move the liftboat to an additional boring location. If the current velocity or sea state is such that the drilling team is unable to set the casing vertically, the casing will have to be further secured using a metal "stinger" which is designed to provide additional support to help the casing remain vertical. When this piece of equipment is used, the drillers can only collect one core in the moonpool before having to move the liftboat to a new drilling location. This is potentially a significant limitation to the number of cores (volume of material) the field team can collect while stabilized at one location, and it is impossible to predict how often or under what conditions the stinger may need to be used.

- The SAP indicates at these offshore locations, the boring will be advanced to project depth or to refusal, whichever comes first. The above-referenced estimated core lengths and number of pushes per station required to achive adequate volume assumes that the drillers will be able to reach the full project depth of 81 feet MLLW. However, depths to refusal during drilling are unknown and nor predictable. If refusal is encountered above project depth, that will impact how long each core will be and how much volume is obtained per core (or push).

- There is no bathymetric data for this proposed channel extension area. Therefore, sediment elevations were estimated from geotechnical cores and nautical charts. If the mudline elevation is deeper than expected, the cores will be shorter than estimated which also affects how much volume can be collected per core.

- The estimated number of cores required at each sampling station to achieve adequate volume is based on a 90 percent recovery. However, percent recovery cannot be predicted based on the unknown lithology at the proposed boring locations.

c) Vessel Challenges and Limitations

- The preload times for the DuLarge liftboat can take upwards of two (2) hours for inshore work and potentially longer for offshore borings. It is strictly up to the Captain to decide when it is safe to gain access to the deck and begin drilling operations.

- The DuLarge liftboat has a difficult time maneuvering in strong tides and winds. Therefore, it can take significant time to maneuver the liftboat into position. It is strictly up to the Captain to decide when it is safe to maneuver the liftboat.

- In relation to sea height, the liftboat has an operational safety threshold of 4 feet. Therefore, once in position and even if a boring has been completed, the liftboat will not jack up, jack down or maneuver so long as waves exceed 4 feet in height. Considering recent weather conditions encountered throughout the duration of field operations and this week's current forecast, the liftboat and drillers would have experienced 4 to 5 weather day delays this week alone where no work could be conducted. If this weather pattern holds true, which can be typical over the winter and early spring periods according to various Captains Terracon has spoken with, this will mean that it could take between 15 to 20 days to complete each DMMUshould A, B and C borings and their associated moves be required to complete the sampling (worst-case scenario assuming numerous weather day delays per DMMU based on prevailing weather pattern).

  If possible and acceptable by the USACE, EPA and PCCA, postponing the offshore portion of the PCCA CDP project until late spring/early summer might be considered to avoid the unpredictable weather delays and unnecessary/volatile expenditures due to the seasonal fluctuations typical for this time of year.

d) Laboratory Holding Times Criteria

- In order to meet holding times and initiate testing in a timely manner, all samples will ideally need to be collected within a 3-week period. The lab needs to be provided adequate time to process and composite the samples and also allow time if any bioassays need to be re-run (e.g., Control sample failure). With the potential and anticipated weather delays based on the current sampling approach in the SAP, meeting the laboratory sample holding times could become an issue. This would be considered a deviation from the SAP.

Proposed Modifications/Variances to Sample Design Outlined in the PCCA CDP SAP

1) The objective of Terracon's proposed sampling approach is to collect a representative sample while minimizing the number of moves the liftboat will have to make within each dredging unit while delivering the samples to the laboratory within holding times so that they have sufficient time to process and initiate testing in a timely manner.

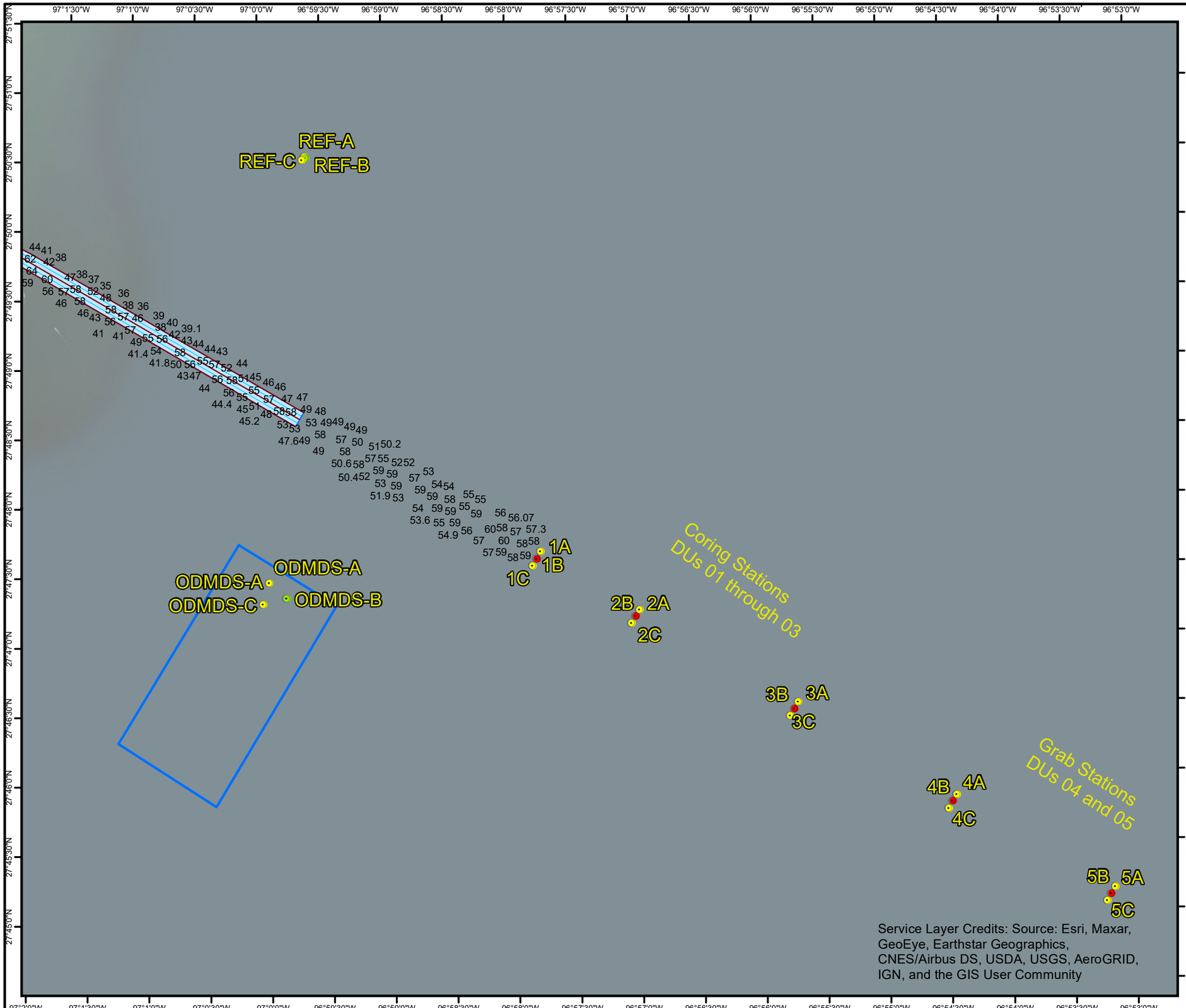
2) For all dredging units CDP-01 through CDP-05, Terracon proposesto collect samples from only the centerline B Stations (see attached PCCA CDP Offshore Sampling Locations map). As previously discussed, the sampling locations are far removed from any source contaminants and represent completely virgin material. Therefore, collection of the sediment from the B Station would be representive of sediment at the other two Stations (A and C for instance).

3) At CDP-01 through CDP-03 and as discussed in bullet 2 above, Terracon proposes to only sample centerline B Stations and limit the number of moves of the liftboat to a maximum of two for each dredging unit. This will allow us to log/characterize the material to project depth (or refusal). However, if sediment recovery is not sufficient to collect the required 40 gallons after two moves and advancement of subsequent cores, Terracon proposes to supplement the volume needed to reach 40 gallons with a grab sampler (box core or double van veen, etc.).

4) Given that sediment elevations at CDP-04 (estimated at -75 to 76 feet MLLW) are already at or near the project depth (less than 5 to 6 feet), Terracon requests approval to collect grab samples at the centerline B Station rather than cores. The number of cores required to achieve adequate volume (upwards of 15 cores with an estimated six moves of the liftboat) is prohibitive from a sampling operations and logistics standpoint. Grab samples will be collected utilizing a box core or double van veen, etc.

5) For Station CDP-05, Terracon proposes to collect the required 40-gallons of sediment utilizing a grab sampler from the centerline B Station rather than a composite from Stations A and C, as previously approved by the USACE and EPA.

PCCA CDP
Offshore Sampling Stations

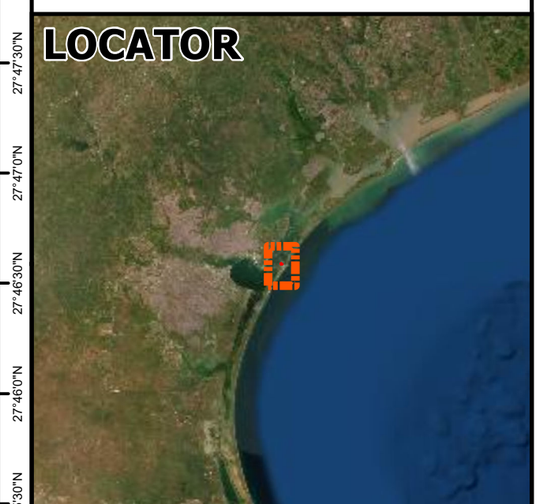


Legend

- Target Sampling Locations
- Proposed Sampling Location
- ODMDS Boundary

N
W E
S

Feet
0 1,500 3,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\21-0014 Aransas-PCCA-HI\PCCA\Map2.mxd
Data sources: ANAMAR, USACE, NOAA

APPENDIX A

SAP ERRATA 3

PCCA CDP MPRSA Section 103 Project
Errata Sheet 3
Variance to Proposed Offshore Sampling Locations Requested in PCCA CDP SAP

Introduction

This document has been prepared to request variances to offshore sampling locations provided in the Port of Corpus Christi Authority (PCCA) Channel Deepening Project (CDP) project-specific sampling and analysis plan (SAP) and to provide explanations for the proposed sampling variances based on real time conditions and health/safety concerns that have arisen throughout field sampling operations to date. This document will be reviewed by the United States Army Corps of Engineers (USACE) and United States Environmental Protection Agency (EPA), and they will provide feedback on the suggested variances.

General Notes/Variance Requests

According to the PCCA CDP SAP, the PCCA CDP will deepen the channel from Station 110+00 to Station –72+50 to a maximum depth of –79 feet mean lower low water (MLLW, –75 feet MLLW plus 2 feet of advanced maintenance and 2 feet of allowable over-dredge), and from Station –72+50 to Station –330+00, the channel will be deepened to a maximum depth of –81 MLLW (–77 feet MLLW plus 2 feet of advanced maintenance and 2 feet of allowable over-dredge).

From February 11 through March 3, 2022, Terracon collected pre-dredge characterization samples from nine Stations within the proposed PCCA CDP footprint (Stations CDP-06A through CDP-09C) utilizing a direct-push technology (DPT) rig mounted on a lift boat, an average of one Station every two days. Surficial samples from the existing New Work Ocean Dredge Material Disposal Site (ODMDS) and Reference Area were also collected utilizing a crew boat and double van veen sampler. The samples were collected to evaluate site surface water, sediment, elutriates, Suspended Particulate Phase (SPP) bioassay, direct toxicity bioassay and the bioaccumulation bioassays for new work sediments within the Outer Channel Reach, Harbor Island Junction, and Corpus Christi Channel adjacent to Harbor Island. All sampling locations were approved by the USACE and EPA following the submittals of Erratas on January 10, 2022 and February 22, 2022.

The ultimate purpose of this proposed sampling was to determine if the new work material sediments proposed to be dredged were acceptable for disposal in the Corpus Christi ODMDS. Throughout the course of this 21-day portion of the project numerous delays were experienced related to inclement weather, strong tides, environmental challenges, drilling limitations, and liftboat limitations, all of which created unanticipated volatile expenditures to the project.

The PCCA CDP will also include a 29,000-foot extension of the Corpus Christi Ship Channel (CCSC) from Station –330+00 to Station -620+00 to a maximum depth of –81 MLLW (–77 feet MLLW plus 2 feet of advanced maintenance and 2 feet of allowable over-dredge) to reach the 80-foot MLLW bathymetric contour in the Gulf of Mexico. The proposed project is needed to accommodate transit of fully laden very large crude carriers (VLCCs) that draft approximately 70 feet.

As requested by Terracon in the February 22, 2022 Errata and as approved by the USACE and EPA, this offshore portion of the PCCA CDP has been delayed until the latter part of June 2022 to reduce the unpredictable weather delays and volatile expenditures that the project experienced during the February 2022 PCCA CDP sampling event.

Offshore Borings

Terracon understands that obtaining statistically viable samples from each Dredge Material Management Unit (DMMU) is a major concern of the EPA. When taking into account that the sediment at DMMUs CDP-01 through CDP-05, located between 5 and 10 nautical miles offshore, is considered as “New Work Material” in the SAP representing completely virgin sediments far removed from any source contaminants, the sediment at sample locations A or B would be homogeneous and representative of the sediment from sample location C, or vice versa. Given that the PCCA CDP proposed 29,000-foot extension of the CCSC from Station –330+00 to Station 620+00 does not include any identified sources for potential contaminants and considering the material within each DMMU between the three target sampling locations (CDP-01A through CDP-01C, CDP-02A through CDP-02C, etc.) would have the same characteristics, Terracon proposes to decrease the number of sampling locations from three across the width of the channel to two statistically viable locations within a 300-ft radius of the centerline of the channel. The two locations would be fully representative of the sediment within the dredge prism of each DMMU and would also serve to alleviate safety concerns related to vessel traffic within the channel by eliminating the centerline “B” stations. The reduction in sampling locations would also help reduce the volatile expenditures created by unpredictable weather delays and the additional project challenges discussed in the following paragraphs. A similar sampling approach was approved by the USACE and EPA for DMMUs CDP-07 through CDP-09 following submittal of the January 10, 2022 Errata.

The modifications Terracon is requesting to the SAP for offshore operations are meant to ensure high quality, statistically viable samples will be obtained and processed within the required laboratory hold timeframes from collection. We submit these requests for review by the USACE and EPA as a solution to real time challenges and conditions experienced throughout the course of the field operations associated with Harbor Island and the inland CDP borings in February 2022 due to environmental challenges, drilling limitations, limitations of the DuLarge liftboat, and holding time criteria for the analytical samples as discussed on the following page:

a. Environmental Challenges

- The water at the proposed boring locations is extremely deep, ranging from 55 to 75 feet MLLW.

- These depths require a significant length of conductor casing to reach the mudline. Thus, the force of the seas will potentially impact the drillers ability to deploy the casing vertically.

b. Drilling Challenges

- Under the present sampling plan outlined in the SAP, in order to achieve the required 40-gallons of sediment from each dredging unit, the following number of cores (pushes) and liftboat moves, at a minimum, would be required.

  - CDP-01 = four to five pushes and three moves with estimated 20 foot cores.

  - CDP-02 = four to five pushes and three moves with estimated 19 foot cores.

  - CDP-03 = seven to eight pushes and up to four moves with estimated 12 foot cores.

Note that several assumptions were made to calculate the number of pushes and moves of the liftboat required to achieve the full 40 gallons of material for testing within each dredging unit. These assumptions are explained below.

- The number of cores (pushes) per move estimated above assumes that the drillers can successfully perform two pushes within the confines of the moonpool before having to move the liftboat to an additional boring location.

- The SAP indicates at these offshore locations, the boring will be advanced to project depth or to refusal, whichever comes first. The above-referenced estimated core lengths and number of pushes per station required to achieve adequate volume assumes that the drillers will be able to reach the full project depth of 81 feet MLLW. However, depths to refusal during drilling are unknown and nor predictable. If refusal is encountered above project depth, that will impact how long each core will be and how much volume is obtained per core (or push).

- There is no bathymetric data for this proposed channel extension area. Therefore, sediment elevations were estimated from geotechnical cores and nautical charts. If the mudline elevation is deeper than expected, the cores will be shorter than estimated which also affects how much volume can be collected per core.

- The estimated number of cores required at each sampling station to achieve adequate volume is based on a 90 percent recovery. However, percent recovery

cannot be predicted based on the unknown lithology at the proposed boring locations.

To help alleviate drilling challenges experienced while advancing inner harbor borings CDP-06A through CDP-09C, Terracon proposes to advance the offshore borings utilizing a sonic drill rig.

c. Vessel Challenges and Limitations

- The preload times for the DuLarge liftboat can take upwards of three (3) hours and longer for offshore borings. It is strictly up to the Captain to decide when it is safe to gain access to the deck and begin drilling operations.

- The DuLarge liftboat has a difficult time maneuvering in strong winds. Therefore, it can take significant time to maneuver the liftboat into position. It is strictly up to the Captain to decide when it is safe to maneuver the liftboat.

- In relation to sea height, the liftboat has an operational safety threshold of 4 feet. Therefore, once in position and even if a boring has been completed, the liftboat will not jack up, jack down or maneuver so long as waves exceed 4 feet in height. Although a more stable weather pattern in late June is anticipated according to various Captains Terracon has spoken with, strong winds and high sea levels could still lead to several days of delay, entailing that it could take between 5 to 10 days to complete each DMMU should A, B and C borings and their associated moves be required to complete the sampling. ***This would result in unnecessary and volatile expenditures to the project.***

- Once in position it can take several minutes to free the liftboat legs from the bottom sediment, sometimes periods greater than 30 minutes. Therefore, to move the liftboat quickly to avoid oncoming vessel traffic is not feasible.

d. Laboratory Holding Times Criteria

- In order to meet holding times and initiate testing in a timely manner, all samples will ideally need to be collected within a 3-week period. The lab needs to be provided adequate time to process and composite the samples and also allow time if any bioassays need to be re-run (e.g., Control sample failure). With the potential and anticipated delays based on the current sampling approach in the SAP, meeting the laboratory sample holding times could become an issue. This would be considered a deviation from the SAP.

<u>Proposed Modifications/Variances to Sample Design Outlined in the PCCA CDP SAP</u>

1. The objective of Terracon's proposed sampling approach is to collect statistically viable samples from each DMMU within the dredge prism while minimizing the number of moves

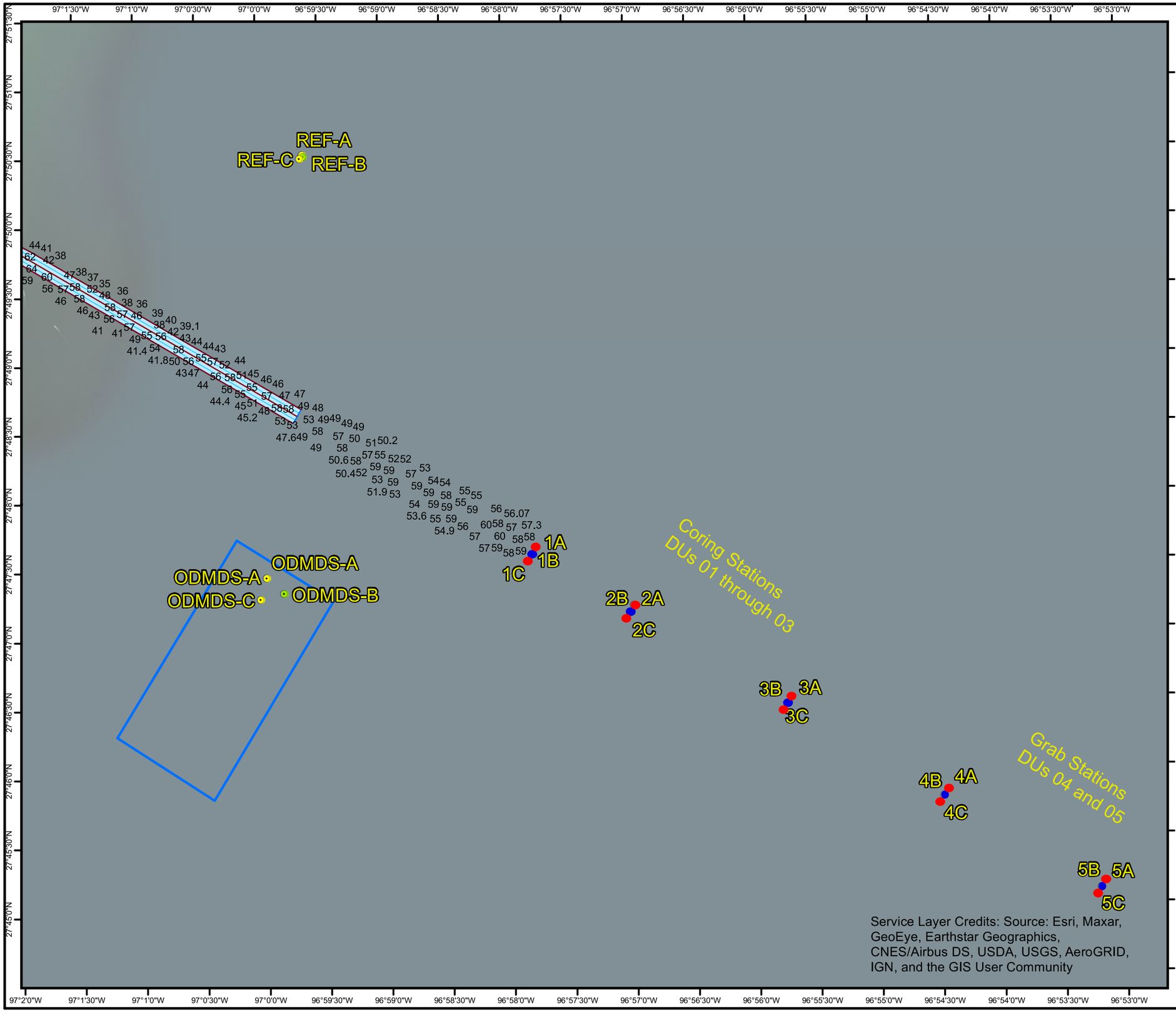
the liftboat will have to make within each dredging unit, thus ensuring that the samples are delivered to the laboratory within holding times so that they have sufficient time to process and initiate testing in a timely manner. This will also help alleviate the volatile expenditures that the project experienced during the February 2022 sampling event.

2. For all dredging units CDP-01 through CDP-05, Terracon proposes to collect samples from two stations within a 300-ft radius of the centerline of the channel. As previously discussed, the sampling locations are far removed from any source contaminants and represent completely virgin material. Therefore, collection of the sediment from two stations within each DMMU would be sufficient to obtain a statistically viable representation of the dredge prism while alleviating safety concerns related to vessel traffic within the channel by eliminating the centerline "B" stations. A similar sampling approach was approved by the USACE and EPA for DMMUs CDP-07 through CDP-09 following submittal of the January 10, 2022 Errata.

3. At CDP-01 through CDP-03 and as discussed in bullet 2 above, Terracon proposes to collect samples from two stations within a 300-ft radius of the centerline of the channel and limit the number of moves for the liftboat to a maximum of two for each dredging unit. This will allow us to log/characterize the material to project depth (or refusal). However, if sediment recovery is not sufficient to collect the required 40 gallons after two moves and advancement of subsequent cores (two per station and four total across each dredging unit), Terracon proposes to supplement the volume needed to reach 40 gallons with a grab sampler (box core or double van veen, etc.). Please note that throughout the duration of sampling as part of this scope, Terracon will provide daily briefings to the USACE and EPA regarding boring progress and any obstacles/setbacks that are encountered. In addition, USACE and EPA concurrence will be obtained prior to supplementing the cores with grab samples.

4. As previously approved by the USACE and EPA in the January 10th and February 22nd Erratas, given that sediment elevations at CDP-04 (estimated at -75 to 76 feet MLLW) and CDP-05 (estimated at -80 feet MLLW) are already at or near the project depth (less than 5 to 6 feet), Terracon will collect the required 40-gallons of sediment at CDP-04 and CDP-05 utilizing a box core or double van veen, etc.

PCCA CDP
Offshore Sampling Stations



Legend

- Target sampling locations within a 300-ft radius of the centerline of the channel.
- Deleted centerline B locations
- ODMDS Boundary

N
W E
S

Feet
0 1,500 3,000

LOCATOR

ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\21-0014 Aransas-PCCA-HI\PCCA\Map2.mxd
Data sources: ANAMAR, USACE, NOAA

APPENDIX A

SAP EMAIL CORRESPONDENCE

Michael Madonna

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Wednesday, August 3, 2022 3:20 PM
To: Michelle Rau; Michael Madonna
Cc: Rajulu, Prasad
Subject: FW: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

FYI – no ODMDS sample required this round.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

11555 Clay Road I Houston, Texas 77043
P (713) 329-2537 (Direct) I P (713) 690-8989 (Main) I F (713) 690-8787 I M (281) 467-2158
gregg.pawlak@terracon.com I terracon.com

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Wednesday, August 3, 2022 2:13 PM
To: Garza, Sarah <Sarah@pocca.com>; Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: RE: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

You are correct, the Corps and EPA agreed that one sample at the ODMDS would suffice for both the Harbor Island Terminal sampling and the Channel Deepening sampling. If you have already collected the sample during the Harbor Island effort you already completed there is no need to sample during this effort.

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: Tuesday, August 2, 2022 12:34 PM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

Hello Jayson,

Please see below update from Terracon on sediment sampling and question.

Thank you.

Sarah L. Garza
Director of Environmental Planning & Compliance
Office (361) 885-6163

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, August 2, 2022 10:29 AM
To: Garza, Sarah <Sarah@pocca.com>
Cc: Barker, Tom <Tom.Barker@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>
Subject: FW: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations
Importance: High

[EXTERNAL EMAIL] CAUTION: This email originated from outside Port of Corpus. Exercise caution when opening attachments or clicking links. Please forward any suspicious content to IT Helpdesk.

Sarah,

I just wanted to send a follow-up email and let you know that we are currently on schedule to commence with the offshore portion of the CDP project on Saturday, August 13th. I will be sending out an email tomorrow informing the team of our anticipated schedule. Also, we need to confirm with the USACE as to whether we need to collect an additional ODMDS water and sediment sample since samples from the ODMDS were previously collected during the inner harbor portion of the project in February.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

11555 Clay Road I Houston, Texas 77043
P (713) 329-2537 (Direct) I P (713) 690-8989 (Main) I F (713) 690-8787 I M (281) 467-2158
gregg.pawlak@terracon.com I terracon.com

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, June 21, 2022 7:17 AM
To: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Garza, Sarah <Sarah@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; McNeil, Harrison <hmcneil@pocca.com>; Schulz, Robert <rschulz@pocca.com>
Subject: RE: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations - Filed - 6/21/2022 9:43:32 AM

You proceed with the remainder of the sediment collection in accordance with the attached Errata 3.

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, June 10, 2022 1:07 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Garza, Sarah <Sarah@pocca.com>
Cc: Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; McNeil, Harrison <hmcneil@pocca.com>; Schulz, Robert <rschulz@pocca.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

Jayson,

Attached is the Errata which includes the modification to Bullet 3 on Page 5 as requested. Please let ne know if you require anything else and have a great weekend.

Gregg

Gregg Pawlak
Senior Scientist I Environmental Department

terracon
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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, June 9, 2022 10:01 AM
To: Garza, Sarah <Sarah@pocca.com>
Cc: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; McNeil, Harrison <hmcneil@pocca.com>; Schulz, Robert <rschulz@pocca.com>; Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Subject: RE: SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

I spoke with EPA and they agree that the daily monitoring and reporting should suffice. Please update Bullet 3 in Errata 3 (Page 5) to include daily reports on the coring effort for CDP 1-3 and a statement that Corps and EPA concurrence is required prior to supplementing the cores with grab samples.

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: Garza, Sarah <Sarah@pocca.com>
Sent: Monday, May 23, 2022 3:54 PM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Cc: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>; Rajulu, Prasad <Prasad.Rajulu@terracon.com>; Barker, Tom <Tom.Barker@terracon.com>; McNeil, Harrison <hmcneil@pocca.com>; Schulz, Robert <rschulz@pocca.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] SWG-2019-00067 SAP Errata 3 for Offshore Sampling Locations

Good afternoon, Jayson,

Please find attached the previously discussed Errata #3 to the Channel Deepening Project Sampling and Analysis Plan for your review and to provide to EPA for their concurrent review and approval. Terracon prepared this Errata as discussed during previous calls to address safety issues and collection of samples without compromise to the hold times. Please let me know if you want to discuss further during our regular call this week and I can coordinate the team joining for the first part of the meeting or if you have any questions.

Thank you.

PORT CORPUS CHRISTI

Sarah L. Garza
Director of Environmental Planning & Compliance
Port of Corpus Christi
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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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m: (361) 813-0068
w: portofcc.com e: sarah@pocca.com

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

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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

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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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gregg.pawlak@terracon.com I terracon.com

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:
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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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gregg.pawlak@terracon.com I terracon.com

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

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Pawlak, Gregg A.

From:	Garza, Sarah <Sarah@pocca.com>
Sent:	Tuesday, February 14, 2023 7:49 AM
To:	Pawlak, Gregg A.; Rajulu, Prasad; Barker, Tom
Cc:	McNeil, Harrison; Schulz, Robert
Subject:	FW: CDP-03 / Reference Sample Comparison
Attachments:	RE: Harbor Island and CDP Resampling Events

Good Morning – With regard to what reference samples to use for CDP-03 duplicate re-sampling, Jayson has provided clarification and reference to his prior email, which you received from me on the same day. However, the question being asked at that time was if the ODMDS reference samples should be collected again.

Thank you.

PORT CORPUS CHRISTI

Sarah L. Garza

Director of Environmental Planning & Compliance

Port of Corpus Christi

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w: portofcc.com e: sarah@pocca.com

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, February 14, 2023 7:19 AM
To: Garza, Sarah <Sarah@pocca.com>
Subject: RE: CDP-03 / Reference Sample Comparison

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Sarah,

The Corps and EPA clarified in our January 17, 2023 email that since the reference samples were not affected by the holding time error, the choice to re-sample them would mean that all new samples collected in this effort would be compared against the new reference samples. There was no allowance made for CDP-3 to compare against the original reference data.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

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https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Garza, Sarah <Sarah@pocca.com>
Sent: Monday, February 13, 2023 10:21 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] CDP-03 / Reference Sample Comparison

Hi Jayson,

On the rerun of CDP-03 duplicate, do you want Terracon to compare the sample to the prior reference samples or do you want that sample compared to the new reference samples? I feel like the answer is the prior reference samples, so all samples are compared to the same reference samples but want to be certain we have alignment.

Thank you.

PORT CORPUS CHRISTI

Sarah L. Garza

Director of Environmental Planning & Compliance
Port of Corpus Christi
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m: (361) 813-0068
w: portofcc.com e: sarah@pocca.com

Michael Madonna

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Tuesday, February 22, 2022 4:48 PM
To: Pawlak, Gregg A.; Rajulu, Prasad; Garza, Sarah; Schulz, Robert; McNeil, Harrison
Cc: Barker, Tom; Michelle Rau; Michael Madonna; Paul Berman; Jacques, Wendy; McCormick, Karen; Rickards, Lisa; HEINLY, Robert W CIV USARMY CESWG (USA); Porter, Sheraden J.; Coleman, Janet A.
Subject: RE: PCCA CDP Update - Station CDP-06

Gregg,

The Corps and EPA have reviewed the proposal to changes the CDP SAP.

1. We do not agree with the proposal for DMMU 6. DMMU 6B ALT1 and DMMU 6A back-up (proposed as DMMU 6C) are both outside of the proposed dredge prism. You may retain DMMU6A, and add DMMU 6B ALT2 but you will need to find a location for DMMU C that is clearly in the proposed dredge prism. We recommend considering southeast in the dredge prism from your proposed DMMU 6B ALT 2.U
2. We do agree that you may use a grab sample for DMMU 4, but we do not agree that sampling of only one substation from DMMUs 1-5 represents a statistically viable sample. You note in your errata that you are considering postponing field collection of these sample until spring/summer. Since work has not begun collecting these samples, and holing times will not be affected, the Corps and EPA have no objection to postponing collection of DMMUs 1-5 until better weather.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

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https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, February 22, 2022 10:11 AM
To: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>; Rajulu, Prasad <Prasad.Rajulu@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>; Jacques, Wendy <Jacques.Wendy@epa.gov>; McCormick, Karen <mccormick.karen@epa.gov>; Rickards, Lisa <Rickards.Lisa@epa.gov>; HEINLY, Robert W CIV USARMY CESWG (USA) <Robert.W.Heinly@usace.army.mil>; Porter, Sheraden J. <Sheraden.Porter@terracon.com>; Coleman, Janet A. <Janet.Coleman@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: PCCA CDP Update - Station CDP-06

Jayson,

As requested last week on a conference call between the USACE, PCCA and Terracon, attached is the Errata Sheet which has been prepared to request variances to sampling locations provided in the PCCA CDP project-specific sampling and analysis plan (SAP) and to provide explanations for the proposed sampling variances based on real time conditions and health/safety concerns that have arisen throughout field sampling operations to date.

- Note that the locations of the proposed borings have been reviewed by and are acceptable to the Harbor Pilots and Harbor Master as well.

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: Wednesday, February 16, 2022 5:47 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>; Jacques, Wendy <Jacques.Wendy@epa.gov>; McCormick, Karen <mccormick.karen@epa.gov>; Rickards, Lisa <Rickards.Lisa@epa.gov>; HEINLY, Robert W CIV USARMY CESWG (USA) <Robert.W.Heinly@usace.army.mil>
Subject: RE: PCCA CDP Update - Station CDP-06

Thursday at 1pm is the only time we have available in the next two days. I have sent a meeting invite.

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: Wednesday, February 16, 2022 3:47 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>; Jacques, Wendy <Jacques.Wendy@epa.gov>; McCormick, Karen <mccormick.karen@epa.gov>; Rickards, Lisa <Rickards.Lisa@epa.gov>; HEINLY, Robert W CIV USARMY CESWG (USA) <Robert.W.Heinly@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: PCCA CDP Update - Station CDP-06

Sarah and Jason,

Possible to have a call tomorrow or Friday to discuss the sampling with CDP-06. Also, we could like to discuss options for CDP 01 -05 – the offshore boring locations. Please give us a few options and we will make it work on our end.

Prasad Rajulu, P.E.
Senior Associate
Site Investigations Group Mananger I Environmental Department

11555 Clay Road I Houston, Texas 77043
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prajulu@terracon.com I terracon.com

From: Hudson, Jayson M CIV USARMY CESWG (USA) <Jayson.M.Hudson@usace.army.mil>
Sent: Wednesday, February 16, 2022 10:15 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>; Jacques, Wendy <Jacques.Wendy@epa.gov>; McCormick, Karen <mccormick.karen@epa.gov>; Rickards, Lisa <Rickards.Lisa@epa.gov>; HEINLY, Robert W CIV USARMY CESWG (USA) <Robert.W.Heinly@usace.army.mil>
Subject: RE: PCCA CDP Update - Station CDP-06

Gregg,

The Corps and EPA understand the concerns about safety and the difficulty navigating in this area. However, we have concluded that the combination of the reduction in substations for DMMUs 7, 8, and 9 that a sample from a single substation at DMMU 6 will underrepresent the sampling unit in addition to eliminating the required discrete sediment chemistry. DMMU 6 represents the turning area in the dredge prism, which is fairly wide in this location. The Corps and EPA agree that there should be sufficient area in the dredge prism to work with the Harbor Master and Pilots to find a time and location to collect the remaining substations for this turning area. Once you have identified the new locations you will need to coordinate them with the Corps and EPA for approval.

Jayson M Hudson
Regulatory Project Manager
409.766.3108

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From: Pawlak, Gregg A. <Gregg.Pawlak@terracon.com>
Sent: Tuesday, February 15, 2022 4:08 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>; Rajulu, Prasad

<Prasad.Rajulu@terracon.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] PCCA CDP Update - Station CDP-06

Jayson,

I just wanted to discuss the need for a variance at Station CPD-06. Note that on the morning of February 13th Terracon mobilized the lift boat and set up on boring location CDP-06B. Both the Pilots and Harbor Master were aware of our drilling location. After allowing the lift boat to stabilize, which took roughly two hours, we commenced with drilling. Upon achieving a depth of 10 feet within the mudline a tug and associated barge passed us from the Corpus Christi Channel. The tug had an extremely difficult time maneuvering around the lift boat due to the current off the point of Harbor Island at the Martin Energy Facility and passed within 100 feet of our vessel (see attached jpg photo). Shortly after the tug and associated barge passed we received a call from the Harbor Masters office indicating that we needed to move off of station CDP-06B.

Upon further communications with the Harbor Master and Pilots concerns have been raised regarding the locations of both CDP-06B and CDP-06C. At location CDP-06B, in order to handle the strong currents within the channel, the tug captains traverse the corner of Harbor Island off the point of Martin Energy extremely close (see attached pdf photo). This ultimately raises a safety concern at boring CDP-06B as we risk being struck by passing tugs and associated barges. The Pilots are also concerned that boring location CDP-06C could be unsafe due to the speed at which the large vessels come in and out of the port to address the currents. The large vessels typically swing wide in this location, and potential loss of control could endanger the lift boat.

Since we were unable to sample at Stations B and C within this dredging unit due to the Harbor Master's and Pilot's safety concerns related to vessel traffic and proximity of these stations to where the vessels have to navigate, all of the sample volume for this unit was collected at CDP-06A (on February 12th and 14th), with the exception of 5-gallons of sediment which were collected from CDP-06B. Site water and duplicate water were also collected from this location as the sediment duplicate had been collected from CDP-06A prior to the safety issues with the remaining sampling locations arising. Therefore, we request that the sediment and water samples collected from CDP-06A suffice for characterizing this dredging unit.

If allowed to only collect sediment from location CDP-06A due to the safety concerns discussed above, will the USACE and EPA want discrete sediment chemistry run on the cores that were collected on different days, even though they are from the same station (CDP-06A)? Will the USACE and EPA also allow us to use this as the duplicate location since two of the stations were eliminated? We are currently sampling Station 7 and will wait for your response before proceeding with sample analysis at Station 6.

Would everyone also like to have a call to discuss the project to date over the next few days?

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

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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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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:
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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

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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

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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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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

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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:
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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 <u>any</u> 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

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

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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 B

FIELD PAPERWORK

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Sample ID: CDP-01-1A **Sampled By:** MAM, JC, Cascade Drill Crew. ANAMAR, Terracon, Cascade
Sampling Date: 08/16/2022 **Client:** PCCA
Start Sampling Time: 1330 **End Sampling Time:** 1630

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling
~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: ~20 gal.

Sediment Container(s):
Type and Number: Teflon® 4 Glass____ Plastic____ Ziploc®____ Other Buckets - 4 Total ~20 gal.
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): 1.0 @ 1324 **Waypoint ID:** 72
- Water Depth (ft): 60.5 **GPS ID:** Montana - ANAMAR GPS
= Top of Core Elevation (ft): -59.5 **Latitude (Northing):**____
- Project Depth (ft): -81 **Longitude (Easting):**____
= Target Penetration (ft): 21.5

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____
Weather (circle one): Sunny P. Cloudy Cloudy Rain? (drizzle, moderate, heavy) Hot 90°-95°, Humid.
Wind Direction: N NE E SE S SW W NW

Notes: 12:15 Conducted Risk Assessment w/ Lift Boat + Field Crew Staff -
1230 - Access to Deck to initiate work. Drill Crew Set up.
1320 - Opening Moon Pool to Start setting Casing -
1334 - Took Tide Elevation + Calculations for Core length to Project Depth.
1430 - Crew Collecting first push + Removed
1450 - Measured Penetration using Lead Line - 14' Soft at Top -
Collected ~15 gal. from 11 feet of recovery - See log -
2nd Push to reach Project Depth Washed out - No Recovery
1610 - 3rd Push to reach Project Depth - Penetrated 9' w/ 4' of Recovery
1620 Retained All of recovery for Sample Collection.
1630 - Call to Michelle Rau at ANAMAR to Discuss the
Sample Recovery + for Collection - Confirmed.
1645 - Drill Crew Clearing Deck - Securing equipment -
1715 - All Crew off Deck -

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-01-1A

Sampling Date: 08/16/2022

Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 6"

Core 1	Time 1330	Core	Time End Time 1630
Core penetration length: 14+9=23		Core penetration length:	
Bottom of core elevation (ft): 82.4		Bottom of core elevation (ft):	
Recovery Length (ft): 11+4=15	% Recovery 65%	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	Silty Clay Soft Wet	22	
1	gray in color	23	
2	2-3' = Clayey Sand Soft		23' Bottom of Penetration
3	Wet Gray		
4	3-14' Soft Clay - Gray		
5	Wet		
6			
7	Sand Loose, Gray 7'-8'		
8			
9			
10			
11			
12			
13	14' Penetration w/ 11' of Recov		
14			
15	Soft Silty Clay		
16	Wet Gray (unconsolidated).		
17			
18			
19			
20	4 ft. of Recovery - Retained		
21	All		

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: 1st Push 14' Penetration - 2nd Push - No Recovery - Washed out Sample was not retained. 3rd Push 9' Penetration to reach Project Depth - low Recovery 4'

Notes:

ANAMAR
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Core Log (Sheet 1 of 2)

PROJECT: PCCA Deepening Section 103

Sample ID: CDP-01-1C **Sampled By:** MAM, JC, Cascade Drill Crew

Sampling Date: 08/17/2022 **Client:** PCCA

Start Sampling Time: 0640 **End Sampling Time:** 0915

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling -

~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: 5 Buckets 25 gal.

Sediment Container(s):

Type and Number: Teflon® 5 Glass___ Plastic___ Ziploc®___ Other Buckets

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): 1.2 at 0654 **Waypoint ID:** 73

- Water Depth (ft): 62 **GPS ID:** Montana

= Top of Core Elevation (ft): -60.8 **Latitude (Northing):** ___

- Project Depth (ft): -81 **Longitude (Easting):** ___

= Target Penetration (ft): 20.2

Tidal Cycle (circle two): Low Mid to High [and] Slack Incoming Outgoing High to Mid 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) 90° Humid

Wind Direction: N NE E SE S SW W NW

Notes: 0640 - Way Pt - Measurements - Crew Boat arrived at 0715 for Crew Change - Drill Crew Started Setting Casing. 0800 - Started Coring - Penetrated 22' - Discarded Cores P.D. 0845 - Sampling Completed - 5 Buckets - 0915 - in Ref. Trailer 0940 Jacking Down to Mobilize to 2A

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-01-1C

Sampling Date: 8/17/2022

Photograph(s) Taken (circle one): (Yes) No

Core diameter (inches): 6"

Core 1	Time 0700 Start	Core 1	Time 0915 End Time
Core penetration length: 22		Core penetration length:	
Bottom of core elevation (ft): 82.8		Bottom of core elevation (ft):	
Recovery Length (ft): 22	% Recovery 100	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	0-7' Silty Clay - Gray	22	Bottom of Core Elevation 22'
1	Soft, Wet, unconsolidated		Discarded. Penetration
2			
3			
4			
5			
6			
7			
8	8-10' Clayey Sand, Gray		
9	Soft, Wet		
10			
11	11-14.5 Silty Clay - Gray		
12	Soft, Wet		
13			
14			
15	14.5-15 Clayey Sand Gray Soft/wet		
16	15-21 Silty Clay gray		
17	Soft Wet w/		
18	Sand lenses 16', 18' + 20'		
19			
20			
21	Discarded Below Project Depth - 1.8'		

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: Overpenetrated to Retain Sediment down to Project Depth Discarded Below Project Depth 1.8' Discarded -	**Notes:**

* In Error Photo Card Referenced 0-24', Penetration was only 22' - M. Madonna -

ANAMAR
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Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Sample ID: CDP-02-2A **Sampled By:** MAM, JC, Cascade Drill Crew.
Sampling Date: 08/17/2022 **Client:** PCCA
Start Sampling Time: 1245 **End Sampling Time:** 1500

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling
~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: 22 gals.

Sediment Container(s):
Type and Number: Teflon® 4 Glass____ Plastic____ Ziploc®____ Other 4 Buckets

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): 0.6 at 1242 **Waypoint ID:** 74

- Water Depth (ft): 64.5 **GPS ID:** Montana

= Top of Core Elevation (ft): -63.9 **Latitude (Northing):** ____

- Project Depth (ft): -81 **Longitude (Easting):** ____

= Target Penetration (ft): 17.1

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) Hot - 95°-97°, Humid.

Wind Direction: N NE E SE S SW W NW

Notes: 1025 - Arriving on Station CDP-02-2A ~50 from Original Location.
1035 - Jack up Lift Boat - Preloading - Lunch Break -
1215 - Access to Deck - Set up - Drill Crew - Set Casing -
1245 - Took Measurements + Surface Elevation -
1300 - Began coring - Per Driller - Soft at ~17 to 20'
Overpenetrated to retain sample in Core barrel
and Project Depth Sediment for Collection -
1430 - Processing Sample - Photos - Collected in ziplock bags.
1500 - Completed All Samples in Refrigerator Trailer.
Cleaning / Clearing the Deck -
1530 - Lift Boat Mobilizing to Station 2C

Core Log (Sheet __ of __)

ANAMAR
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Project Name: Corpus Christi Channel Deepening

Sample ID: ~~CDP-2A~~ CDP-02-2A

Sampling Date: 8-17-2022

Photograph(s) Taken (circle one): Yes No

Core diameter (inches):

Core 1	Time 1245 Start	Core 1	Time 1500 - End Time
Core penetration length: 23.5		Core penetration length:	
Bottom of core elevation (ft): 87.5		Bottom of core elevation (ft):	
Recovery Length (ft): 23.5	% Recovery 100	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	0-2.5 - silty clay unconsolidated	23	Discard
1	gray soft wet	23.5	
2	1 snail shell at top *		
3	2.5-3 - sandy clay gray		
4	soft moist		
5	3-4.5 - silty clay - gray		
6	soft wet		
7	4.5-10.5 sandy clay -		
8	gray soft wet		
9	10.5-23.5 - silty clay		
10	gray soft wet.		
11			
12			
13			
14			
15			
16	15.5		
17	* Project Depth 81'		
18	Discard 10.5'		
19			
20			
21			

Live Organisms? Yes No **(Describe)** 1 Snail *	**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: Overpenetrated to retain Sample for processing to Project Depth - 81' Discarded Below Project Depth Retained 17'1" - for analysis.	**Notes:**

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)

PROJECT: PCCA Deepening Section 103

Sample ID: CDP-02-2C **Sampled By:** MAM, JC, Cascade Crew

Sampling Date: 08/18/2022 **Client:** PCCA

Start Sampling Time: 0655 **End Sampling Time:** 0830

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling

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

Water Surface Elevation (tide ht) (ft): 1.1 @ 6:48 **Waypoint ID:** 75

- Water Depth (ft): 65 **GPS ID:** Montana

= Top of Core Elevation (ft): -63.9 **Latitude (Northing):**

- Project Depth (ft): -81 **Longitude (Easting):**

= Target Penetration (ft): 17.1

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) 90 Humid.

Wind Direction: N NE E SE S SW W NW

Notes: 0655 - Took Measurements/Calculations
0700 Drill Crew Set Casing Started Sampling -
0800 - Coring Complete - Processed Sample
0830 - Sample processing Complete - Samples in Ref. Trailer
0900 - Cleaned Deck ready to mobilize to 3A.

Core Log (Sheet 2 of 2)

ANAMAR Environmental Consulting, Inc.

CDP-02-2C

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-02-2A C

Sampling Date: 8-18-22

Photograph(s) Taken (circle one): Yes No

Core diameter (inches): ~~0655~~ 6"

Core 1	Time 0655 Start	Core 1	Time 0830 End.
Core penetration length: 23.5		Core penetration length:	
Bottom of core elevation (ft): 87.5		Bottom of core elevation (ft):	
Recovery Length (ft): 23.5	% Recovery 100	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	64' 0-1.5' - silty clay w/	22.	
1	sand lenses, soft, gray	23.	
2	wet unconsolidated	23.5	23-23.5 - sand green gray
3			fine grained
4	1.5-14.5 - Silty clay - gray		
5	wet soft		Discard last 6.5'
6			18-23.5
7			
8			
9			
10	13' (77')		
11	~~11.5~~ - 1. snail shell		
12			
13			
14			
15	15' sand lense ~5"		
16	16-16.5 - clayey sand - gray - wet,	soft	
17	project depth 81'		
18	16.5-~~81~~ 23.5 - silty clay		
19	gray wet soft		
20			
21			

Live Organisms? Yes No **(Describe)** Dead Snail @ 13'	**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: Overpenetrated Soft Clay to Return Sample to Project Depth - Discarded 6.5' below project Depth	**Notes:**

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Core Log (Sheet 1 of 2) Core #1
PROJECT: PCCA Deepening Section 103

Sample ID: CDP-03-3A **Sampled By:** MAM, JC, Cascade Crew
Sampling Date: 08/18/2022 **Client:** PCCA
Start Sampling Time: 1215 **End Sampling Time:** 1345

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling
Vibracore ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: 12-14 gal.

Sediment Container(s):
Type and Number: Teflon® 3 Glass___ Plastic___ Ziploc®___ Other Bucketo

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 @ 1212 **Waypoint ID:** 76

- Water Depth (ft): 69.5 **GPS ID:** Montana

= Top of Core Elevation (ft): -68.9 = 69 **Latitude (Northing):**

- Project Depth (ft): -81 **Longitude (Easting):**

= Target Penetration (ft): 12.1

Tidal Cycle (circle two): Low (Mid) High [and] Slack Incoming (Outgoing) Mid to low 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) 95 Humid.

Wind Direction: N NE E (SE) S SW W NW

Notes: 1215 took measurements - Started Coring -
1315 - Coring Complete - Processing Sample
1345 - Sampling Complete - Stored in Ref. Trailer.

Core Log (Sheet __ of __)

ANAMAR
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Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-03-3A Core #1

Sampling Date: 8-18-22

Photograph(s) Taken (circle one): Yes No

Core diameter (inches):

Core #1 Time	Core Time
Core penetration length: 25	Core penetration length:
Bottom of core elevation (ft): -14	Bottom of core elevation (ft):
Recovery Length (ft): 25 % Recovery 100	Recovery Length (ft): % Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	161' 0-2 silty clay - unconsolidated	22	Discard last 13'
1	gray, soft wet.	23	below project depth
2	2-2.5 sandy clay - gray soft	24	
3	wet	25	
4	2.5-12' silty clay - gray soft		
5	wet		
6	75		
7			
8	6-8 - sand lenses		
9			
10			
11			
12	project depth 81'		
13	Discard below		
14	project depth		
15			
16			
17			
18			
19			
20			
21			

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:**

25' penetration - soft material so driller over penetrated to retain project depth. Discarded below the Project Depth 13'

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Core #2 Duplicate -

Sample ID: CDP-03-3A Core #2 **Sampled By:** MAM, JC, Cascade
Sampling Date: 08/18/2022 **Client:** PCCA
Start Sampling Time: 1600 **End Sampling Time:** 1700

Collection Method (Circle one): Sonic Drill Rig
~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ **Total Volume Collected:** 6gal/1 Bucket w/ Teflon - Duplicate
~~1 Bucket No Teflon~~
6gal/Extra for Tox. Analysis.

Sediment Container(s):
Type and Number: Teflon® 1 Glass____ Plastic____ Ziploc®____ Other Buckets - 2

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): 0.35 @1554 **Waypoint ID:** 77
- Water Depth (ft): 69 **GPS ID:** Montana
= Top of Core Elevation (ft): -68.6 **Latitude (Northing):**____
- Project Depth (ft): -81 **Longitude (Easting):**____
= Target Penetration (ft): 12.5'

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____
Weather (circle one): Sunny P. Cloudy Cloudy Rain? (drizzle, moderate, heavy) 90° Humid.
Wind Direction: N NE E SE S SW W NW

Notes: 1535 Access to Deck - Decon Core Barrels -
1540 - Drill Crew Setting Casing -
1600 - Measurements/Calculations - Started Coring.
1635 - Coring Complete Extruding Sample -
Processed Sample - Split in Half for Duplicate
Sample Analysis Collected in Teflon Bag -
The other vertical Half in Bucket - Extra for
Toxicology analysis and archive -
1700 - Sampling Complete - Sample in Ref. Trailer -
1730 - Cleared Deck -
Need to Mobilize to 3C

Core Log (Sheet 2 of 2)

ANAMAR
Environmental Consulting, Inc.

Duplicate

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-03-3A core#2

Sampling Date: 8-18-22

Photograph(s) Taken (circle one): Yes No

Core diameter (inches): 6"

Core #2	Time 1600 Start	Core #2	Time 1700 End Time
Core penetration length: 24		Core penetration length:	
Bottom of core elevation (ft): 9.3'		Bottom of core elevation (ft):	
Recovery Length (ft): 23	% Recovery 96%	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	0-0.3 silty clay - gray	22	Discard 11.5' from Bottom of Sample
1	unconsolidated, soft wet	23	
2		24	
3	3 - 12.5 silty clay - gray		
4	soft wet.		
5			
6			
7			
8			
9			
10			
11			
12	piece of gypson at 8'		
13	- project depth 12.5		
14	Discard 11.5'		
15			
16			
17			
18			
19			
20			
21			

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:**

penetrated 24' over penetrated due to soft material to retain project depth - Discarded below Project Depth 11.5'

ANAMAR
Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Sample ID: CDP-03-3C Core 1 **Sampled By:** MAM, JC, Cascade Drill Crew
Sampling Date: 08/19/2022 **Client:** PCCA
Start Sampling Time: 0705 **End Sampling Time:** 0810

Collection Method (Circle one): Sonic Drill Rig - Cascade Drilling -
~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: ~18 gal

Sediment Container(s):
Type and Number: Teflon® 4 Glass____ Plastic____ Ziploc®____ Other Buckets 4 Total
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): 1.1 @ 0700 **Waypoint ID:** 78
- Water Depth (ft): 70 **GPS ID:** Montana
= Top of Core Elevation (ft): -68.9 **Latitude (Northing):**____
- Project Depth (ft): -81 **Longitude (Easting):**____
= Target Penetration (ft): 12.1

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing High to Mid
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: 0615 Access to Deck - Crew Setup - fuel in Generator
0640 - Setting Casing - Started Core - at 0710
0800 - Sample Extruded for processing - 0810 See Log -
0840 - Samples in Ref. Trailer
Decon Core Barrels -
0910 Jack Down to Shift over to Complete Core #2

Core Log (Sheet 2 of 2)

*CDP-03-3C Core 1

ANAMAR Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-03-3A/C core #1

Sampling Date: 8-19-22

Photograph(s) Taken (circle one): Yes No

Core diameter (inches): 6"

Core #1	Time 0705 Start.	Core 1	Time 0810 End.
Core penetration length: 26		Core penetration length:	
Bottom of core elevation (ft): 95		Bottom of core elevation (ft):	
Recovery Length (ft): 26	% Recovery 100	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	0-6- silty clay - unconsolidated	22	Discard Inst 14'
1	soft gray wet	23	
2		24	
3	6-12- silty clay - soft	25	
4	gray wet	26	
5			
6			
7			
8			
9			
10	gypsum flakes @ 10'		
11			
12	project depth		
13			
14	Discard Inst 14'		
15			
16			
17			
18			
19			
20			
21			

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: Very Soft, Unconsolidated at Surface - Driller Overpenetrates to retain project depth. - Discarded 14' below project Depth -	**Notes:** - The Capt. Made Comment when picking up for Preloading.

* Michael Madonna Revisions to Sample I.D.

CDP-03-3C Core #2 Duplicate

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Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)

PROJECT: PCCA Deepening Section 103

Sample ID: CDP-03-3C Core #2 Duplicate **Sampled By:** MAM, JC, Cascade Drill Crew

Sampling Date: 08/19/2022 **Client:** PCCA

Start Sampling Time: _____ **End Sampling Time:** _____

Collection Method (Circle one): Sonic Drill Rig Cascade Drilling -

~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: ~18gal.

Sediment Container(s):

Type and Number: Teflon® 2 Glass_____ Plastic_____ Ziploc®_____ Other *Buckets - 4 Total

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): 0.64 @ 1142 **Waypoint ID:** 79

- Water Depth (ft): 70 **GPS ID:** Montana

= Top of Core Elevation (ft): -69.4 **Latitude (Northing):** _____

- Project Depth (ft): -81 **Longitude (Easting):** _____

= Target Penetration (ft): 11.6

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing Mid to Low 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) 95 Humid

Wind Direction: N NE E SE S SW W NW

Notes: 1100 Access to Deck - Decon Core Barrels -
1125 - Collected Eq. Blank w/ DI Water - Lab Provided Containers
1145 - Measurments - Started Coring -
1245 - Extruded Sample - Processed Sample - 1250
1320 - Samples in Ref. Trailer -
- Drill Crew Clears Deck - Secures Equipment to Mobilize Back to Dock -
1430 - Mobilizing to Martin Energy Dock - See DQCR

* 2 Buckets w/ Teflon Bag - for Duplicate.
2 Buckets No Teflon Bag Extra for Tox. Analysis/Archive.

Core Log (Sheet 2 of 2)

*CDP-03-3C Core #2 Duplicate

ANAMAR Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening

Sample ID: CDP-03-3~~A~~C core #2 Duplicate

Sampling Date: 8-19-22

Photograph(s) Taken (circle one): Yes No

Core diameter (inches): 6"

Core #2	Time 1145 Start	Core #2	Time 1320
Core penetration length: 24		Core penetration length:	
Bottom of core elevation (ft): 93.5		Bottom of core elevation (ft):	
Recovery Length (ft): 24	% Recovery 100	Recovery Length (ft):	% Recovery

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
0	109.4 0-5- silty clay - gray	22	Discard 12.5'
1	soft wet unconsolidated	23	
2		24	
3	5-11.5- silty clay - gray		
4	soft wet		
5			
6			
7			
8			
9			
10			
11			
12	- project depth 11.5 8"		
13			
14	Discard 12.5'		
15			
16			
17			
18			
19			
20			
21			

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: Driller overpenitrated to retain material for project depth. Very Soft Unconsolidated at Surface - Capt. Noted when Quickly + Preloading -	**Notes:** Discarded Below Project Depth 12.5' Discarded

* Michael Madonna Revisions to Sample ID

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Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Section 103 Deepening

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: 1/22/2023

Samples Collected: CDP-03-3A
CDP-03-3C

Notes,Comments: 0600 - Meeting - Working offshore - Discussed operations + procedures for the Vessel + Drilling Crew -
0630 Inspected the Generators + Ref. Trailer - Refueled in Generator -
0700 - Lowering Crane into Transport positioning - Then Jackdown
0715 Mobilizing offshore -
0930 - Arrived at Station CDP-03-3A - Preloading -
1025 - Access to Deck
1050 - Started Coring - 1150 - Sampling Completed 3A
Sampling Ref Trailer - Secured Deck -
1230 - Lowering down - mobilizing to CDP-03-3C
1310 - Arrived on station - Preloading -
1340 - Access to deck - Set Coring + 1400 Started Coring -
1500 - Sampling completed CDP-03 3C - Sampling Ref. Trailer -
1515 Secured Deck -
1530 - Mobilizing to Martin Energy -
1730 - Arrived at Martin Energy -

Mh Dan

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Environmental Consulting, Inc.

Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Sample ID: CDP03-3A **Sampled By:** MAM, SJP, CA, Cascade
Sampling Date: 1/22/2023 **Client:** PCCA
Start Sampling Time: 1050 **End Sampling Time:** 1150 -

Collection Method (Circle one): Sonic Drill Rig
~~Vibracore~~ ~~Push Core~~ ~~Auger~~ ~~Split Spoon~~ Total Volume Collected: 8-10 gal ~~10 gal~~.

Sediment Container(s):
Type and Number: Teflon® 2 Glass____ Plastic____ Ziploc®____ Other Buckets - 2

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): .35 @ 1042 **Waypoint ID:** 456 - Garmin 1
- Water Depth (ft): 66.5 **GPS ID:** Montana
= Top of Core Elevation (ft): 66.2 **Latitude (Northing):**____
- Project Depth (ft): -81 **Longitude (Easting):**____
= Target Penetration (ft): 14.8

Tidal Cycle (circle two): Low Mid High [and] Slack Incoming Outgoing
Wind Speed (knots): 0–5 5–10 10–15 >15 - 20 knots
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: 1025 - Access to Deck 1050 Measurements -
Started Coring -
1140 Lost - ~3' from upper Mid line - West + Unconsolidated
when Extruded from core barrel
12' Retained -
1150 - Sample Collected Placed in Ref. Trailer
1155 Cleared Deck Decon - Core Barrels -

Core Log (Sheet 2 of 2)

ANAMAR
Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening
Sample ID: CDP-03-3A
Sampling Date: 1/23/2023
Photograph(s) Taken (circle one): Yes No
Core diameter (inches): 4"

End 1150 -

Core 1 Time 1050 Start	**Core** _____ Time _____
Core penetration length: 15	Core penetration length: _____
Bottom of core elevation (ft): -81.2	Bottom of core elevation (ft): _____
Recovery Length (ft): 12 % Recovery 80%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
1	Wet Olive Gray Silty		
2	Sand -		
3	Olive Gray Silty Clay		
4	Soft - Sticky		
5			
6			
7			
8	Olive Gray Silty Clay		
9			
10			
11			
12	Olive Gray Clay - Stiff		
13			
14			
15			
16			
17			
18			

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: Very Wet Unconsolidated at Mudline Surface Lost ~3' from Core Barrel When on Deck Surface	**Notes:**

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Core Log (Sheet 1 of 2)
PROJECT: PCCA Deepening Section 103

Sample ID: CDP-03-3C **Sampled By:** MAM, SJP, CA, Cascade
Sampling Date: 1/22/2023 **Client:** PCCA
Start Sampling Time: 1400 **End Sampling Time:** 1500 -

Collection Method (Circle one): Service Drill Rig
Vibracore Push Core Auger Split Spoon Total Volume Collected: 8-10 gal -
Sediment Container(s):
Type and Number: Teflon® 2 Glass___ Plastic___ Ziploc®___ Other Buckets 2
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): 1.25 @ 1354 **Waypoint ID:** 457 - Garmin
- Water Depth (ft): 71.7 **GPS ID:** Montauk
= Top of Core Elevation (ft): -70.5 **Latitude (Northing):** ___
- Project Depth (ft): -81 **Longitude (Easting):** ___
= Target Penetration (ft): 10.5

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___
Weather (circle one): Sunny P. Cloudy Cloudy Rain? (drizzle, moderate, heavy)
Wind Direction: N NE E SE S SW W NW

Notes: 1310 - Arrived on Station ~60' SW of Original Location
1340 - Access to Deck - Set Casing -
1400 - Measurements - 1410 - Started Coring -
1500 - CDP-03-3C Collected Succession By Trailer
1515 - Jacking Down to Mobilize to Martin Energy -

Core Log (Sheet 2 of 2)

ANAMAR
Environmental Consulting, Inc.

Project Name: Corpus Christi Channel Deepening
Sample ID: CDP-03-3C
Sampling Date: 1/22/23
Photograph(s) Taken (circle one): Yes No
Core diameter (inches): 4"

1500 End

Core 1 **Time** 1400 Start	**Core** _____ **Time** _____
Core penetration length: 16	Core penetration length: _____
Bottom of core elevation (ft): 86.5	Bottom of core elevation (ft): _____
Recovery Length (ft): 16 % Recovery 100%	Recovery Length (ft): _____ % Recovery _____

Length (ft)	CORE DESCRIPTION	Length (ft)	CORE DESCRIPTION
1	Wet Olive Gray Silty		
2	Clay		
3			
4			
5			
6	Olive gray Soft Clay		
7	Sticky		
8			
9			
10			
11	~~project depth~~		
12	Discarded 5.5		
13	below project depth		
14			
15			
16			

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: Overpenetrated to Retain - Wet unconsolidated Sediment Discarded 5.5 from bottom of Core	**Notes:**

Daily Quality Control Report

ANAMAR
Environmental Consulting, Inc.

PROJECT: Corpus Christi Channel Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: ~~MR~~ Michael Macconna (MAM)
Date: 08/16/2022

Samples Collected: CDP-01-1A

Notes,Comments: ~0600 - Met w/ Cascade + Jarrot in lobby -
0620 - Mobilized to Martin Energy -
0635 - Arrived Signed in -
0645 - Boarding the Lift Boat Dulange - On Boarding Procedures - Note - Crew Change Scheduled 8/17/22
0700 - Loaded Equipment into Pel. Trailer - Connected working - Started generator + Refrigerator
0800 - Terracon Staff delivered Incubator + Labs.
0845 - Plan is to Mobilize to CDP-01A to Set up -
0920 - Leaving Martin Energy -
1135 - On Station - CDP-1A
See field log -
1630 - CDP-01-1A - Completed 4 Buckets ~20 gal.
1645 Cleaning deck, removing casing -
1755 - Moving from 1A to Station CDP-01-1C
1820 - On Station 1C ~65' from original location.

Daily Quality Control Report

ANAMAR
Environmental Consulting, Inc.

PROJECT: Corpus Christi Channel Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: MR Michael Madonna
Date: 08/17/2022

Samples Collected: CDP-01-1C, CDP-02-2A

Notes,Comments: 0530 - Ref. Trailer Temp. Check.
0555 Health and Safety Meeting - Drilling Crew + Boat Crew -
0615 - Access to Deck - Crew Set up - Setting Casing -
0645 - Started CDP-01-1C See field Log 0715 - Crew Breakfast
0845 - Sampling + Processing - took Photos -
0915 - Completed - 5 Buckets w/ Teflon Bags in Ref. Trailer.
Cleaning Deck - to Move to next Station.
0940 Jack down - Mobilize to CDP-02-2A
1025 - Arriving on Station - ~50' from Original Location.
Jacking up - Pre Loading process - Lunch Break
1215 - Access to Deck - Crew Set up - Set Casing
1245 - Started CDP-02-2A - See field Log
1500 - Sample Collected - 4 Buckets w/ Teflon Bags in Ref. Trailer
1530 - Jack Down Mobilize to CDP-02-2L
1550 On Station - Jack up - Pre Loading -
Crew will begin Collection in the Morning.
1630 - Contacted LEI Staff for Coordinating Equipment
Delivery to Ryan Malone -
1730 Completed Notes -

End of Day -

Daily Quality Control Report

ANAMAR
Environmental Consulting, Inc.

PROJECT: Corpus Christi Channel Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: ~~MR~~ Michael Madonna
Date: 08/18/2022

Samples Collected: CDP-02-2A~~C~~ (W)
CDP-03-3A-Core#1
CDP-03-3A-Core#2 (Duplicate)

Notes,Comments: 0530. Temp. Check - Ref. Trailer - Sea Log -
0545 Setup - processing area - ~~[illegible]~~ (W)
Health and Safety Meeting w/ Drill Crew + Boat Crew -
0615 - Access to deck #2 - Crew Setting Casing -
0655 - Started CDP-02-2C - Sea Log -
0830 - CDP-02-2C Sampling Complete -
0910 - Moblizing to CDP-03-3A, 10:20 on Station
1030 Preloading / lunch Break
1145 Access to Deck - Decon Core Barrels -
1200 - Setting Casing 1215 Measurements
1345 - Sampling Complete at CDP-03-3A Core#1
1415 - Cleared Deck -
1430 - Shifted Over at 3A Station for 2nd Core.
1535 - Access to Deck - Decon Core Barrels -
1540 - Setup - Setting Casing - Measurements
1600 Started CDP-03-3A Core#2 Duplicate.
1700 Sampling Complete - Sample in Ref. Trailer.
1730 Deck Cleared - Dinner Break
1810 - Moving to CDP-03-3C
1840 Arrived at Station - Jack Up for the Night
will Start Coring early 8/19/2022

End of Day -

MMadonna

ANAMAR
Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Section 103 Deepening

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: 08/19/2022

Samples Collected: CDP-03-3C Core #1
CDP-03-3C Core #2

Notes,Comments: 0600 Health + Safety Meeting 0615 - Access to Dock - Crew filled Generator w/ fuel for Ref. Trailer.
0630 - Drill Crew Set up Equipment & Decon Core Barrels Setting Casing -
0705 - Took Measurements & Start Time for CDP-03-3C Core 1 Starting Coring -
0800 - Sample Extruded for processing sample -
0840 ~~0840~~ - Sample in Ref. Trailer -
Decon Core Barrels - Cleaning Deck
0910 - Jack Down to Shift over to Collect Core #2 Duplicate
0940 - Preloading -
1100 - Access to Dock - Set up to Collect Eq. Blank
1125 - Collected Equipment Blank from Core Barrel.
1130 - Crew is Setting Casing
1145 - Took Measurements for CDP-03-3C Core 2 Duplicate
1200 - Started Coring - 1245 Extruded to process Sample
1320 - Sample Placed in Ref. Trailer -
Crew Cleaning Deck Securing Equipment to Mobilize to Martin Energy Dock -
1400 - Jack Down & 1430 - Heading for Dock -
1630 Arriving at Dock - Jack up - 1700 Started off Loading Supplies -
1730 - Samples transferred to NWDLS Ref. Trailer Received by Courier -
1820 - Disconnected Generator + Shut Down Ref. Unit on Lift Boat
1830 - All Crew has disembarked from the Lift Boat
Staff: End of Day
M Madonna -

ANAMAR
Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Section 103 Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 08/24/2022

Samples Collected: Sediment Grab Samples
CDP-REF A, B, + C, CDP-04 4A and 4C, CDP-05 5A and 5C

Notes,Comments: 0630 - Crew Mobilized from Hotel to Martin Energy.
0645 - Field Crew Signed in at Martin Energy -
loaded Equipment onto the Hercules Vessel -
0715 - Team Set up Double Van Veen -, Winch + Equipment.
0745 Decon - Steel Bin + DUV -
0815 - Conducted Outstanding Paperwork - Risk Assessment and Health + Safety Meeting -
0845 - Connected Started NWDLS' Refrigerator Trailer -
0915 Contacted lab - Ref. Unit Running - Cooling Down -
0930 - Leaving Martin Energy for Reference Station Area -
See field logs for Grab Sampling -
Difficult Staying on Station w/ Vessel GPS System -
Used Hand Held Units to Guide Vessel -
- Collected 4 Grabs for Ref. A - 4 Grabs for Ref. B 3 Grabs Ref. C -
- 1730 - Moving to CDP-04-4A - Difficult Staying on Station -
Drifted as DUV is deployed - Dropped to Depths -
1435 to 1500 - Collected 3 Grabs for 4A - In Ref. Trailer.
1525 to 1555 - Collected 3 Grabs for 4C - In Ref. Trailer
1600 - Moving to 5A - Decon Equipment - In Ref. Trailer.
1615 to 1635 Collected 3 Grabs for 5A Moved to 5C
1645 to 1715 - Collected 3 Grabs for 5C In Ref. Trailer
Note Way Pt - 100 - No Sample Collected -
1720 - Vessel Mobilizing to Martin Energy - Decon Equipment.
1815 - Arrived at Martin Energy - Meeting for Next Day's Work.
1830 Secured Equipment - Checked Ref. Trailer -
1845 - Mobilized to Hotel 1900 @ Hotel Crew End of Day

Michael Madonna

ANAMAR
Environmental Consulting, Inc.

Daily Quality Control Report

PROJECT: PCCA Section 103 Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 08/25/2022

Samples Collected: Site Water Samples for CDP-01-1A CDP-02-2A, CDP-03-3A CDP-04-4A CDP-05-5A CDP-Ref.-B
↳ Includes Duplicate Container @ CDP-03-3A.

Notes,Comments: 0630 - Field Team - Mobilized from Hotel to Martin Energy
0645 Heavy Rain in the Area @ Martin Energy/Port Aransas -
0700 Checked Temp NWDIS Refrigerator Trailer 3°C
0720 - Mobilized Offshore - 0745 - Per Capt. - Engine Issues.
0755 - Engine Issue Resolved - Heading for CDP-05-5A for SW.
0815 - Field Preparation - Buckets Water Pump Tubing
0915 On Station CDP-05-5A - Started Collecting Site Water
0945 - Pump Controller Shut Down - Troubleshoot - Calls to Supplier + Project Manager - No Working -
1030 - Returning to Dock - Calls for Replacing Controller Unit.
1215 - Back at Martin Energy - Terracon Staff Mobilized to Pine Env. in Corpus Christi to get replacement Pump + Controller
1445 - Terracon Staff back on Vessel w/ Replacement Unit
1450 - Mobilized Offshore - Rain Stopped. Sunny Hot Calm.
1600 - Arriving on Area 05-5A - Set up + Completed Site Water Collection - Samples in Refrigerator Trailer.
1635 - Moving to CDP-04-4A -
1652 to 1725 - Collected CDP-04-4A - Sample in Ref. Trailer
1728 - Moving to CDP-03-3A - 1735 Started - 1813 End
1814 - Sample in Ref. Trailer - Moving to CDP-02-2A -
1825 - Started CDP-02-2A - 1855 - Completed Sample in Ref. Trailer
1856 - Moving to CDP-01-1A - 1903 Started CDP-01-1A 1940 Completed
1942 Sample in Ref. Trailer - Moving to CDP-Ref.-B Station -
2000 Started Collected Ref. Site Water Kit Only -
2015 - Completed Ref. SW Sample in Ref. Trailer.
2020 - Mobilized to Martin Energy -
2100 - Arrived at Martin Energy - Off Loaded ALL Equipment
2130 - Leaving Martin Energy - 2145 - Arrived at Hotel.
End of Day -

Daily Quality Control Report

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Section 103 Deepening

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ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place Suite 5
Gainesville, FL 32653
(352) 377-5770

Name: Michael Madonna
Date: 08/26/2022 - and 8/27/2022

Samples Collected: Samples Delivered by Ryan Marine Vessel to Dock in Galveston, Tx.
NWDLS - Courier - Received Trailer w/ Samples -

Notes,Comments: 0600 - M Madonna - Mobilized to Houston.
1030 - M. Madonna Dropped Tote w/ PPE + Supplies at Fed Ex.
1050 - Mobilized to Galveston - Ryan Marine Dock
1130 Arrived at Ryan Marine Office Meeting w/ Tim -
- Hercules will Arrive at Dock ~1400
- 1415 - Hercules Arrived at Ryan Dock - Checked Ref. Trailer Temp before unplugging + Offloading
1445 - Trailer is on land - Plugged in - Running - and Cooling down to 4°C. Notified Lab Courier.
1630 NWDLS - Lab Courier is at Ryan Marine - Receives Samples + COC's - Notified Client.
1645 - M. Madonna Mobilized to Houston Hobby Airport -
1745 Returned Rental Car - Mobilized to Hotel -
1800 - M. Madonna - End of Day -

8/27/2022
0400 - M. Madonna at Airport Checking for Flight.
0500 - Flight - Returned to Tampa
0900 - Received Bags in Tampa - End of Day -
[signature]

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 / Terrason / Ryan Maciel
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
↳ At Martin Energy

Sample Containers:
Type and Number: Teflon X (1) Glass ____ Plastic ____ Ziploc ____ Other Buckets (3)

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

2 - No Teflon Bag
1 - U/Teflon Bag

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: Sand Grab, Worms/Worm Castings
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 WLR Tide Tables Other:_____
Water Depth Measurement (circle one): Fathometer Lead Line Boat Chart
Water Surface Elevation (tide ht) (ft): 0.8 @ 930
- Water Depth (ft): 45
= Sediment Elevation (ft): 44.2
Project Depth = N/A

Waypoint ID: Montana >462, 463, 464, 465, 466
GPS ID: ↓ ↓
Latitude (Northing): 27.84187599
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:

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-B (Re-Sample)
Sampled By: ANAMAR/Terracon/Ryan Marine
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
↳ At Martin Energy -

Sample Containers:
Type and Number: Teflon 1 Glass ____ Plastic ____ Ziploc ____ Other Bucketa-3

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

2-No Teflon Bag
1-w/Teflon Bag

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 WLR Tide Tables Other:_____
Water Depth Measurement (circle one): Fathometer Lead Line Boat Chart
Water Surface Elevation (tide ht) (ft): .78 @ 1048
Waypoint ID: 474/475/476
- Water Depth (ft): 45
GPS ID: Montana
= Sediment Elevation (ft): -44.2
Latitude (Northing): 27.84170902
Project Depth = N/A
Longitude (Easting): -96.99360101

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 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-C (Re-Sample)
Sampled By: ANAMAR Terracon, Ryan Moore
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 WLR Tide Tables Other:_____
Water Depth Measurement (circle one): Fathometer Lead Line Boat Chart
Water Surface Elevation (tide ht) (ft): .74 @ 954 **Waypoint ID:** 467, 468, 469, 470, 471, 472, 473
- Water Depth (ft): 45 **GPS ID:** Montavista
= Sediment Elevation (ft): -44.3 **Latitude (Northing):** 27.84148397
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): 58°

Additional Observations, Notes:

Sheet 1 of 1

SEDIMENT SAMPLING FIELD SHEET

Ref. A

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP-Reference A
Sampled By: MAM, BG, BU, IB, Ryan Manne
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1035 **End Sampling Time:** 1115

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 3 Total Buckets # 1 w/ 1&3 Teflon Bags
2 w/ No Teflon 2 of 3 3 of 3

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: 4
Penetration Depth (cm): Inches 16"-24" - Double Van Veen Sampler

Notes: Multiple Drops Waypoints for Each Worm castings, Jelly Pods,

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 Chart Plotter on Boat.
Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 80, 81, 82, 83
- Water Depth (ft): 45' **GPS ID:** Montana
= Sediment Elevation (ft): _____ **Latitude (Northing):** _____
Project Depth = / Grabs-Surface **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): 88 Humid

Additional Observations, Notes: MLLW 1.3 @ 1030

Sheet 1 of 1

SEDIMENT SAMPLING FIELD SHEET

Ref B

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP Reference - B
Sampled By: MAW, BS, DU, IB, Ryan Marline
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1130 **End Sampling Time:** 1155

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 3 Total Buckets # 1 w/ Teflon Bags. 1 of 3
2 Buckets No Teflon 2 of 3 3 of 3

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: ~15gal.
Grabs Collected: 4
Penetration Depth (~~cm~~ Inches) 16-24" Double Van Veen

Notes: Multiple Drops Way Pts for Each worm container

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 Plotter Chart
Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 84, 85, 86, 87
- Water Depth (ft): ~~75~~ 45'
GPS ID: Montana
= 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): 90 Humid.

Additional Observations, Notes: MLLW 1.32 @ 11:24

Sheet ____ of _____

SEDIMENT SAMPLING FIELD SHEET

Ref. C

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP Reference C
Sampled By: MAM, BS, DU, IB, Ryan Marine
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1210 **End Sampling Time:** 1225

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 3 Total Buckets # 1 w/ Teflon Bags 1 of 3
2 No Teflon 2 of 3 3 of 3

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: 3
Penetration Depth (~~cm~~) Inches 20-24"

Notes: Multiple Drops Waypts for Each Worm Capturing - Double Van Veen.

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 Plotter Chart -
Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 88, 89, 90
- Water Depth (ft): 45 **GPS ID:** Montana
= 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): 90 Humid.

Additional Observations, Notes: MLLW 1.2 @ 12:06

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

CDP-04-4A

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP-04-4A
Sampled By: MRM, BG, DV, IB Ryan Marrone
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1438 **End Sampling Time:** 1458

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 #4 w/Teflon Bags ~20gal.

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:** Multiple Drops - Waypts for Each
Organic Debris? Describe. Y N
Odor Present? Describe. Y N
Picture of Sample? Y N
Volume Collected: ~20gals.
Grabs Collected: 3
Penetration Depth (~~cm~~) Inches 24"
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 — Boat Plotter Chart
Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 91, 92, 93
- Water Depth (ft): 74 **GPS ID:** Montana
= 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): 90 Humid

Additional Observations, Notes: MLLW 0.94 @1430

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

CDP-04-4C

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP-04-4C
Sampled By: MAH, BS, DJ, IB Ryan Marine
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1529 **End Sampling Time:** 1552

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 Buckets 4 3 Total (W) ~20gals.

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: ~20gal
Grabs Collected: 3
Penetration Depth (~~cm~~): Inches 24"

Notes: Multiple Drops Way Pts for Each

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 Boat Plotter Chart.

Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 94,95,96

- Water Depth (ft): 74 **GPS ID:** Montana

= 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): 90 Humid

Additional Observations, Notes: MLLW 0.73 @ 1524

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

CDP-05-5A

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP-05-5A
Sampled By: MAM, BS, DV, IB Ryan Marine
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1615 **End Sampling Time:** 1635

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 Buckets # 4 w/Teflon Bags ~20gal.

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: ~20gal
Grabs Collected: ~~4~~ 3
Penetration Depth (~~cm~~): Inches 24"

Notes: Multiple Drops Way Pt. for Each

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 Plotter -
Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 97,98,99
- Water Depth (ft): 77 **GPS ID:** Montana
= 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): 90 Humid.

Additional Observations, Notes: MLLW 0.52 @ 1606

Sheet ____ of ____

SEDIMENT SAMPLING FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

CDP-05-5C

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Sample ID: CDP-05-5C
Sampled By: MAM BG DU IB Ryan Marine
Sample Date: 08/24/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1647 **End Sampling Time:** 1715

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 Buckets #4 w/ Teflon Bags ~20 gal.

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: ~20 gal
Grabs Collected: ~~3~~ 4 - 101 Way Pt. Moved from Station; No Grabs Collected.
Penetration Depth (~~cm~~ Inches): 24"

Notes: Multiple Drops Way Pts for Each

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 WDR Tide Tables Other:_____

Water Depth Measurement (circle one) : Fathometer Lead Line

Water Surface Elevation (tide ht) (ft):_____ **Waypoint ID:** 100, ~~101~~, 102, 103

- Water Depth (ft): 77 **GPS ID:** Montana

= 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: MLLW 0.4 @ 1642

Sheet ____ of _____

WATER CHEMISTRY FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

	CDP-Reference-B Site Water
Station ID:	CDP-Ref. B - Site Water
Sampled By:	MAN
Sample Date:	8/25/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: ~~1800~~ 2000 **End Sampling Time:** 2015

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: SW Kit Containers

Notes: See COC for list of Containers and Volumes Collected Preservative. Site Water Sample Kit Only - X No Five Gallon Buckets - Per COC

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): : _____

In Situ Readings:	Near-Surface	Mid-Depth 2005	Near-Bottom
Time:		~~1005~~	
Depth (ft):		24	
Temp (°C):		29.26	
pH (units):		8.20	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.7	
DO (mg/L):			
DO (% sat.):		49.2	
Turbidity (NTU):		1.0	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: 110
Addt'l Waypoint #: _____

General Conditions, Observations, Notes: _____

Sheet ____ of ____

WATER CHEMISTRY FIELD SHEET

ANAMAR
Environmental Consulting, Inc.

CDP-01-1A

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID:	CDP-01-1 ~~C~~ A Site Water
Sampled By:	MAM,
Sample Date:	

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1903 **End Sampling Time:** 1940

Collection Method:
Submersible Pump (circled) Direct Grab Van Dorn Peristaltic Pump Pneumatic Pump Other _____

Sample Containers:
Type and Number: Teflon X Glass X Plastic X Vials X Other Buckets - 8 (5 gal)

Sample Description:
Suspended Material? Describe. Y N (circled)
Odor? Describe. Y N (circled)
Water Color: Clear
Volume Collected: 8 Buckets + SW Kit.

Notes: See COC for list of Containers and Volumes Collected, preservative.

STATION INFORMATION

Water Depth (ft): 62

Tidal Cycle: Low Slack Mid Incoming High Outgoing

Air Temp (°F): : 88

Wind Speed (knots): 0-5 (circled) 5-10 10-15 >15
Wind Direction: N NE E SE (circled) S (circled) SW W NW
Sea State: Calm (circled) 1-2 ft 2-3 ft 3-4 ft 4-5 ft >5 ft
Weather: Sunny P. Cloudy (circled) Cloudy Rain (drizzle, mod, heavy)

In Situ Readings:	Near-Surface	Mid-Depth	Near-Bottom
Time:		1907	
Depth (ft):		32	
Temp (°C):		29.41	
pH (units):		8.22	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.7	
DO (mg/L):		5.54	
DO (% sat.):		5.5	
Turbidity (NTU):		1.9	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: 109
Addt'l Waypoint #: _____

General Conditions, Observations, Notes:

Sheet ____ of ____

WATER CHEMISTRY FIELD SHEET

ANAMAR Environmental Consulting, Inc.

CDP-02-2A

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID:	CDP-02-2A Site Water
Sampled By:	MAW, IB, DU A
Sample Date:	8/25/22

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1825 **End Sampling Time:** 1855

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 8 (5gal)

Sample Description:
Suspended Material? Describe. Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: 8 Buckets + SW Kit -

Notes: See COC for List of Containers and Volumes Collected, Preservative.

STATION INFORMATION

Water Depth (ft): 65

Tidal Cycle: Low Slack / Mid Incoming / High Outgoing

Air Temp (°F): : 90

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	Near-Bottom
Time:		1828	
Depth (ft):		33	
Temp (°C):		29.46	
pH (units):		8.22	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.7	
DO (mg/L):		6.88	
DO (% sat.):			
Turbidity (NTU):		1.8	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: 108
Addt'l Waypoint #: _____

General Conditions, Observations, Notes:

Sheet ____ of ____

WATER CHEMISTRY FIELD SHEET

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

CDP-03-3A

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID: CDP-03-3A/ Silt curtain A
Sampled By: MAM
Sample Date: 8/25/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1736 **End Sampling Time:** 1813

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 8 (5gal)

Sample Description:
Suspended Material? Describe. Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: 8 5gal. Buckets + SW Kit. ~~X~~ 1 - 60mL Vial Lid Cracked - Discarded/Not Included w/Sample

Notes: See COC for list of Containers and volumes collected, preservative.
*Duplicate Water Kit Collected

STATION INFORMATION

Water Depth (ft): 69

Tidal Cycle: Low Slack / Mid Incoming / High Outgoing

Air Temp (°F): : _____

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	Near-Bottom
Time:		1740	
Depth (ft):		35	
Temp (°C):		29.48	
pH (units):		8.25	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.4	
DO (mg/L):			
DO (% sat.):		5.90	
Turbidity (NTU):		1.0	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: 107
Addt'l Waypoint #: _____

General Conditions, Observations, Notes: Includes Duplicate Sample Kit.

Sheet ____ of _____

WATER CHEMISTRY FIELD SHEET

CDP-04-4A

ANAMAR Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

Station ID:	CDP-04-4A Site Water
	CDP-04-4A Site Water
Sampled By:	MAW
Sample Date:	

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 1650 **End Sampling Time:** 1725

Collection Method:
Submersible Pump (circled) Direct Grab Van Dorn Peristaltic Pump Pneumatic Pump Other _____

Sample Containers:
Type and Number: Teflon X Glass X Plastic X Vials X Other Buckets 8 (5 gal.)

Sample Description:
Suspended Material? Describe. Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: 8 5 gal Buckets + SW kits.

Notes: See COC for list of Containers and Volumes collected, preservative.

STATION INFORMATION

Water Depth (ft): 74

Tidal Cycle: Low Slack / Mid Incoming / High Outgoing

Air Temp (°F): 90 Humid.

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	Near-Bottom
Time:		1655	
Depth (ft):		37	
Temp (°C):		29.69 C	
pH (units):		8.26	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.5	
DO (mg/L):		5.91	
DO (% sat.):			
Turbidity (NTU):		1.2	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: 106
Addt'l Waypoint #: _____

General Conditions, Observations, Notes:

Sheet ____ of ____

WATER CHEMISTRY FIELD SHEET

ANAMAR Environmental Consulting, Inc.

CDP-05-5A

PROJECT: PCCA Deepening Section 103

ANAMAR Environmental Consulting Inc.
2106 NW 67th Place, Suite 5
Gainesville, Florida 32653
Phone: 352-377-5770

	CDP-05-5A Site Water
Station ID:	CDP-05-5A Site Water
Sampled By:	MAN-IB, DW A
Sample Date:	08/25/2022

SAMPLE COLLECTION INFORMATION

Start Sampling Time: 925 **End Sampling Time:** 1635

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 8 (5gal.)

Sample Description:
Suspended Material? Describe. Y (N)
Odor? Describe. Y (N)
Water Color: Clear
Volume Collected: 40gal + SW Kit Containers -

Notes: See COC for list of Containers and Volumes Collected, preservative

STATION INFORMATION

Water Depth (ft): 77 Plotter

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): : 83 Raining - Pouring - @ Start* / 90° Humid - Calm** at 1600 to 1635 End.

In Situ Readings:	Near-Surface	Mid-Depth	Near-Bottom
Time:		925	
Depth (ft):		40	
Temp (°C):		28.55	
pH (units):		8.22	
Salinity (ppt):			
Sp. Cond. (mS/cm) OR (µS/cm):		50.80	
DO (mg/L):		5.33	
DO (% sat.):			
Turbidity (NTU):		0.0	

Station Coordinates:
Latitude (Northing): _____
Longitude (Easting): _____
Waypoint #: *104 ~~104~~ and 105 **
Addt'l Waypoint #: _____

General Conditions, Observations, Notes: * Pump Controller Not Working
Stopped - Returned to Dock - Received New Controller
Returned to Complete Sampling @ 1610
All Containers + Buckets filled - 1635
** Field Conditions - Calm - No Wind, No Waves
* Way Point 104 - Started Sample -
** Way Point 105 - Return to Sample w/New Controller.

Sheet ____ of _____

ANAMAR
Environmental Consulting, Inc.

PROJECT: PCCA Deepening Section 103

Temperature Log

Vehicle: L/B Dulange –

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
Michael Madonna	08/16/22	0745	L/B Dulange	—	—	Started generator + Ref. Trailer
MAW	" " "	1135	" "	38.7	y	–
MAW	" " "	1500	" "	38.0	y	– 50% fuel level –
MAW	" " "	1830	" "	38.2	y	
MAW	8/17/22	0530	" "	38.0	y	23% fuel –
"	" " "	0650	" "	—	—	Fuel in Generator 85% –
"	" " "	0915	" "	37.9	y	– Sample 1C in Ref. Trailer.
"	" " "	1500	" "	38.1	y	Sample 2A in Ref. Trailer
"	" " "	2000	" "	37.9	y	53% fuel level –
MAW	08/18/22	0530	" "	38.0	y	37% fuel level –
"	" " "	0855	" "	37.4	y	Prior to refueling generator.
"	" " "	1535	" "	38.0	y	
"	" " "	2020	" "	38.1	y	
MAW	08/19/22	0600	" "	38.1	y	0615 – fuel in Generator –
"		1100	" "	38.1	y	
"		1250	" "	37.5	y	
MAW		1700	" "	38.2	y	Prior to Removing / Transfer of Samples to Lab Courier Ref. Trailer.
						1800 – Unit Shift Down Generator Wires Disconnect

ANAMAR Environmental Consulting, Inc.
2106 NW 67th PL, Suite 5
Gainesville, FL 32653
(352) 377-5770

Michael Madonna = MAW

ANAMAR
Environmental Consulting, Inc.

NWDLS Refrigerator Trailer

PROJECT: PCCA Deepening Section 103

Temperature Log

Vehicle: Ryan Marine Vessel *

* Hercules Vessel

Taken By	Date	Time	Location	Temperature	Acceptable Y/N	Comments
Michael Mallow	08/24/2022	0845	Ryan Marine	---	—	Started Ref. Trailer NWDLS.
						Contacted Lab for Details.
M. Mallow	08/24/2022	1115	* " "	6°C	y	Ref. Station A Samples in Ref. Trailer
		1200		4°C	y	Ref. Cooling to Temp. @ 4°C
		1230		4°C	y	Ref. A, B+C in Refrigerator Trailer
		1500		4°C	y	4A Samples in Ref. Trailer.
		1600		4°C	y	4C Samples in Ref. Trailer.
		1700		5°C	y	5A+5C Samples in Ref. Trailer
		1830		4°C	y	Cooling to Temp 4°C
M. Mallow	08/25/2022	0705		3°C	y	Before leaving the Dock-
		1200		4°C	y	At Martin Energy Pump Times
		1235		4°C	y	5A Sample in Ref. Trailer.
		1815		4°C	y	4A3A2A- As Completed -
		2015		4°C	y	All Samples in Ref. Trailer
		2130		4°C	y	Docking at Martin Energy -
	8/26/2022	1430		3°C	y	Hercules Docking @ Ryan Marine
		1500			y	Loaded Trailer onto Lane
		1515		5°C	y	Plugged in on Lane Dock.
						Cooling to Temp. 4°C
		1645		4°C	y	Received by Courier

ANAMAR Environmental Consulting, Inc.
2106 NW 67th PL, Suite 5
Gainesville, FL 32653
(352) 377-5770

Michael Mallow - (MAW)

APPENDIX C

PHYSICAL LAB REPORT

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:

Taylor Engineering, Inc.
10199 Southside Blvd, Ste 310
Jacksonville, FL 32256
Phone: (904) 731-7040
Fax:

Work Order: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-15 ***Sediment Sampled: 08/17/2022 09:15***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/17/2023 09:15	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-16 ***Sediment Sampled: 08/18/2022 08:30***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/18/2023 08:30	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-17 ***Sediment Sampled: 08/19/2022 08:10***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/19/2023 08:10	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-21 ***Sediment Sampled: 08/19/2022 13:20***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/19/2023 13:20	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			

Released By	Date	Received By	Date
	8/24/22	UPS	8/24/22

September 27, 2022

Ms. Monica Martin

Re: North Water District Laboratory Services, Inc. (NWDLS)
NWDLS Geosciences Lab Testing – Task Order #06
Project #22G0514

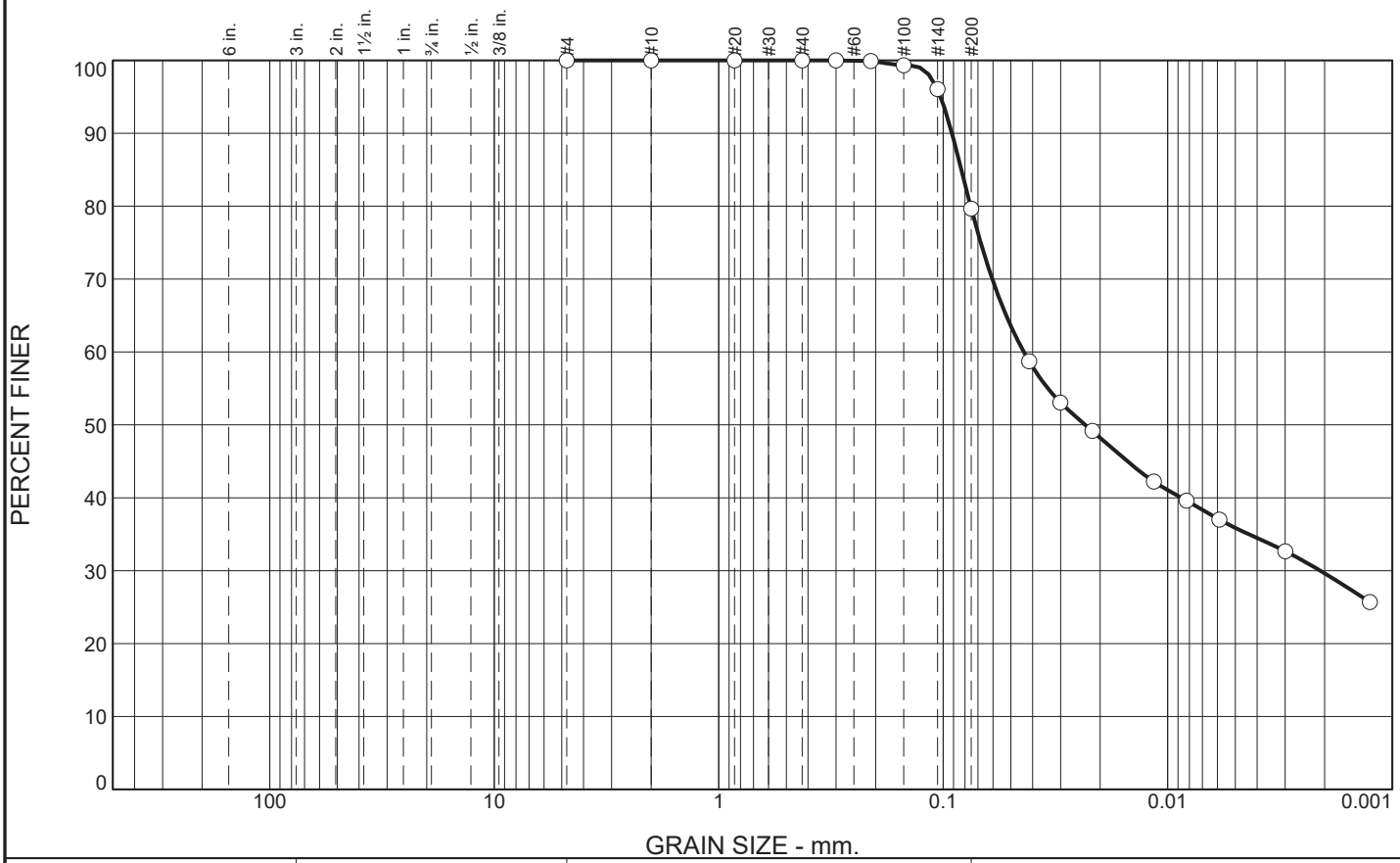
The Taylor Engineering Coastal & Marine Geosciences Laboratory is pleased to submit the following sediment data for NWDLS project #22G0514. Taylor Engineering received 17 samples for analysis in Jacksonville, Florida on August 25th, 2022. Laboratory testing included sieve and hydrometer analysis according 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 wwarren@taylorengineering.com.

Sincerely,

William Warren, P.G.
Project Geologist
Coastal & Marine Geosciences Lab Manager

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	20.3	43.8	35.9

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	99.9		
#100	99.3		
#140	96.1		
#200	79.7		
0.0414 mm.	58.7		
0.0301 mm.	53.1		
0.0217 mm.	49.2		
0.0115 mm.	42.2		
0.0082 mm.	39.6		
0.0059 mm.	37.0		
0.0030 mm.	32.7		
0.0013 mm.	25.7		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0914 D_{85}= 0.0830 D_{60}= 0.0438
D_{50}= 0.0233 D_{30}= 0.0021 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 15

Date: 9/26/2022

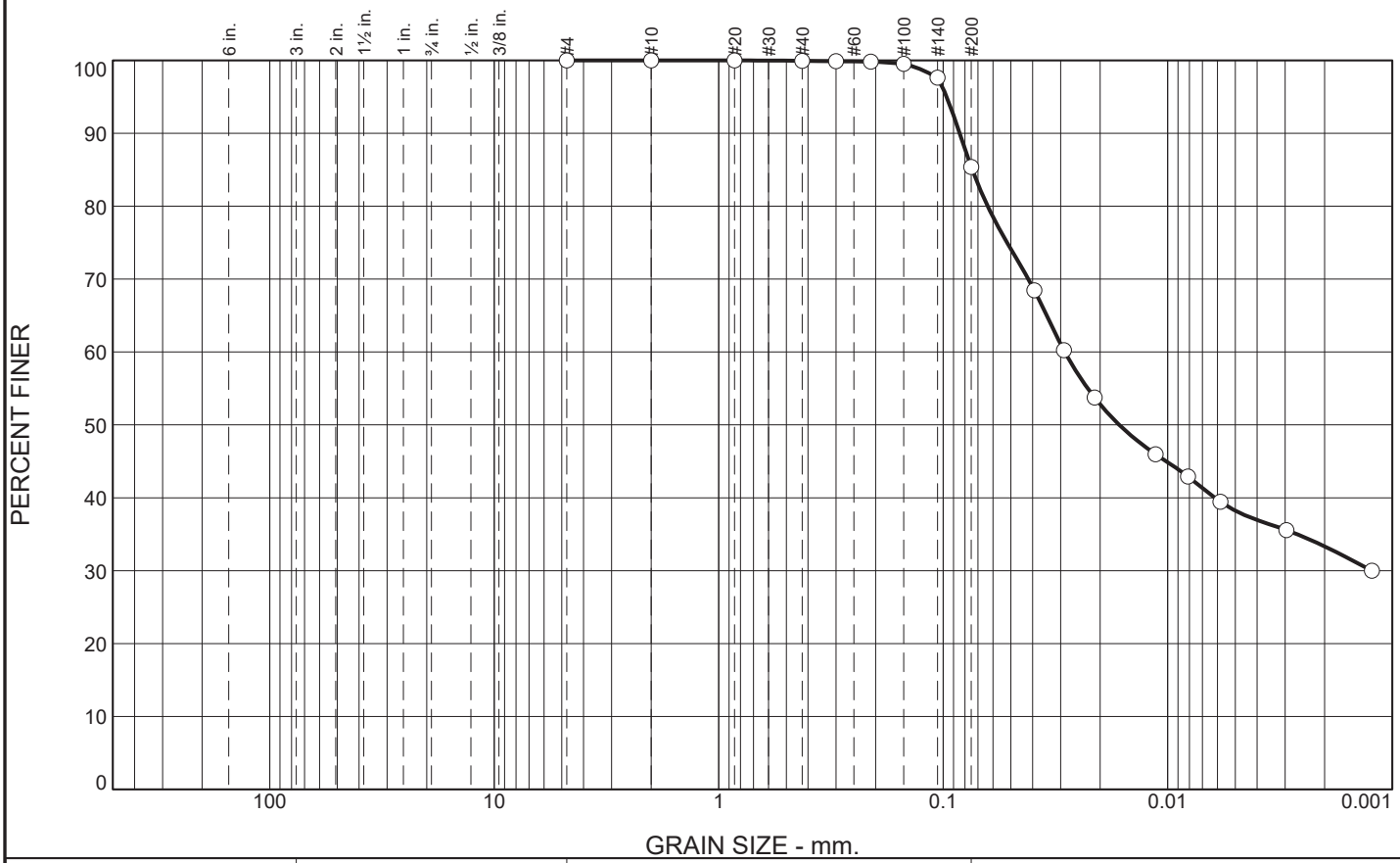
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	14.5	47.2	38.2

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	99.5		
#140	97.6		
#200	85.4		
0.0393 mm.	68.5		
0.0290 mm.	60.2		
0.0212 mm.	53.8		
0.0113 mm.	46.0		
0.0081 mm.	42.9		
0.0058 mm.	39.5		
0.0030 mm.	35.6		
0.0012 mm.	30.0		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0844 D_{85}= 0.0742 D_{60}= 0.0287
D_{50}= 0.0164 D_{30}= 0.0012 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 16

Date: 9/26/2022

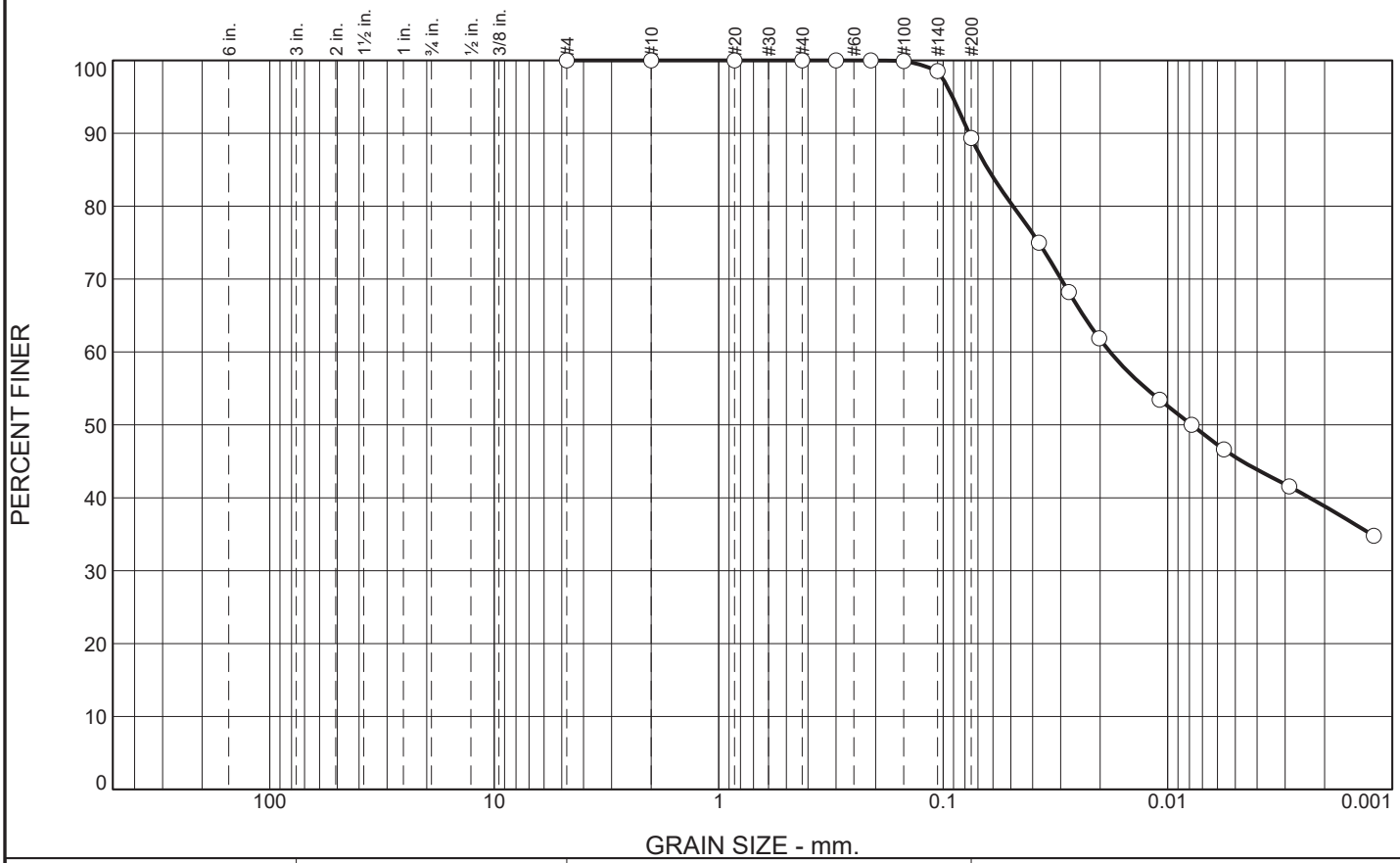
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.6	43.8	45.6

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	100.0		
#100	99.9		
#140	98.5		
#200	89.4		
0.0375 mm.	75.0		
0.0276 mm.	68.2		
0.0202 mm.	61.9		
0.0109 mm.	53.5		
0.0078 mm.	50.0		
0.0056 mm.	46.6		
0.0029 mm.	41.6		
0.0012 mm.	34.8		

* (no specification provided)

Soil Description

Lean clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0767 D_{85}= 0.0629 D_{60}= 0.0181
D_{50}= 0.0078 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 17

Date: 9/26/2022

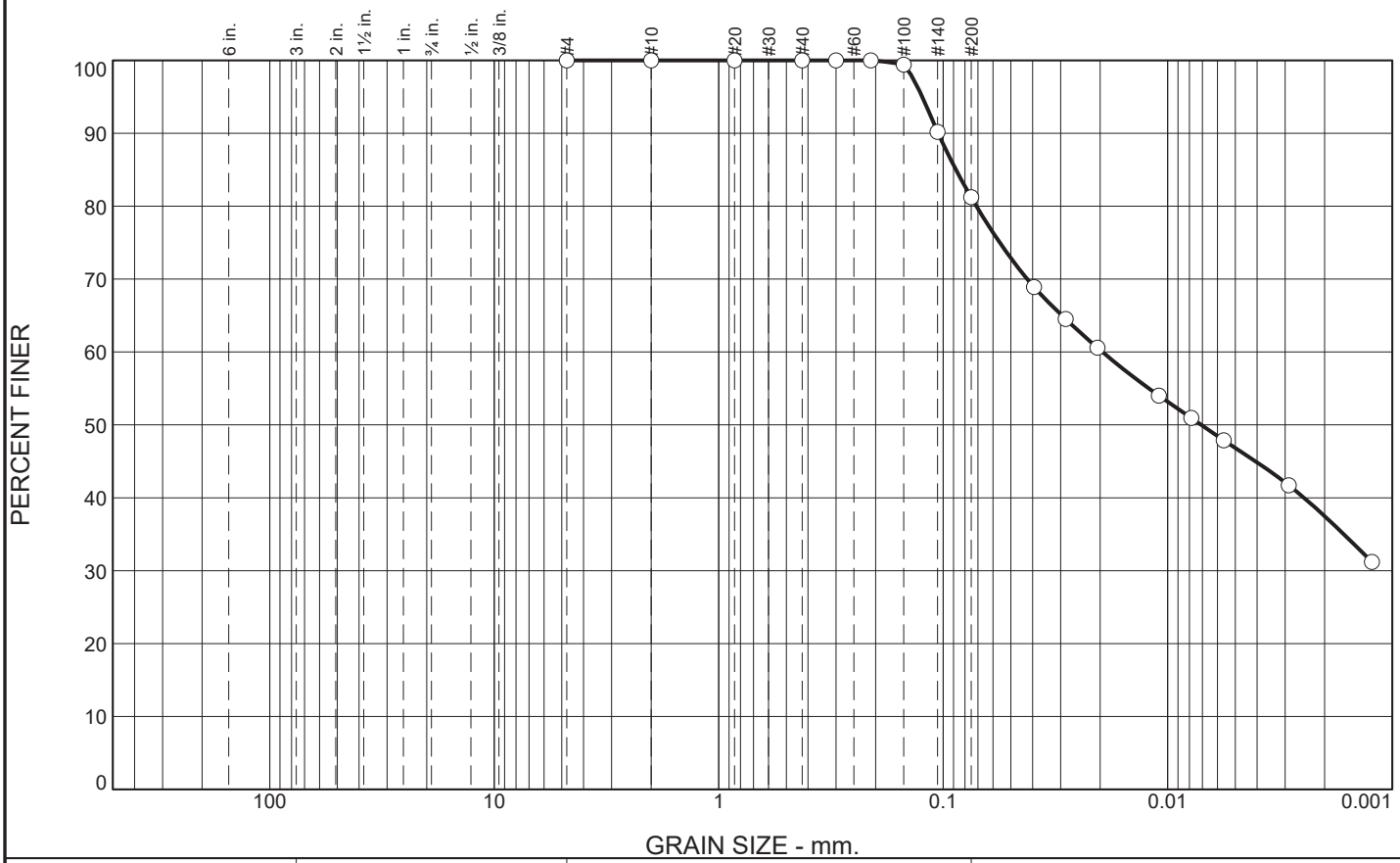
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	18.8	34.4	46.8

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	100.0		
#100	99.4		
#140	90.2		
#200	81.2		
0.0394 mm.	68.9		
0.0285 mm.	64.5		
0.0205 mm.	60.6		
0.0109 mm.	54.0		
0.0079 mm.	50.9		
0.0056 mm.	47.9		
0.0029 mm.	41.7		
0.0012 mm.	31.2		

* (no specification provided)

Soil Description

Lean clay, some silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1053 D_{85}= 0.0878 D_{60}= 0.0195
D_{50}= 0.0071 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 18

Date: 9/26/2022

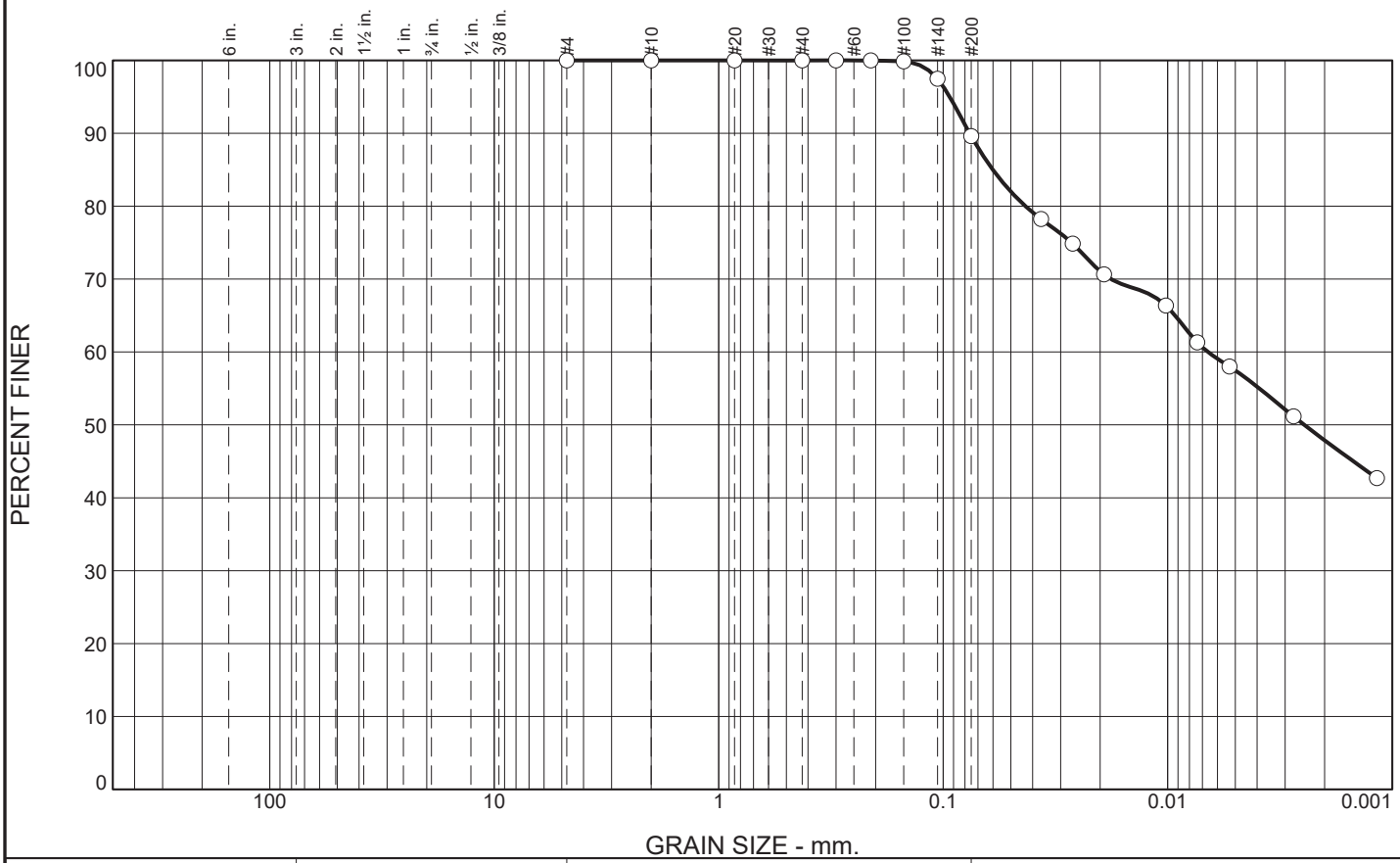
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.4	32.1	57.5

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	100.0		
#100	99.9		
#140	97.5		
#200	89.6		
0.0367 mm.	78.2		
0.0265 mm.	74.9		
0.0192 mm.	70.6		
0.0102 mm.	66.4		
0.0074 mm.	61.3		
0.0053 mm.	58.0		
0.0028 mm.	51.2		
0.0012 mm.	42.7		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0762 D_{85}= 0.0601 D_{60}= 0.0066
D_{50}= 0.0025 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 19

Date: 9/26/2022

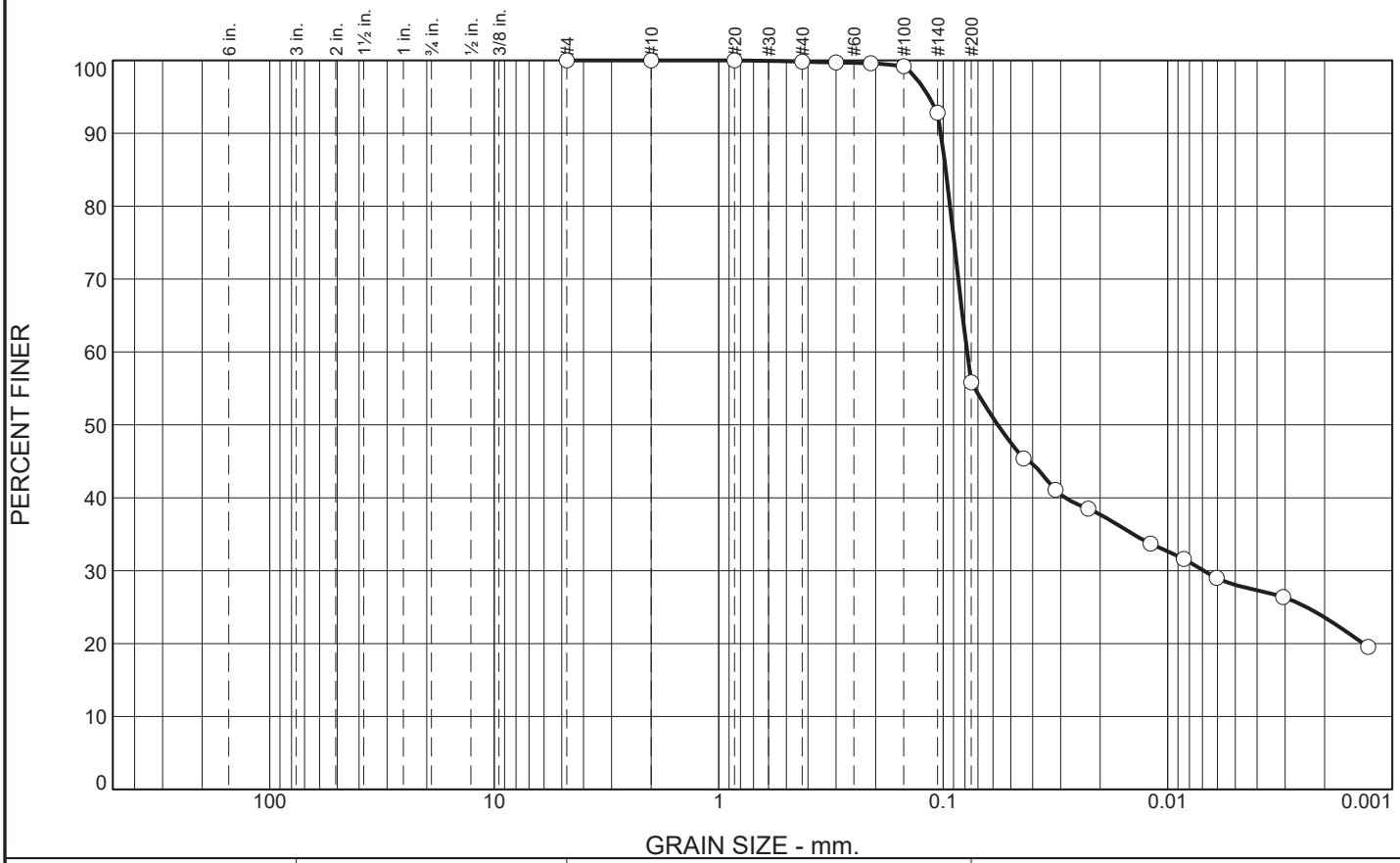
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	44.0	27.8	28.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.8		
#50	99.7		
#70	99.6		
#100	99.2		
#140	92.8		
#200	55.8		
0.0439 mm.	45.4		
0.0316 mm.	41.1		
0.0226 mm.	38.5		
0.0119 mm.	33.7		
0.0085 mm.	31.6		
0.0061 mm.	29.0		
0.0031 mm.	26.4		
0.0013 mm.	19.5		

* (no specification provided)

Soil Description

Lean clay, some fine-grained quartz sand, some silt, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1024 D_{85}= 0.0973 D_{60}= 0.0784
D_{50}= 0.0571 D_{30}= 0.0069 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 20

Date: 9/26/2022

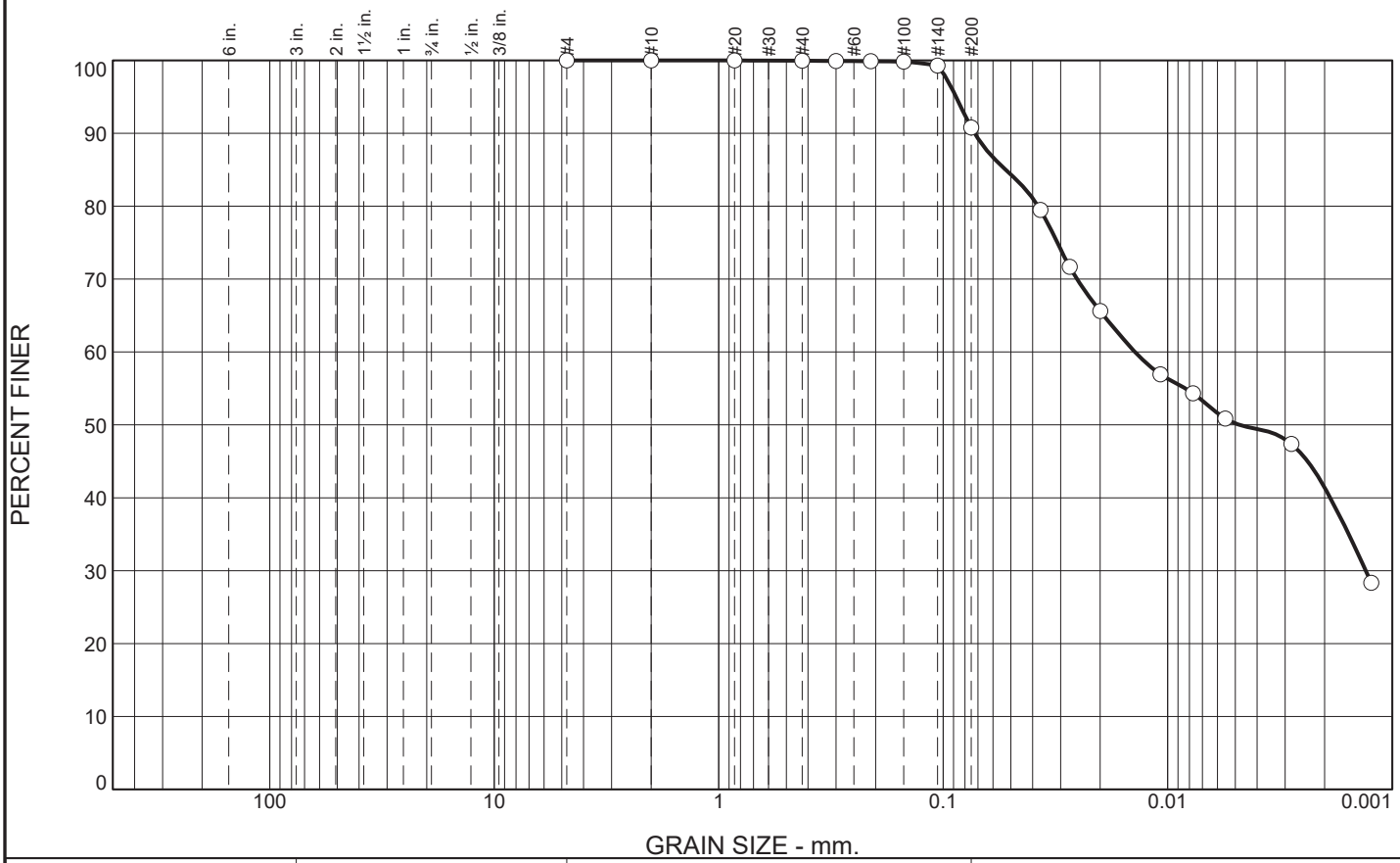
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.2	40.6	50.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#50	99.9		
#70	99.9		
#100	99.8		
#140	99.3		
#200	90.8		
0.0369 mm.	79.5		
0.0273 mm.	71.7		
0.0200 mm.	65.6		
0.0108 mm.	56.9		
0.0077 mm.	54.3		
0.0055 mm.	50.9		
0.0028 mm.	47.4		
0.0012 mm.	28.3		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0724 D_{85}= 0.0527 D_{60}= 0.0140
D_{50}= 0.0048 D_{30}= 0.0013 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 21

Date: 9/26/2022

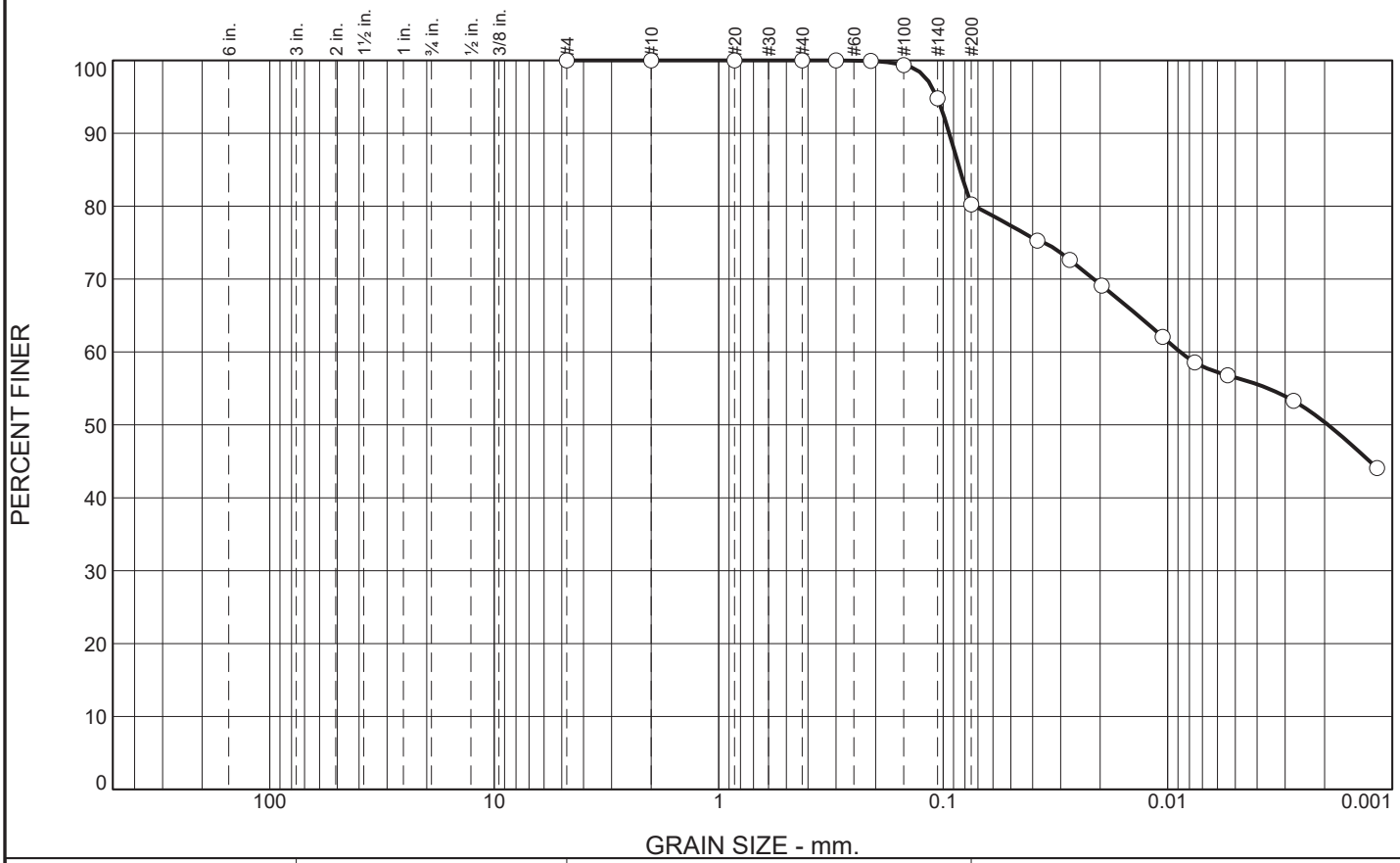
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	19.8	23.7	56.5

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	99.9		
#100	99.4		
#140	94.8		
#200	80.2		
0.0381 mm.	75.3		
0.0273 mm.	72.6		
0.0197 mm.	69.1		
0.0105 mm.	62.1		
0.0076 mm.	58.6		
0.0054 mm.	56.8		
0.0027 mm.	53.3		
0.0012 mm.	44.1		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0939 D_{85}= 0.0842 D_{60}= 0.0088
D_{50}= 0.0019 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 22

Date: 9/26/2022

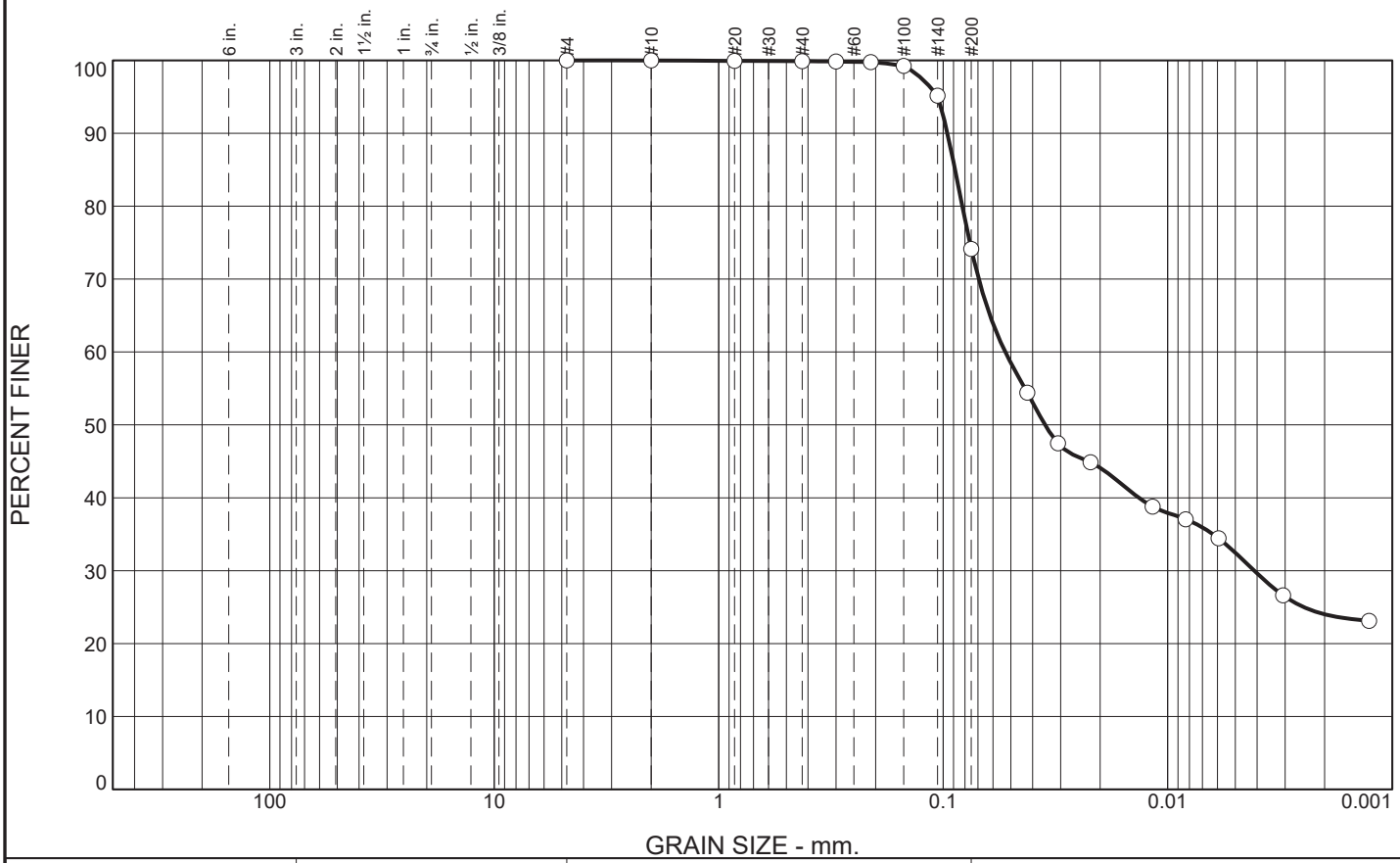
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	25.8	41.6	32.5

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	99.3		
#140	95.2		
#200	74.1		
0.0422 mm.	54.4		
0.0308 mm.	47.5		
0.0220 mm.	44.9		
0.0117 mm.	38.8		
0.0083 mm.	37.0		
0.0059 mm.	34.4		
0.0031 mm.	26.6		
0.0013 mm.	23.1		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0957 D_{85}= 0.0885 D_{60}= 0.0529
D_{50}= 0.0352 D_{30}= 0.0041 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 23

Date: 9/26/2022

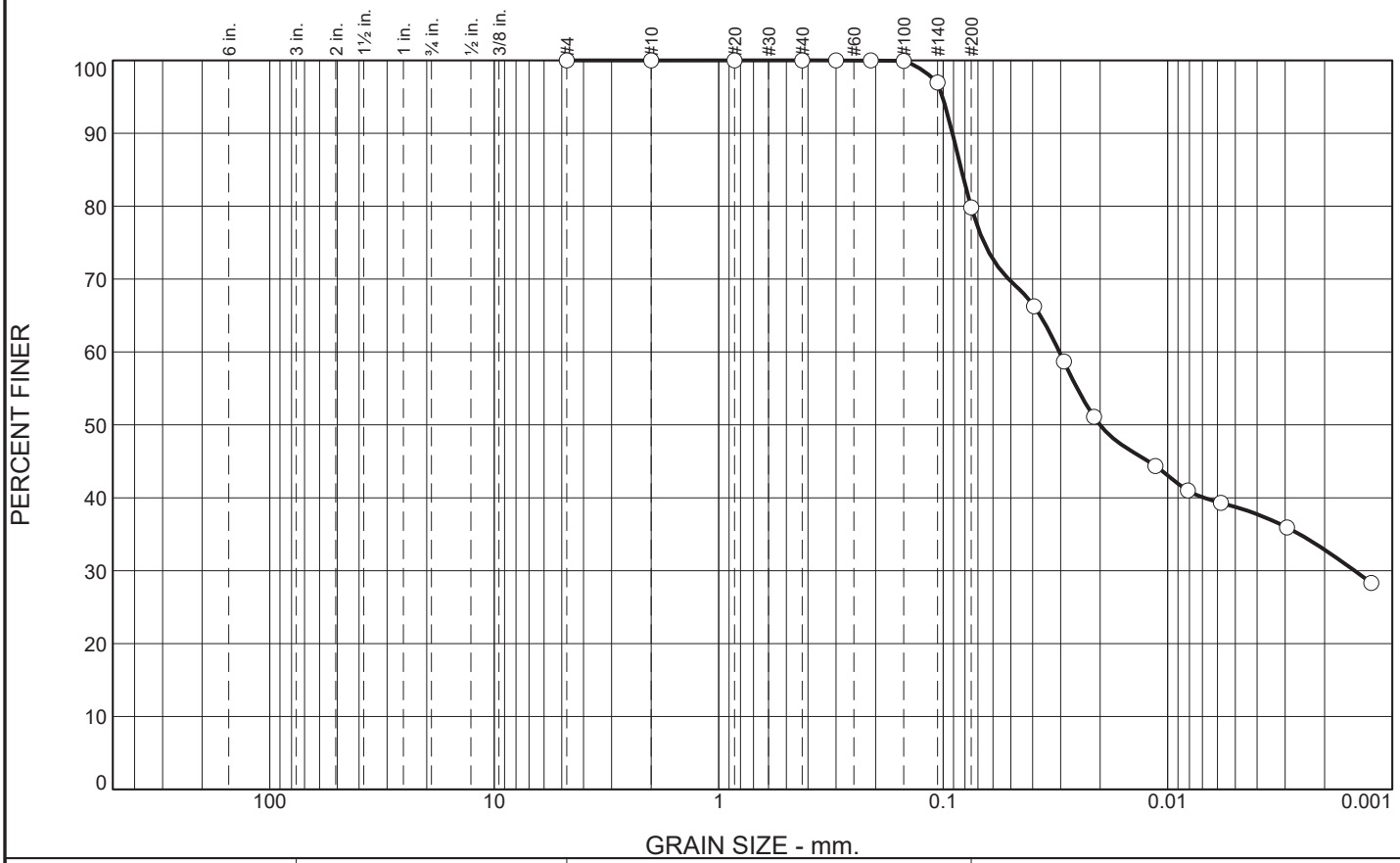
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	20.2	41.1	38.7

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	100.0		
#100	99.9		
#140	97.0		
#200	79.8		
0.0394 mm.	66.3		
0.0290 mm.	58.7		
0.0213 mm.	51.1		
0.0113 mm.	44.4		
0.0081 mm.	41.0		
0.0058 mm.	39.3		
0.0029 mm.	35.9		
0.0012 mm.	28.3		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0909 D_{85}= 0.0830 D_{60}= 0.0304
D_{50}= 0.0200 D_{30}= 0.0015 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 24

Date: 9/26/2022

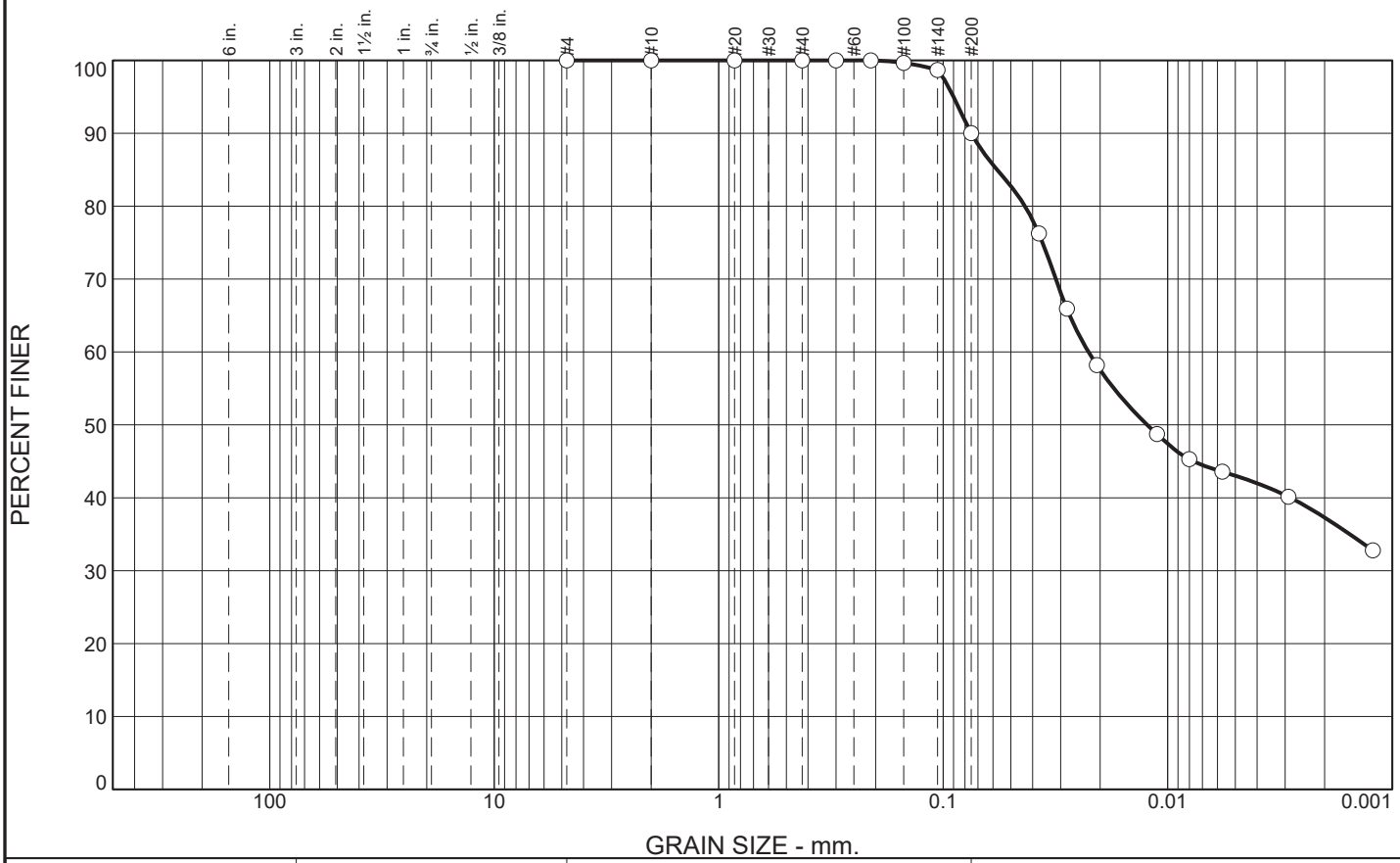
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.0	47.0	43.0

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	100.0		
#100	99.7		
#140	98.7		
#200	90.0		
0.0375 mm.	76.3		
0.0281 mm.	65.9		
0.0207 mm.	58.2		
0.0112 mm.	48.7		
0.0080 mm.	45.3		
0.0057 mm.	43.6		
0.0029 mm.	40.1		
0.0012 mm.	32.8		

* (no specification provided)

Soil Description

Silt, some clay, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0749 D_{85}= 0.0575 D_{60}= 0.0225
D_{50}= 0.0123 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 25

Date: 9/26/2022

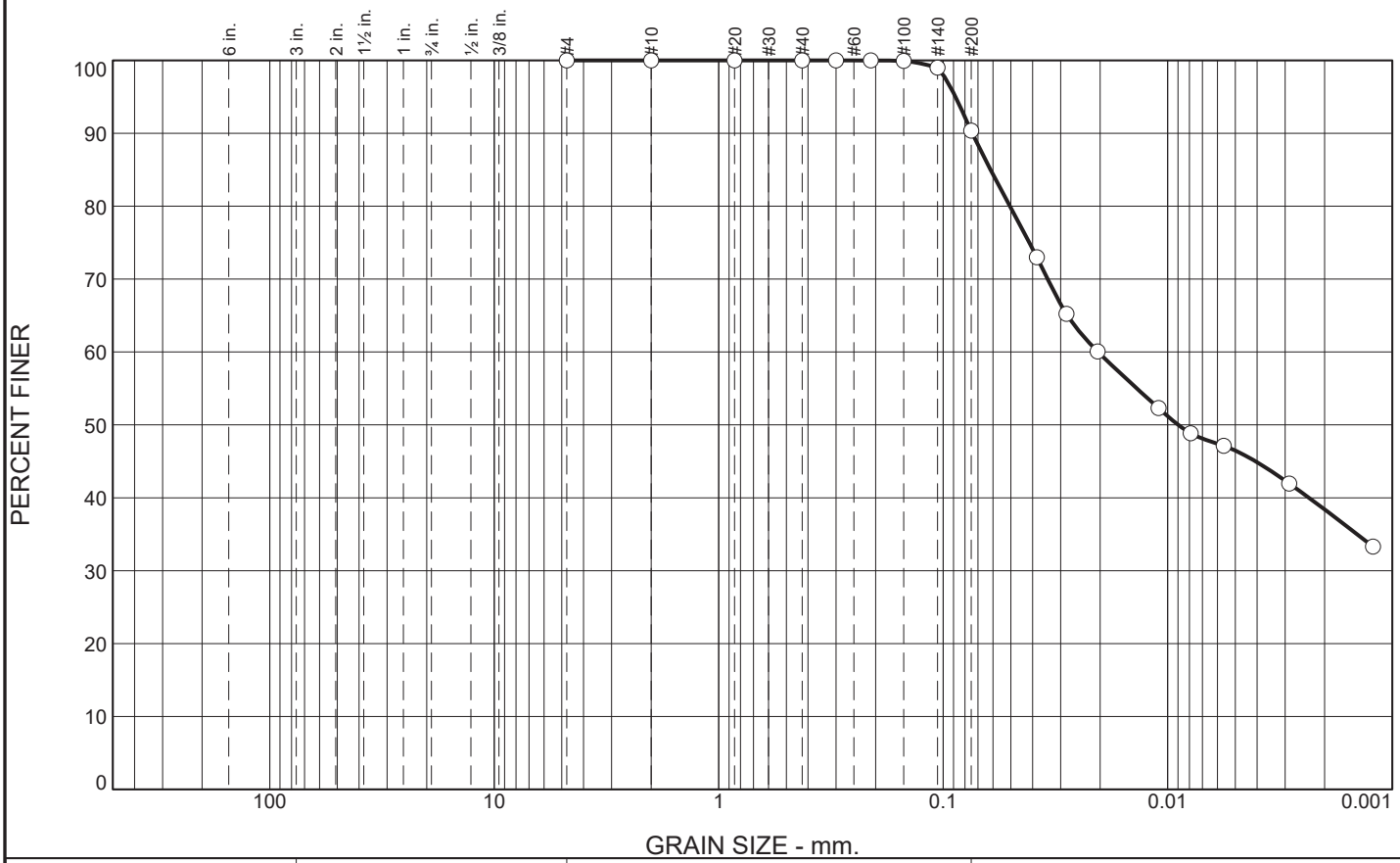
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.6	43.9	46.5

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	100.0		
#100	99.9		
#140	99.0		
#200	90.4		
0.0383 mm.	73.0		
0.0282 mm.	65.2		
0.0205 mm.	60.1		
0.0110 mm.	52.3		
0.0079 mm.	48.9		
0.0056 mm.	47.1		
0.0029 mm.	42.0		
0.0012 mm.	33.3		

* (no specification provided)

Soil Description

Lean clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0740 D_{85}= 0.0615 D_{60}= 0.0204
D_{50}= 0.0090 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 26

Date: 9/26/2022

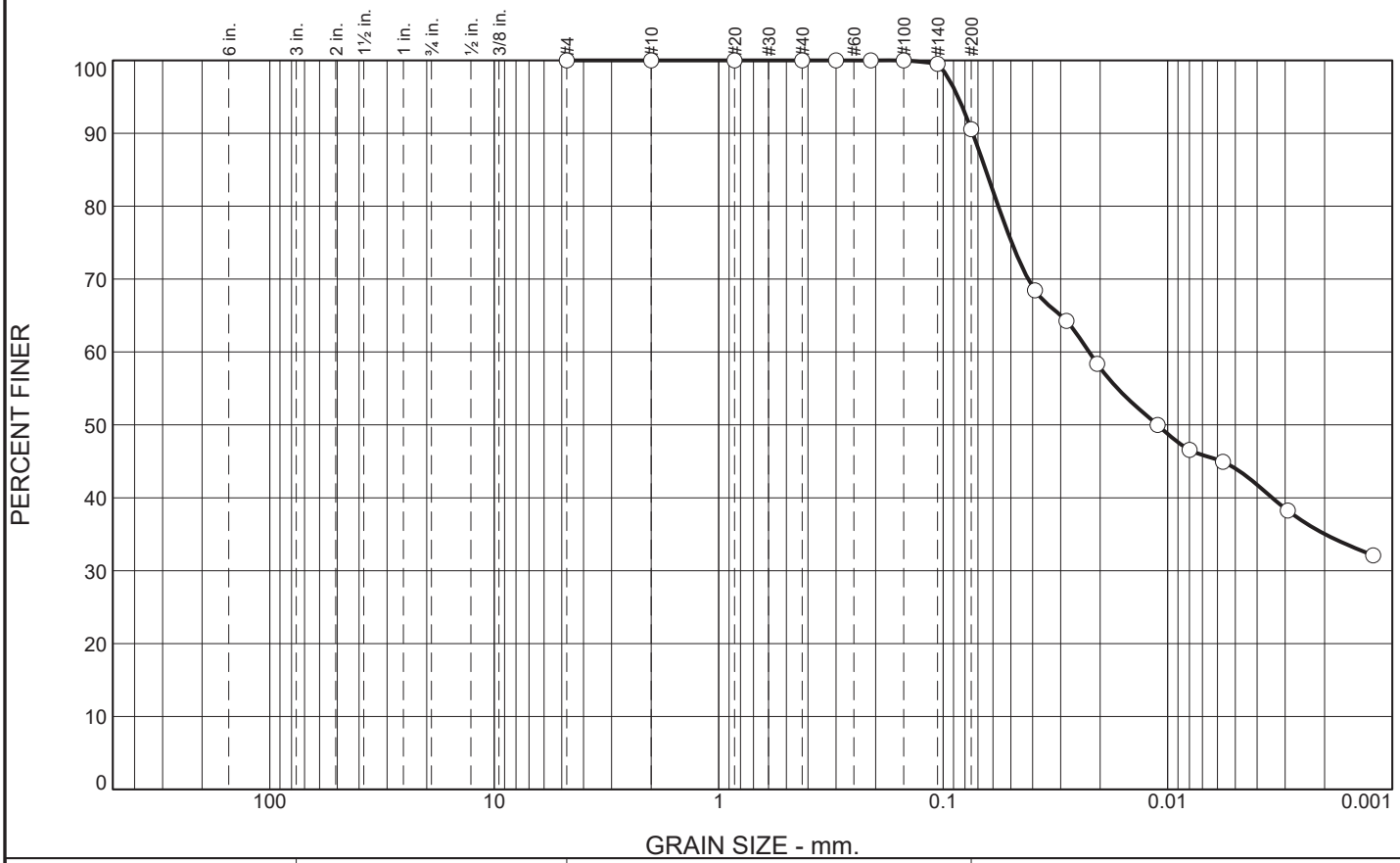
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.4	46.6	44.0

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	100.0		
#100	100.0		
#140	99.5		
#200	90.6		
0.0390 mm.	68.5		
0.0282 mm.	64.3		
0.0206 mm.	58.4		
0.0111 mm.	50.0		
0.0080 mm.	46.6		
0.0057 mm.	44.9		
0.0029 mm.	38.3		
0.0012 mm.	32.1		

* (no specification provided)

Soil Description

Silt, some clay, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0738 D_{85}= 0.0647 D_{60}= 0.0224
D_{50}= 0.0111 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 27

Date: 9/26/2022

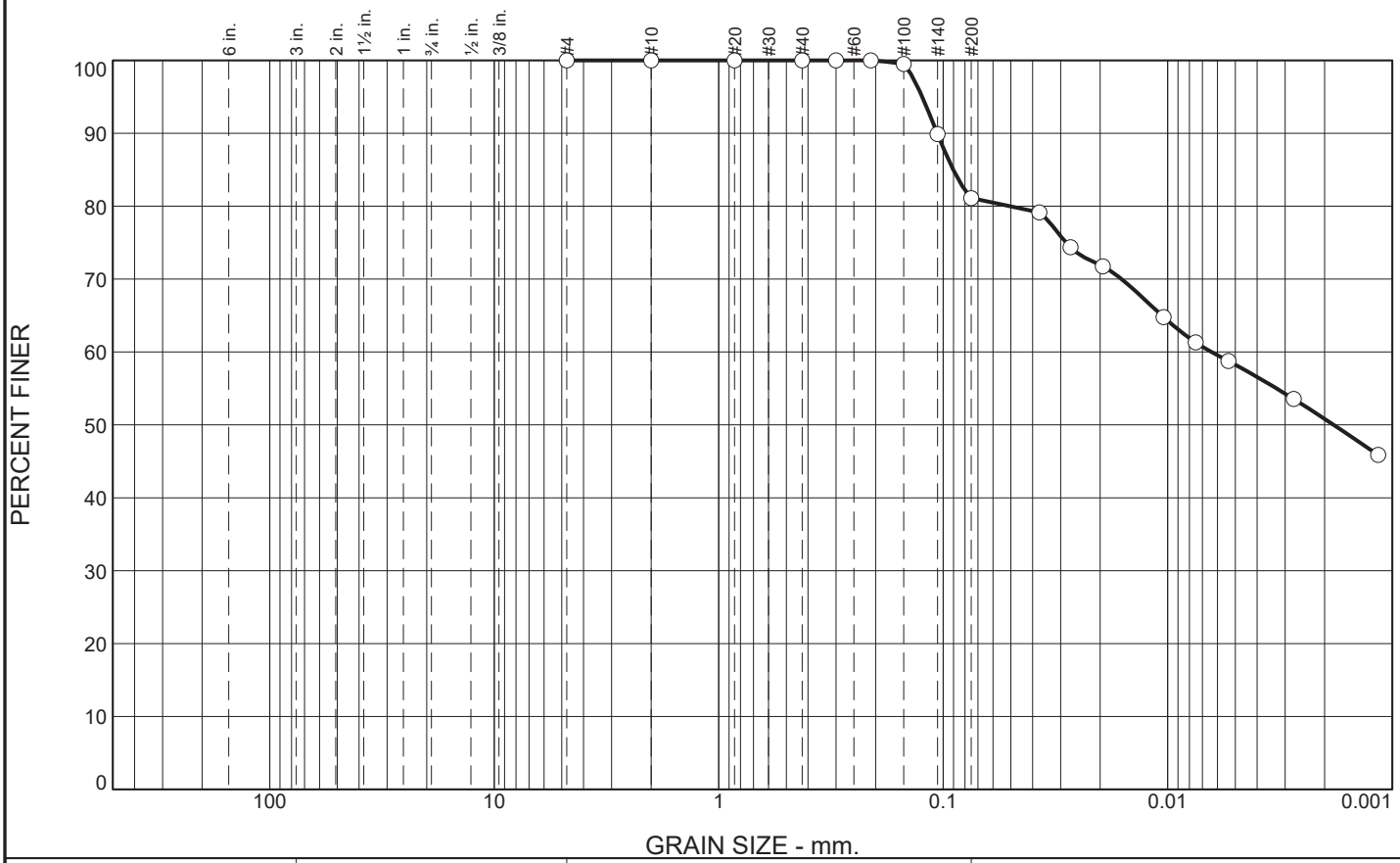
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	18.9	22.9	58.2

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	100.0		
#100	99.5		
#140	89.9		
#200	81.1		
0.0373 mm.	79.2		
0.0271 mm.	74.4		
0.0195 mm.	71.8		
0.0104 mm.	64.8		
0.0075 mm.	61.3		
0.0054 mm.	58.8		
0.0027 mm.	53.6		
0.0012 mm.	45.9		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1063 D_{85}= 0.0901 D_{60}= 0.0064
D_{50}= 0.0018 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 28

Date: 9/26/2022

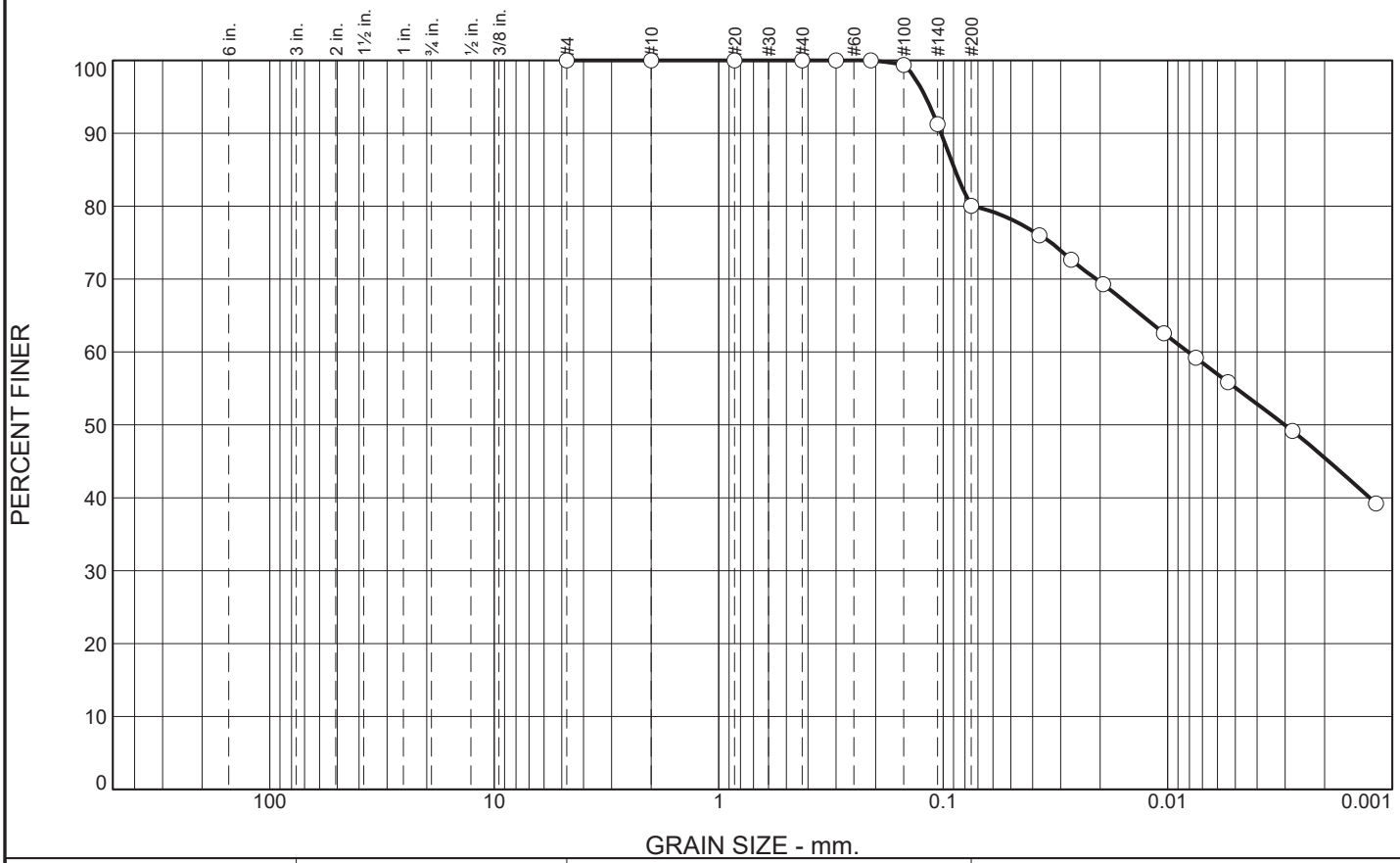
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	20.0	24.9	55.1

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	100.0		
#100	99.4		
#140	91.3		
#200	80.0		
0.0373 mm.	76.0		
0.0269 mm.	72.7		
0.0194 mm.	69.3		
0.0104 mm.	62.6		
0.0075 mm.	59.2		
0.0054 mm.	55.9		
0.0028 mm.	49.2		
0.0012 mm.	39.2		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1021 D_{85}= 0.0886 D_{60}= 0.0081
D_{50}= 0.0030 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 29

Date: 9/26/2022

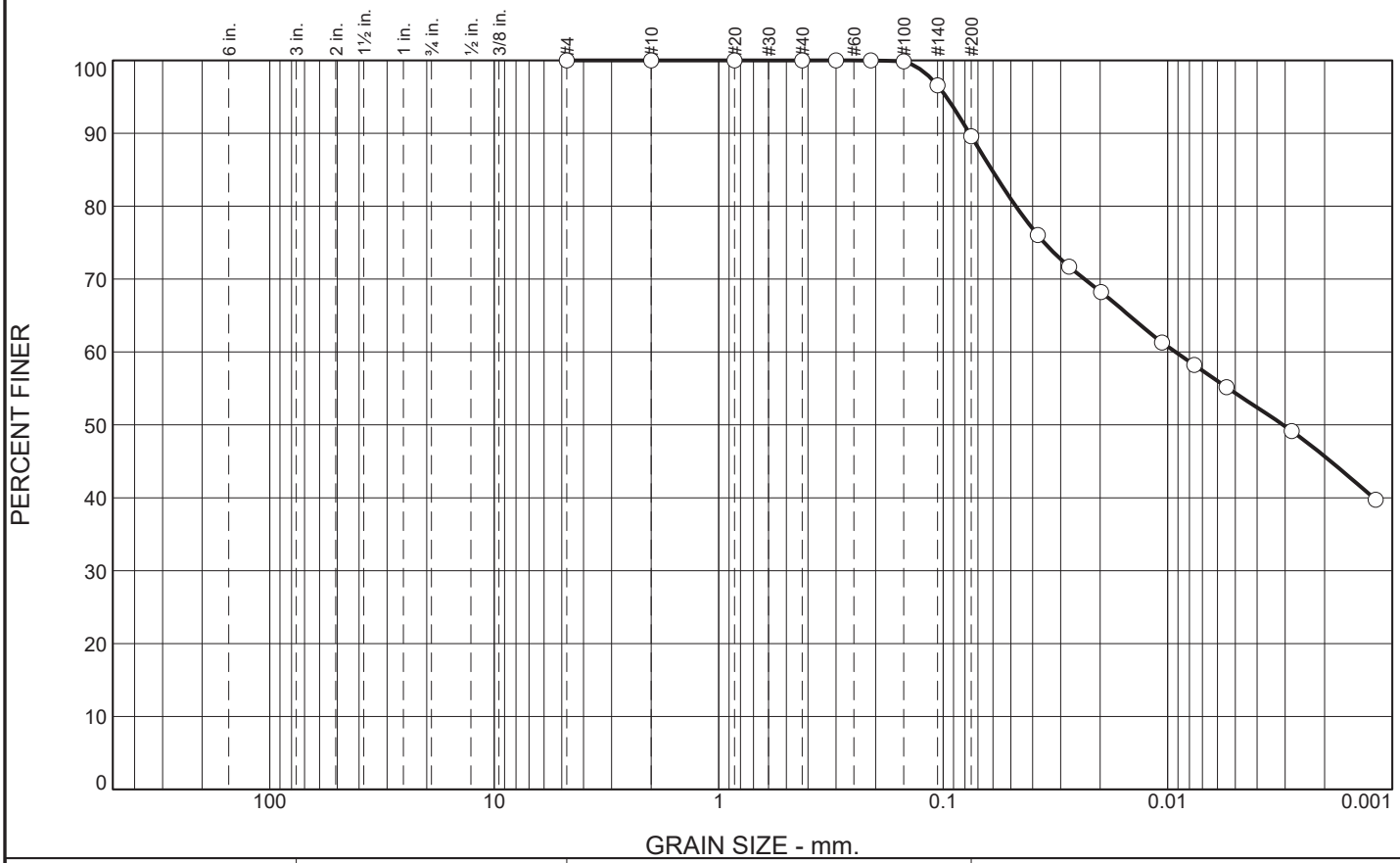
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.4	35.2	54.4

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	100.0		
#100	99.9		
#140	96.6		
#200	89.6		
0.0379 mm.	76.1		
0.0275 mm.	71.7		
0.0198 mm.	68.2		
0.0106 mm.	61.3		
0.0076 mm.	58.2		
0.0055 mm.	55.2		
0.0028 mm.	49.2		
0.0012 mm.	39.7		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0764 D_{85}= 0.0607 D_{60}= 0.0092
D_{50}= 0.0031 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 30

Date: 9/26/2022

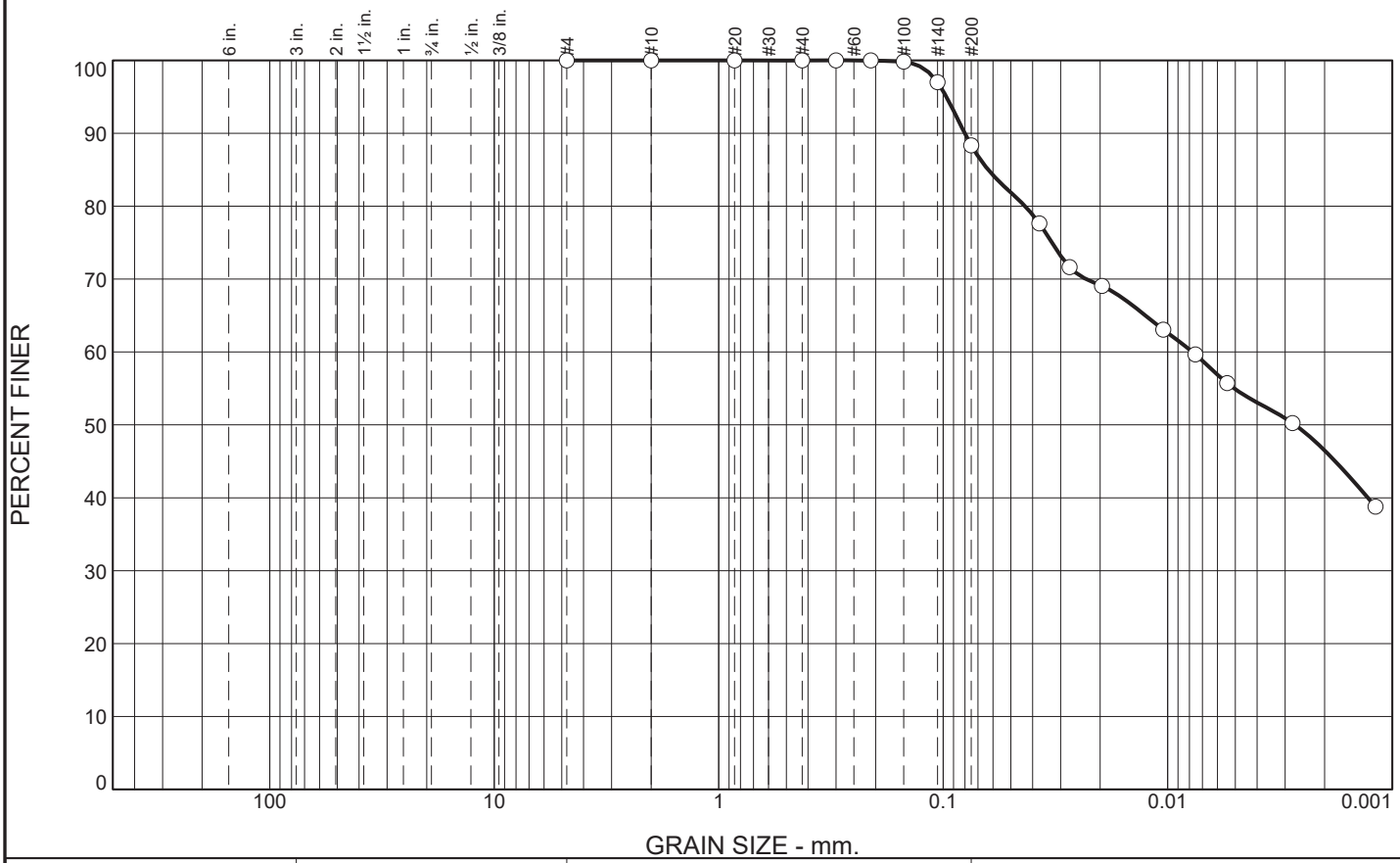
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	11.7	33.4	54.9

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	100.0		
#100	99.8		
#140	97.0		
#200	88.3		
0.0373 mm.	77.7		
0.0274 mm.	71.6		
0.0196 mm.	69.1		
0.0105 mm.	63.1		
0.0075 mm.	59.7		
0.0054 mm.	55.7		
0.0028 mm.	50.2		
0.0012 mm.	38.8		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0801 D_{85}= 0.0631 D_{60}= 0.0078
D_{50}= 0.0027 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 31

Date: 9/26/2022

Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

APPENDIX D

CHEMICAL QUALITY ASSURANCE REPORT

EPA Region 6
Data Review and Validation Requirements
Dredged Material Disposal Evaluation

Project: **PCCA CDP Outer Harbor**

Project Initiation Date: November 16, 2021

Project Sampling Dates:

Begin: August 16, 2022

End: August 25, 2022

Final Report Date:

Final Review Date: March 6, 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.

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?
N	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?
NA	Were samples packed on wet ice, with an expected receipt temperature of 4 ± 2°C?
NA	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?
NA	If any anomalous behavior of the samples was found, was it noted in the lab case narrative?

Additional sample custody issues or deficiencies:

Analyses are printed on the chain of custody

Samples were delivered from the field to the lab by the field team and NWDLS

Sample stored and shipped in refrigerated storage

Project Identification: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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 had exceedances outside the lab acceptance criteria. This indicates a potential matrix interference in the the sample. For antimony, the recovery is typically low due to the analytical procedure used.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	See LCS/LFB	
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		
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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Nickel had a recovery below the acceptance criteria, indicating a potential matrix interference. All other spikes were acceptable.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	See LCS/LFB	
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		
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:

Reviewed by:

Review Date:

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	Y	Several spike recoveries were outside the laboratory acceptance criteria, indicating either a matrix interference or heterogeneity in the samples. Since the majority of the spikes were acceptable, the problem appears to be isolated.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Sample/supplier-specific recovery limits	NA	Use LCS as SRM	
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		
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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Y	Use blank spike/LCS as SRM.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Verification standards not provided. The lab indicates that the verification standards were high. Since the exceedances were high and the results are below detection, there is no impact on the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	See note		
Surrogates	Every sample	Method-specific recovery limits	See note	One sediment sample had an exceedance above the lab acceptance limit in the surrogate. Since the results were below the reportin limit, 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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	See note	All spike recoveries were either within acceptance criteria or had high exceedances. Since all sample results are below detection, there is no impact on the sample results.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use blank spike/LCS as SRM. The LCS was within limits for all compounds. The LCS duplicate for one batch had exceedances above the target criteria for most pesticide compounds. Since all sample results are below detection, there is no impact on the sample results.	
ICV	Immediately following calibration curve	Method-specific recovery limits	See note	Verification standards not provided. The lab indicates that the verification standards were high. Since the exceedances were high and the results are below detection, there is no impact on the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	See note		
Surrogates	Every sample	Method-specific recovery limits	N	Several pesticide compounds had surrogates above the laboratory acceptance criteria. Since the sample results were below the reporting limit, 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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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 spikes were outside the acceptance criteria from the lab. Based on the percent recovery, it appears to be either an issue with sample homogeneity or a error in the spiking level from the laboratory.	
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	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	Y		
Surrogates	Every sample	Method-specific recovery limits	See note	One sediment sample had an exceedance above the lab acceptance limit in the surrogate. Since the results were below the reportin limit, 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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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 spikes were outside lab acceptance criteria indicating a likely matrix interference. Since the results are all below detection in the project samples, the overall impact is low.	
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	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	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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Several spikes were outside the lab acceptance criteria, indicating a potential matrix interference in the samples.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use blank spike/LCS as SRM. Several blank spikes had exceedances, indicating a potential bias in the samples. Since the results were below the reporting limit for all samples and compounds, the overall impact is low.	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	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	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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Several spikes were outside the lab acceptance criteria, indicating a potential matrix interference in the samples.	
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	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	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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Di-n-butyl phthalate had a blank slightly above the reporting limit for one blank.	
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Several spikes were outside the lab acceptance criteria, indicating a potential matrix interference in the samples.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use blank spike/LCS as SRM. Several blank spikes had exceedances, indicating a potential bias in the samples. Since the results were below the reporting limit for all samples and compounds, the overall impact is low.	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	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	Y		
Surrogates	Every sample	Method-specific recovery limits	N	One sediment sample had a surrogate exceedance. The exceedance indicate a slight high bias in the samples. Since nearly all of the sample results were below the reporting limit, the impact on the results 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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	Several compounds have method blanks slightly above the reporting limits. These exceedances are less than twice the reporting limit, and the overall impact on the results is low.	
MS/MSD	1 set per 20 samples or per batch	Method-specific spike recovery and RSD precision limits	N	Several spikes were outside the lab acceptance criteria, indicating a potential matrix interference in the samples.	
SRM	1 per 20 samples or 1 per batch up to 20 samples	Within limits specified by provider	N	Use blank spike as SRM. Several blank spikes had exceedances, indicating a potential bias in the samples. Since the results were below the reporting limit for all samples and compounds, the overall impact is low.	
ICV	Immediately following calibration curve	Method-specific recovery limits	Y	Verification standards not provided, but lab indicates that all analytes were acceptable, with the exception of 1,2-Diphenylhydrazine. Since the exceedances were high and the results are below detection, there is no impact on the results.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	N	Several site water samples had surrogate exceedances. The exceedances indicate a slight high bias in the samples. Since nearly all of the sample results were below the reporting limit, the impact on the results 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:

Reviewed by:

Review Date:

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	QC samples use tissue as part of the prep, which tends to increase the liklihood of interferences and detected concentrations in the blanks. Since both the project tissues and references are run with batch QC, and the results are statistically compared to each other, the overall impact is low.	
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	Verification standards not provided, but lab indicates that all analytes were acceptable with the exception of 3 SVOC samples.	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	Y		
Surrogates	Every sample	Method-specific recovery limits	See note	3 tissue samples had surrogate recoveries below the standard acceptance criteria of 30%, indicating a potential matrix interference in the samples.	
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: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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	NA	Not provided by subcontracted lab	
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	NA	Not provided by subcontracted lab	
CCV	At the beginning of every 12 hours of analysis	Method-specific recovery limits	NA		
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	

Project Identification: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 3/6/23

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.	N	
	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	
	Copy of Overnight Shipping Airbill or Courier Tracking Information (if applicable)	NA	
	Holding/Acclimation Records (including any required water quality, renewals, and feeding)	N	
	Mortality During Holding and Acclimation	N	
	Taxonomic Identification for Each Species (where available from vendor)	Y	
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.	Y	The rerun for sample CDP-3 is provided as a separate report since the sediment sample was recollected following the initial testing based on the benthic failure.

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)			
	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	
	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	Y	

Project Identification: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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)	See note	Salinity slightly out of SAP limits, but within ITM limits		See note	Salinity slightly out of SAP limits, but within ITM limits		See note	Salinity slightly out of SAP limits, but within ITM limits	
Acclimation Procedures followed (where required)? (Y/N)	NA	Not required		NA	Not required		NA	Not required	
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	Not required		NA	Not required		NA	Not required	

Project Identification: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22 & 3/6/23

Laboratory:	Solid Phase Tests								
	Amphipod	**Review Comments**	**Data Acceptable (Y/N)**	**Crustacean**	**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)***			***Americamysis bahia (1 - 5 days old)***		
Correct species used as stated in the SAP/QAPP? (Y/N)	Y			Y			Y		Sample analysis for CDP-3 rerun only. The original result did not meet the survival criteria specified in the method, so the material was recollected and analyzed for this test only.
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)	See note	Temperature slightly out of SAP limits, but within ITM limits		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)	See note	Salinity slightly out of SAP limits, but within ITM limits		See note	Salinity slightly out of SAP limits, but within ITM limits		See note	Salinity slightly out of SAP limits, but within ITM limits	
Acclimation Procedures followed (where required)? (Y/N)	NA	Not required		NA	Not required		NA	Not required	
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	Not required		NA	Not required		NA	Not required	

Project Identification: CDP Outer Channel 2022

Reviewed by: PLB

Review Date: 11/8/22

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			See note	Used alternate species from RIA	
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)	See note	Salinity slightly out of SAP limits, but within ITM limits		See note	Salinity slightly out of SAP limits, but within ITM limits	
Acclimation Procedures followed (where required)? (Y/N)	NA	Not required		NA	Not required	
Sediment Holding Time <8 wks? (Y/N)	Y			Y		
Statistical Analyses Appropriate? (Y/N)	Y			Y		
Ammonia Management conducted (where required)? (Y/N)	NA	Not required		NA	Not required	

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 T104704238-22-36
TCEQ-TOX T104704202-22-17

October 17, 2022

LAB REPORT

Gregg Pawlak
Terracon_Houston
11555 Clay Road
Houston, TX 77043

Report ID: 20221017150050MM

RE: PCCA CDP 2022 - PHASE II

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

130 S. Trade Center Parkway, Conroe TX 77385
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TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Work Order Case Narrative

A total of 31 samples were collected on:

Laboratory ID	Sample Name	Sample Date
22G0514-01	CDP-EQ BLANK	08/19/2022 11:00
22G0514-02	CDP-01-W	08/25/2022 19:40
22G0514-03	CDP-02-W	08/25/2022 18:55
22G0514-04	CDP-03-W	08/25/2022 18:13
22G0514-05	CDP-04-W	08/25/2022 16:35
22G0514-06	CDP-05-W	08/25/2022 16:35
22G0514-07	CDP-REF-W	08/25/2022 20:15
22G0514-08	CDP-DUP-W	08/25/2022 18:16
22G0514-09	CDP-01-E	08/17/2022 09:15
22G0514-10	CDP-02-E	08/18/2022 08:30
22G0514-11	CDP-03-E	08/19/2022 08:10
22G0514-12	CDP-04-E	08/24/2022 15:52
22G0514-13	CDP-05-E	08/24/2022 17:15
22G0514-14	CDP-DUP-E	08/19/2022 13:20
22G0514-15	CDP-01-S	08/17/2022 09:15
22G0514-16	CDP-02-S	08/18/2022 08:30
22G0514-17	CDP-03-S	08/19/2022 08:10
22G0514-18	CDP-04-S	08/24/2022 15:52
22G0514-19	CDP-05-S	08/24/2022 17:15
22G0514-20	CDP-REF-S	08/24/2022 12:25
22G0514-21	CDP-DUP-S	08/19/2022 13:20
22G0514-22	CDP-01-1A-S	08/16/2022 16:30
22G0514-23	CDP-01-1C-S	08/17/2022 09:15
22G0514-24	CDP-02-2A-S	08/17/2022 15:00
22G0514-25	CDP-02-2C-S	08/18/2022 08:30
22G0514-26	CDP-03-3A-S	08/18/2022 17:00
22G0514-27	CDP-03-3C-S	08/19/2022 13:20
22G0514-28	CDP-04-4A-S	08/24/2022 14:58
22G0514-29	CDP-04-4C-S	08/24/2022 15:52
22G0514-30	CDP-05-5A-S	08/24/2022 16:35
22G0514-31	CDP-05-5C-S	08/24/2022 17:15

Samples were received and accepted at NWDLS on 08/19/2022 22:05 and 08/29/2022 08:00. Any receiving discrepancies are recorded and stored in NWDLS' database. The samples received a Work Order of 22G0514. 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.or additional information, please refer to the included quality control data pages.

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TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results

Client Sample ID: CDP-EQ BLANK
Lab Sample ID: 22G0514-01
Sample Alias:

Sample Matrix: 18 MOhm DI Water
Date Collected: 08/19/2022 11:00
Collected by: Michael Madonna

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	BFI1464	09/12/2022 18:20	NAZ
EPA 200.8	Selenium	A	<0.330U	ug/L	1	0.330	5.00	BFI2521	09/20/2022 18:20	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<0.200U	ug/L	1	0.200	1.00	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Arsenic	A	<0.100U	ug/L	1	0.100	0.500	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Beryllium	A	<0.0100U	ug/L	1	0.0100	0.200	BFH3536	09/07/2022 18:42	TBB
EPA 200.8	Cadmium	A	<0.0500U	ug/L	1	0.0500	1.00	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Chromium	A	<0.0800U	ug/L	1	0.0800	3.00	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Copper	A	0.576J	ug/L	1	0.200	1.00	BFH3536	09/06/2022 16:02	TBB
Calc	Chromium (III)		<1.58U	ug/L	1	1.58	6.00	[CALC]	09/02/2022 18:23	SAB
EPA 200.8	Lead	A	<0.100U	ug/L	1	0.100	0.500	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Nickel	A	0.629J	ug/L	1	0.0500	1.00	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Silver	A	<0.0300U	ug/L	1	0.0300	0.500	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Thallium	A	<0.0300U	ug/L	1	0.0300	0.500	BFH3536	09/02/2022 18:23	TBB
EPA 200.8	Zinc	A	0.997J	ug/L	1	0.200	2.00	BFH3536	09/06/2022 16:02	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-EQ BLANK	Sample Matrix:	18 MOhm DI Water
Lab Sample ID:	22G0514-01RE1	Date Collected:	08/19/2022 11:00
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	12.4	CQ	ug/L	1	1.50	3.00	BFH3695	08/26/2022 14:35	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-02	Date Collected:	08/25/2022 19:40
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 06:16	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-W (Continued)
Lab Sample ID: 22G0514-02
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 19:40
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	Dimethyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Fluorene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Hexachlorobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Hexachlorobutadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Hexachloroethane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Isophorone	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Naphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Nitrobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 06:16	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Pentachlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	Phenanthrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	Phenol, Total	A	1.57V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:16	KRB
SW-8270	Pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:16	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*108%*	*54.6-148*					*09/09/2022 06:16*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*123%*	*55-152*					*09/09/2022 06:16*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*99.0%*	*52.4-136*					*09/09/2022 06:16*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*114%*	*52-162*					*09/09/2022 06:16*	
SW-8270	*Surrogate: Phenol-d5-surr*		*113%*	*58.7-152*					*09/09/2022 06:16*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*108%*	*51.9-147*					*09/09/2022 06:16*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	4,4'-DDE	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	4,4'-DDT	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Aldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Chlordane (tech.)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-W (Continued)
Lab Sample ID: 22G0514-02
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 19:40
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 08:47	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 08:47	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*178% S*	*60-140*					*09/10/2022 08:47*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*185% S*	*60-140*					*09/10/2022 08:47*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 11:38	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*99.8%*	*60-140*					*09/08/2022 11:38*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*67.1%*	*60-140*					*09/08/2022 11:38*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:30	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 09:51	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Arsenic	A	1.91J	ug/L	5	0.500	2.50	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI0662	10/04/2022 11:17	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Chromium	A	0.570V, J	ug/L	5	0.400	15.0	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Copper	A	6.03	ug/L	5	1.00	5.00	BFI0662	10/03/2022 14:30	TBB
Calc	Chromium (III)		<2.28U	ug/L	5	2.28	18.8	[CALC]	10/03/2022 14:30	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI0662	10/03/2022 15:49	TBB
EPA 200.8	Nickel	A	0.436B, J	ug/L	5	0.250	5.00	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 14:30	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 15:49	TBB
EPA 200.8	Zinc	A	<1.00B, U	ug/L	5	1.00	10.0	BFI0662	10/03/2022 14:30	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-02	Date Collected:	08/25/2022 19:40
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.0932		mg/L	1	0.0200	0.0500	BFI0154	09/01/2022 16:08	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	3.79		mg/L	1	1.00	1.00	BFH4047	08/31/2022 12:26	BP

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-02RE1	Date Collected:	08/25/2022 19:40
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/15/2022 23:24	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/15/2022 23:24	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*128%*		*54.6-148*					*09/15/2022 23:24*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*142%*		*55-152*					*09/15/2022 23:24*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*178%*	*S*	*52.4-136*					*09/15/2022 23:24*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*205%*	*S*	*52-162*					*09/15/2022 23:24*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*135%*		*58.7-152*					*09/15/2022 23:24*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*107%*		*51.9-147*					*09/15/2022 23:24*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	7.05		ug/L	1	1.88	3.75	BFI0740	09/07/2022 10:57	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-03	Date Collected:	08/25/2022 18:55
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 06:51	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-03	Date Collected:	08/25/2022 18:55
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	Dimethyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Fluorene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Hexachlorobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Hexachlorobutadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Hexachloroethane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Isophorone	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Naphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Nitrobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 06:51	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Pentachlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	Phenanthrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	Phenol, Total	A	1.82V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 06:51	KRB
SW-8270	Pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 06:51	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*104%*	*54.6-148*					*09/09/2022 06:51*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*118%*	*55-152*					*09/09/2022 06:51*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*101%*	*52.4-136*					*09/09/2022 06:51*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*104%*	*52-162*					*09/09/2022 06:51*	
SW-8270	*Surrogate: Phenol-d5-surr*		*113%*	*58.7-152*					*09/09/2022 06:51*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*111%*	*51.9-147*					*09/09/2022 06:51*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	4,4'-DDE	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	4,4'-DDT	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Aldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Chlordane (tech.)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-W (Continued)
Lab Sample ID: 22G0514-03
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 18:55
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:11	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 09:11	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*175% S*	*60-140*					*09/10/2022 09:11*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*177% S*	*60-140*					*09/10/2022 09:11*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 12:02	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*106%*	*60-140*					*09/08/2022 12:02*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*66.6%*	*60-140*					*09/08/2022 12:02*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:33	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 09:54	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Arsenic	A	2.12J	ug/L	5	0.500	2.50	BFI0662	10/03/2022 19:58	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI0662	10/04/2022 13:59	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Chromium	A	0.635V, J	ug/L	5	0.400	15.0	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Copper	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:08	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 17:08	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Nickel	A	0.419B, J	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:08	TBB
EPA 200.8	Zinc	A	3.34V, J	ug/L	5	1.00	10.0	BFI0662	10/03/2022 17:08	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-03	Date Collected:	08/25/2022 18:55
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.551		mg/L	1	0.0200	0.0500	BFH4180	09/01/2022 11:39	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	3.58	B1	mg/L	1	1.00	1.00	BFH4048	08/31/2022 13:22	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-03RE1	Date Collected:	08/25/2022 18:55
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/15/2022 23:59	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/15/2022 23:59	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*103%*		*54.6-148*					*09/15/2022 23:59*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*102%*		*55-152*					*09/15/2022 23:59*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*123%*		*52.4-136*					*09/15/2022 23:59*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*152%*		*52-162*					*09/15/2022 23:59*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*103%*		*58.7-152*					*09/15/2022 23:59*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*85.7%*		*51.9-147*					*09/15/2022 23:59*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	10.8		ug/L	1	1.50	3.00	BFI0740	09/07/2022 10:57	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-04	Date Collected:	08/25/2022 18:13
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 07:26	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-04	Date Collected:	08/25/2022 18:13
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	Dimethyl phthalate	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281 B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Fluoranthene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Fluorene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Hexachlorobenzene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Hexachlorobutadiene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Hexachloroethane	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Isophorone	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Naphthalene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Nitrobenzene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281 U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 07:26	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Pentachlorophenol	A	<0.560 U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	Phenanthrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	Phenol, Total	A	1.89 V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 07:26	KRB
SW-8270	Pyrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 07:26	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*101%*	*54.6-148*					*09/09/2022 07:26*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*117%*	*55-152*					*09/09/2022 07:26*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*98.4%*	*52.4-136*					*09/09/2022 07:26*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*105%*	*52-162*					*09/09/2022 07:26*	
SW-8270	*Surrogate: Phenol-d5-surr*		*109%*	*58.7-152*					*09/09/2022 07:26*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*110%*	*51.9-147*					*09/09/2022 07:26*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	4,4'-DDE	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	4,4'-DDT	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Aldrin	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Chlordane (tech.)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-03-W (Continued)
Lab Sample ID: 22G0514-04
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 18:13
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 09:34	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 09:34	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*170% S*	*60-140*					*09/10/2022 09:34*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*169% S*	*60-140*					*09/10/2022 09:34*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 12:25	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*117%*	*60-140*					*09/08/2022 12:25*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*74.6%*	*60-140*					*09/08/2022 12:25*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:37	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 09:57	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Arsenic	A	1.96J	ug/L	5	0.500	2.50	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI3774	10/06/2022 13:09	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Chromium	A	0.659J	ug/L	5	0.400	15.0	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Copper	A	<1.00B, U	ug/L	5	1.00	5.00	BFI3774	10/06/2022 09:27	TBB
Calc	Chromium (III)		<2.28U	ug/L	5	2.28	18.8	[CALC]	10/06/2022 09:27	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Nickel	A	0.431J	ug/L	5	0.250	5.00	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI3774	10/06/2022 09:27	TBB
EPA 200.8	Zinc	A	<1.00U	ug/L	5	1.00	10.0	BFI3774	10/06/2022 09:27	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-04	Date Collected:	08/25/2022 18:13
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.480		mg/L	1	0.0200	0.0500	BFH4180	09/01/2022 11:40	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	2.63		mg/L	1	1.00	1.00	BFH4047	08/31/2022 12:26	BP

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-04RE1	Date Collected:	08/25/2022 18:13
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 00:34	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 00:34	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*129%*		*54.6-148*					*09/16/2022 00:34*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*131%*		*55-152*					*09/16/2022 00:34*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*165%*	*S*	*52.4-136*					*09/16/2022 00:34*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*197%*	*S*	*52-162*					*09/16/2022 00:34*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*122%*		*58.7-152*					*09/16/2022 00:34*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*98.2%*		*51.9-147*					*09/16/2022 00:34*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	9.00		ug/L	1	1.88	3.75	BFI0740	09/07/2022 10:58	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-05	Date Collected:	08/25/2022 16:35
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 08:00	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-W (Continued)
Lab Sample ID: 22G0514-05
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 16:35
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	Dimethyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Fluorene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Hexachlorobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Hexachlorobutadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Hexachloroethane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Isophorone	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Naphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Nitrobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 08:00	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Pentachlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	Phenanthrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	Phenol, Total	A	2.00V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:00	KRB
SW-8270	Pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:00	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*99.1%*	*54.6-148*					*09/09/2022 08:00*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*115%*	*55-152*					*09/09/2022 08:00*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*100%*	*52.4-136*					*09/09/2022 08:00*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*101%*	*52-162*					*09/09/2022 08:00*	
SW-8270	*Surrogate: Phenol-d5-surr*		*109%*	*58.7-152*					*09/09/2022 08:00*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*112%*	*51.9-147*					*09/09/2022 08:00*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	4,4'-DDE	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	4,4'-DDT	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Aldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Chlordane (tech.)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-W (Continued)
Lab Sample ID: 22G0514-05
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 16:35
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:31	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 11:31	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*103%*	*60-140*					*09/10/2022 11:31*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*133%*	*60-140*					*09/10/2022 11:31*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 12:49	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*108%*	*60-140*					*09/08/2022 12:49*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*66.1%*	*60-140*					*09/08/2022 12:49*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:47	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 09:59	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Arsenic	A	2.12J	ug/L	5	0.500	2.50	BFI0662	10/03/2022 20:01	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI0662	10/04/2022 14:01	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Chromium	A	0.835V, J	ug/L	5	0.400	15.0	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Copper	A	3.49J	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:11	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 17:11	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Nickel	A	1.26B, J	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:11	TBB
EPA 200.8	Zinc	A	1.58V, J	ug/L	5	1.00	10.0	BFI0662	10/03/2022 17:11	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-05	Date Collected:	08/25/2022 16:35
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.210		mg/L	1	0.0200	0.0500	BFH4099	08/31/2022 11:32	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	2.95		mg/L	1	1.00	1.00	BFH4047	08/31/2022 12:26	BP

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-05RE1	Date Collected:	08/25/2022 16:35
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 01:09	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 01:09	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*137%*		*54.6-148*					*09/16/2022 01:09*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*149%*		*55-152*					*09/16/2022 01:09*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*184%*	*S*	*52.4-136*					*09/16/2022 01:09*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*216%*	*S*	*52-162*					*09/16/2022 01:09*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*144%*		*58.7-152*					*09/16/2022 01:09*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*95.0%*		*51.9-147*					*09/16/2022 01:09*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	<1.50	U	ug/L	1	1.50	3.00	BFI0740	09/07/2022 10:59	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-06	Date Collected:	08/25/2022 16:35
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 08:35	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-W (Continued)
Lab Sample ID: 22G0514-06
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 16:35
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	Dimethyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Fluorene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Hexachlorobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Hexachlorobutadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Hexachloroethane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Isophorone	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Naphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Nitrobenzene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 08:35	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Pentachlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	Phenanthrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	Phenol, Total	A	1.39V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 08:35	KRB
SW-8270	Pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 08:35	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*103%*	*54.6-148*					*09/09/2022 08:35*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*116%*	*55-152*					*09/09/2022 08:35*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*96.5%*	*52.4-136*					*09/09/2022 08:35*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*118%*	*52-162*					*09/09/2022 08:35*	
SW-8270	*Surrogate: Phenol-d5-surr*		*100%*	*58.7-152*					*09/09/2022 08:35*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*110%*	*51.9-147*					*09/09/2022 08:35*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	4,4'-DDE	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	4,4'-DDT	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Aldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Chlordane (tech.)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-W (Continued)
Lab Sample ID: 22G0514-06
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 16:35
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 11:54	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 11:54	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*125%*	*60-140*					*09/10/2022 11:54*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*142% S*	*60-140*					*09/10/2022 11:54*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 13:13	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*94.6%*	*60-140*					*09/08/2022 13:13*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*66.3%*	*60-140*					*09/08/2022 13:13*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:50	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 10:02	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Arsenic	A	1.92J	ug/L	5	0.500	2.50	BFI0662	10/03/2022 19:22	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI0662	10/04/2022 11:26	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Chromium	A	0.653V, J	ug/L	5	0.400	15.0	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Copper	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 16:33	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 16:33	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Nickel	A	0.534B, J	ug/L	5	0.250	5.00	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 16:33	TBB
EPA 200.8	Zinc	A	4.38V, J	ug/L	5	1.00	10.0	BFI0662	10/03/2022 16:33	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-06	Date Collected:	08/25/2022 16:35
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.322		mg/L	1	0.0200	0.0500	BFH4099	08/31/2022 11:33	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	3.26		mg/L	1	1.00	1.00	BFH4047	08/31/2022 12:26	BP

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-06RE1	Date Collected:	08/25/2022 16:35
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 01:44	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 01:44	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*134%*		*54.6-148*					*09/16/2022 01:44*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*159%*	*S*	*55-152*					*09/16/2022 01:44*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*119%*		*52.4-136*					*09/16/2022 01:44*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*231%*	*S*	*52-162*					*09/16/2022 01:44*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*146%*		*58.7-152*					*09/16/2022 01:44*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*102%*		*51.9-147*					*09/16/2022 01:44*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	2.90	J	ug/L	1	1.50	3.00	BFI0740	09/07/2022 11:01	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-07	Date Collected:	08/25/2022 20:15
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	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	1,2-Diphenylhydrazine	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,4,6-Trichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,4-Dichlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,4-Dimethylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,4-Dinitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	2-Chloronaphthalene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	2-Chlorophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	2-Nitrophenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	4-Chloro-3-methylphenol	A	<0.560U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	4-Chlorophenyl phenylether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	4-Nitrophenol	A	<4.50U	ug/L	1	4.50	4.50	BFH4196	09/09/2022 09:10	KRB
SW-8270	Acenaphthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Acenaphthylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Benzo(a)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Benzo(a)pyrene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Benzo(b)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Benzo(g,h,i)perylene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Benzo(k)fluoranthene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Butyl benzyl phthalate	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Chrysene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<0.281U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Diethyl phthalate	A	<0.281B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-07	Date Collected:	08/25/2022 20:15
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	Dimethyl phthalate	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Di-n-butyl phthalate	A	<0.281 B, U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Di-n-octyl phthalate	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Fluoranthene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Fluorene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Hexachlorobenzene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Hexachlorobutadiene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Hexachlorocyclopentadiene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Hexachloroethane	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Isophorone	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Naphthalene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Nitrobenzene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	n-Nitrosodimethylamine	A	<0.281 U	ug/L	1	0.281	2.25	BFH4196	09/09/2022 09:10	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	n-Nitrosodiphenylamine	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Pentachlorophenol	A	<0.560 U	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	Phenanthrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	Phenol, Total	A	1.46 V	ug/L	1	0.560	1.12	BFH4196	09/09/2022 09:10	KRB
SW-8270	Pyrene	A	<0.281 U	ug/L	1	0.281	0.562	BFH4196	09/09/2022 09:10	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*109%*	*54.6-148*					*09/09/2022 09:10*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*121%*	*55-152*					*09/09/2022 09:10*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*97.3%*	*52.4-136*					*09/09/2022 09:10*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*117%*	*52-162*					*09/09/2022 09:10*	
SW-8270	*Surrogate: Phenol-d5-surr*		*108%*	*58.7-152*					*09/09/2022 09:10*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*112%*	*51.9-147*					*09/09/2022 09:10*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	4,4'-DDE	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	4,4'-DDT	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Aldrin	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Chlordane (tech.)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600 C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-REF-W (Continued)
Lab Sample ID: 22G0514-07
Sample Alias:

Sample Matrix: Marine Water
Date Collected: 08/25/2022 20:15
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Dieldrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endosulfan I	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endosulfan II	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endosulfan sulfate	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endrin	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endrin aldehyde	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Endrin ketone	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	gamma-Chlordane	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Heptachlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Heptachlor epoxide	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Methoxychlor	A	<0.00600C+, U	ug/L	1	0.00600	0.00600	BFH4198	09/10/2022 12:18	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300C+, U	ug/L	1	0.300	0.300	BFH4198	09/10/2022 12:18	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*121%*	*60-140*					*09/10/2022 12:18*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*151% S*	*60-140*					*09/10/2022 12:18*	
SW-8082	PCBs, Total	A	<0.00600U	ug/L	1	0.00600	0.120	BFH4117	09/08/2022 13:36	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*106%*	*60-140*					*09/08/2022 13:36*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*69.4%*	*60-140*					*09/08/2022 13:36*	
Metals, Total										
EPA 245.1	Mercury	A	<0.150U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 19:06	NAZ
EPA 200.8	Selenium	A	<1.65U	ug/L	5	1.65	25.0	BFI2521	09/22/2022 10:05	TBB
Metals, Dissolved										
EPA 200.8	Antimony	A	<1.00U	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Arsenic	A	1.89J	ug/L	5	0.500	2.50	BFI0662	10/03/2022 20:04	TBB
EPA 200.8	Beryllium	A	<0.0500U	ug/L	5	0.0500	1.00	BFI0662	10/04/2022 14:04	TBB
EPA 200.8	Cadmium	A	<0.250U	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Chromium	A	1.34V, J	ug/L	5	0.400	15.0	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Copper	A	15.7	ug/L	5	1.00	5.00	BFI0662	10/03/2022 17:14	TBB
Calc	Chromium (III)		<1.90U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 17:14	SAB
EPA 200.8	Lead	A	<0.500U	ug/L	5	0.500	2.50	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Nickel	A	1.52B, J	ug/L	5	0.250	5.00	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Silver	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Thallium	A	<0.150U	ug/L	5	0.150	2.50	BFI0662	10/03/2022 17:14	TBB
EPA 200.8	Zinc	A	1.65V, J	ug/L	5	1.00	10.0	BFI0662	10/03/2022 17:14	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-W (Continued)	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-07	Date Collected:	08/25/2022 20:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
EPA 350.1	Ammonia as N	A	0.355		mg/L	1	0.0200	0.0500	BFH4180	09/01/2022 11:41	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	2.84	B1	mg/L	1	1.00	1.00	BFH4048	08/31/2022 13:22	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-W	Sample Matrix:	Marine Water
Lab Sample ID:	22G0514-07RE1	Date Collected:	08/25/2022 20:15
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 (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 02:18	KRB
SW-8270	Benzidine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFH4196	09/16/2022 02:18	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*138%*		*54.6-148*					*09/16/2022 02:18*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*131%*		*55-152*					*09/16/2022 02:18*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*117%*		*52.4-136*					*09/16/2022 02:18*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*201%*	*S*	*52-162*					*09/16/2022 02:18*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*146%*		*58.7-152*					*09/16/2022 02:18*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*73.8%*		*51.9-147*					*09/16/2022 02:18*	
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	<1.50	U	ug/L	1	1.50	3.00	BFI0740	09/07/2022 11:02	SAB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-E
Lab Sample ID: 22G0514-09
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/17/2022 9:15
Collected by:

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	BFI1055	09/21/2022 21:56	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/21/2022 21:56	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*110%*		*54.6-148*					*09/21/2022 21:56*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*98.0%*		*55-152*					*09/21/2022 21:56*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*108%*		*52.4-136*					*09/21/2022 21:56*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*111%*		*52-162*					*09/21/2022 21:56*	
SW-8270	*Surrogate: Phenol-d5-surr*		*94.7%*		*58.7-152*					*09/21/2022 21:56*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*68.7%*		*51.9-147*					*09/21/2022 21:56*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 05:58	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 05:58	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*126%*		*60-140*					*10/06/2022 05:58*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-E (Continued)
Lab Sample ID: 22G0514-09
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/17/2022 9:15
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*116%*		*60-140*					*10/06/2022 05:58*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 03:24	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*72.0%*		*60-140*					*10/06/2022 03:24*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*44.4%*	*S*	*60-140*					*10/06/2022 03:24*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	3.86	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Arsenic	A	14.9	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:37	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Chromium	A	1.48	CQb, J	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:13	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:13	SAB
SM 3500-Cr B	Chromium (VI)	A	<0.00150	U	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 16:55	SAB
EPA 200.8	Lead	A	<0.500	CQf, U	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:37	TBB
EPA 200.8	Nickel	A	3.11	CQe, J	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:13	TBB
EPA 200.8	Zinc	A	<1.00	B, CQd, U	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:37	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:53	NAZ
EPA 200.8	Selenium	A	2.16	J	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:33	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	1.89		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:41	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	28.6	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-09RE1	Date Collected:	08/17/2022 9:15
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 15:39	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 15:39	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-E (Continued)
Lab Sample ID: 22G0514-09RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/17/2022 9:15
Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.372V, J	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.724V, V2	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 15:39	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	Phenol, Total (Rerun)	A	1.36V, V2	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:39	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:39	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*85.1%*	*54.6-148*					*09/27/2022 15:39*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*105%*	*55-152*					*09/27/2022 15:39*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*88.2%*	*52.4-136*					*09/27/2022 15:39*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*123%*	*52-162*					*09/27/2022 15:39*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*116%*	*58.7-152*					*09/27/2022 15:39*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*67.6%*	*51.9-147*					*09/27/2022 15:39*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-E
Lab Sample ID: 22G0514-09RE2
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/17/2022 9:15
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 17:07	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*93.7%*		*54.6-148*					*09/28/2022 17:07*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*115%*		*55-152*					*09/28/2022 17:07*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*83.4%*		*52.4-136*					*09/28/2022 17:07*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*107%*		*52-162*					*09/28/2022 17:07*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*113%*		*58.7-152*					*09/28/2022 17:07*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*70.3%*		*51.9-147*					*09/28/2022 17:07*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-E
Lab Sample ID: 22G0514-10
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/18/2022 8:30
Collected by:

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	BFI1055	09/21/2022 21:21	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/21/2022 21:21	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*97.4%*		*54.6-148*					*09/21/2022 21:21*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*96.9%*		*55-152*					*09/21/2022 21:21*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*92.2%*		*52.4-136*					*09/21/2022 21:21*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*102%*		*52-162*					*09/21/2022 21:21*	
SW-8270	*Surrogate: Phenol-d5-surr*		*89.5%*		*58.7-152*					*09/21/2022 21:21*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*60.9%*		*51.9-147*					*09/21/2022 21:21*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:24	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 06:24	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*119%*		*60-140*					*10/06/2022 06:24*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-E (Continued)
Lab Sample ID: 22G0514-10
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/18/2022 8:30
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*115%*		*60-140*					*10/06/2022 06:24*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 10:57	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*96.2%*		*60-140*					*10/06/2022 10:57*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*41.9%*	*S*	*60-140*					*10/06/2022 10:57*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	3.70	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Arsenic	A	14.4	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:40	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Chromium	A	<0.400	CQf, U	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:17	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:17	SAB
SM 3500-Cr B	Chromium (VI)	A	0.00228	J	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 16:52	SAB
EPA 200.8	Lead	A	1.87	CQg, J	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:40	TBB
EPA 200.8	Nickel	A	15.9	CQe	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:17	TBB
EPA 200.8	Zinc	A	3.75	CQe, V, J	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:40	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 18:56	NAZ
EPA 200.8	Selenium	A	2.12	J	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:36	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	1.88		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:38	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	4.10	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-10RE1	Date Collected:	08/18/2022 8:30
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 15:04	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 15:04	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-E (Continued)
Lab Sample ID: 22G0514-10RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/18/2022 8:30
Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<0.281B, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.339V, V2, J	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 15:04	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	Phenol, Total (Rerun)	A	1.40V, V2	ug/L	1	0.560	1.12	BFI1055	09/27/2022 15:04	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 15:04	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*83.2%*	*54.6-148*					*09/27/2022 15:04*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*102%*	*55-152*					*09/27/2022 15:04*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*84.5%*	*52.4-136*					*09/27/2022 15:04*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*112%*	*52-162*					*09/27/2022 15:04*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*108%*	*58.7-152*					*09/27/2022 15:04*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*60.4%*	*51.9-147*					*09/27/2022 15:04*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-E
Lab Sample ID: 22G0514-10RE2
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/18/2022 8:30
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 16:32	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*88.2%*		*54.6-148*					*09/28/2022 16:32*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*109%*		*55-152*					*09/28/2022 16:32*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*79.8%*		*52.4-136*					*09/28/2022 16:32*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*95.1%*		*52-162*					*09/28/2022 16:32*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*105%*		*58.7-152*					*09/28/2022 16:32*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.5%*		*51.9-147*					*09/28/2022 16:32*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-11	Date Collected:	08/19/2022 8:10
Sample Alias:		Collected by:	

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	BFI1055	09/21/2022 22:31	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/21/2022 22:31	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*109%*		*54.6-148*					*09/21/2022 22:31*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*105%*		*55-152*					*09/21/2022 22:31*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*114%*		*52.4-136*					*09/21/2022 22:31*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*117%*		*52-162*					*09/21/2022 22:31*	
SW-8270	*Surrogate: Phenol-d5-surr*		*99.9%*		*58.7-152*					*09/21/2022 22:31*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*64.3%*		*51.9-147*					*09/21/2022 22:31*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 06:49	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 06:49	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*118%*		*60-140*					*10/06/2022 06:49*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-03-E (Continued)
Lab Sample ID: 22G0514-11
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 8:10
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*116%*		*60-140*					*10/06/2022 06:49*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 02:59	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*83.7%*		*60-140*					*10/06/2022 02:59*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*52.7%*	*S*	*60-140*					*10/06/2022 02:59*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	3.87	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Arsenic	A	14.1	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:43	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Chromium	A	<0.400	CQf, U	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:20	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:20	SAB
SM 3500-Cr B	Chromium (VI)	A	0.00160	J	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 16:57	SAB
EPA 200.8	Lead	A	<0.500	CQf, U	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:43	TBB
EPA 200.8	Nickel	A	1.41	J	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:20	TBB
EPA 200.8	Zinc	A	<1.00	B, CQd, U	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:43	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 19:00	NAZ
EPA 200.8	Selenium	A	2.37	J	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:39	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	2.07		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:43	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	3.03	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-11RE1	Date Collected:	08/19/2022 8:10
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 16:14	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 16:14	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-03-E (Continued)
Lab Sample ID: 22G0514-11RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 8:10
Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	0.553J	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Diethyl phthalate (Rerun)	A	3.08V	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	3.96V, V2	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 16:14	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	Phenol, Total (Rerun)	A	1.51V, V2	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:14	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:14	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*89.9%*	*54.6-148*					*09/27/2022 16:14*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*111%*	*55-152*					*09/27/2022 16:14*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*90.9%*	*52.4-136*					*09/27/2022 16:14*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*125%*	*52-162*					*09/27/2022 16:14*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*117%*	*58.7-152*					*09/27/2022 16:14*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*66.4%*	*51.9-147*					*09/27/2022 16:14*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-03-E
Lab Sample ID: 22G0514-11RE2
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 8:10
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 17:41	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*95.4%*		*54.6-148*					*09/28/2022 17:41*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*119%*		*55-152*					*09/28/2022 17:41*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*90.4%*		*52.4-136*					*09/28/2022 17:41*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*103%*		*52-162*					*09/28/2022 17:41*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*120%*		*58.7-152*					*09/28/2022 17:41*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*73.0%*		*51.9-147*					*09/28/2022 17:41*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-E
Lab Sample ID: 22G0514-12
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 15:52
Collected by:

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	BFI1055	09/21/2022 23:06	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/21/2022 23:06	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*100%*		*54.6-148*					*09/21/2022 23:06*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*93.0%*		*55-152*					*09/21/2022 23:06*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*109%*		*52.4-136*					*09/21/2022 23:06*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*106%*		*52-162*					*09/21/2022 23:06*	
SW-8270	*Surrogate: Phenol-d5-surr*		*92.8%*		*58.7-152*					*09/21/2022 23:06*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*68.1%*		*51.9-147*					*09/21/2022 23:06*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 07:15	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 07:15	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*117%*		*60-140*					*10/06/2022 07:15*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-E (Continued)
Lab Sample ID: 22G0514-12
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 15:52
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*114%*		*60-140*					*10/06/2022 07:15*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 11:22	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*102%*		*60-140*					*10/06/2022 11:22*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*51.6%*	*S*	*60-140*					*10/06/2022 11:22*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	1.99	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Arsenic	A	9.72	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:46	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Chromium	A	<0.400	CQf, U	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:23	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:23	SAB
SM 3500-Cr B	Chromium (VI)	A	0.00211	J	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 16:58	SAB
EPA 200.8	Lead	A	<0.500	CQf, U	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:46	TBB
EPA 200.8	Nickel	A	0.791	CQe, J	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:23	TBB
EPA 200.8	Zinc	A	<1.00	B, CQd, U	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:46	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 19:03	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:42	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	1.05		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:42	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	14.3	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-12RE1	Date Collected:	08/24/2022 15:52
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 16:49	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 16:49	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-E (Continued)
Lab Sample ID: 22G0514-12RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 15:52
Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<0.281B, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.574V, V2	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 16:49	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	Phenol, Total (Rerun)	A	1.07V, V2, J	ug/L	1	0.560	1.12	BFI1055	09/27/2022 16:49	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 16:49	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*84.4%*	*54.6-148*					*09/27/2022 16:49*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*104%*	*55-152*					*09/27/2022 16:49*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*82.1%*	*52.4-136*					*09/27/2022 16:49*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*117%*	*52-162*					*09/27/2022 16:49*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*109%*	*58.7-152*					*09/27/2022 16:49*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*67.7%*	*51.9-147*					*09/27/2022 16:49*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-E
Lab Sample ID: 22G0514-12RE2
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 15:52
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 18:16	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*90.7%*		*54.6-148*					*09/28/2022 18:16*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*111%*		*55-152*					*09/28/2022 18:16*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*81.2%*		*52.4-136*					*09/28/2022 18:16*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*98.8%*		*52-162*					*09/28/2022 18:16*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*110%*		*58.7-152*					*09/28/2022 18:16*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*72.4%*		*51.9-147*					*09/28/2022 18:16*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-13	Date Collected:	08/24/2022 17:15
Sample Alias:		Collected by:	

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	BFI1055	09/21/2022 23:41	KRB
SW-8270	Benzidine	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/21/2022 23:41	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*85.3%*	*54.6-148*					*09/21/2022 23:41*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*97.3%*	*55-152*					*09/21/2022 23:41*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*106%*	*52.4-136*					*09/21/2022 23:41*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*108%*	*52-162*					*09/21/2022 23:41*	
SW-8270	*Surrogate: Phenol-d5-surr*		*91.6%*	*58.7-152*					*09/21/2022 23:41*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*61.3%*	*51.9-147*					*09/21/2022 23:41*	
Elutriate Organics by GC										
SW-8081	4,4'-DDD	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	4,4'-DDE	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	4,4'-DDT	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Aldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Chlordane (tech.)	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	delta-BHC	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Dieldrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endosulfan I	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endosulfan II	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endosulfan sulfate	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endrin	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endrin aldehyde	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Endrin ketone	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	gamma-Chlordane	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Heptachlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Heptachlor epoxide	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Methoxychlor	A	<0.00600U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:31	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 08:31	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*120%*	*60-140*					*10/06/2022 08:31*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-E (Continued)
Lab Sample ID: 22G0514-13
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 17:15
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*119%*		*60-140*					*10/06/2022 08:31*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 11:46	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*69.4%*		*60-140*					*10/06/2022 11:46*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*52.8%*	*S*	*60-140*					*10/06/2022 11:46*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	1.52	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Arsenic	A	7.34	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:49	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Chromium	A	<0.400	CQf, U	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:26	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:26	SAB
SM 3500-Cr B	Chromium (VI)	A	<0.00150	U	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 17:00	SAB
EPA 200.8	Lead	A	<0.500	CQf, U	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:49	TBB
EPA 200.8	Nickel	A	0.969	CQe, J	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:26	TBB
EPA 200.8	Zinc	A	1.34	CQe, V, J	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:49	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 19:16	NAZ
EPA 200.8	Selenium	A	<1.65	U	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:45	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	1.18		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:45	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	9.89	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-13RE1	Date Collected:	08/24/2022 17:15
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 17:24	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 17:24	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-E (Continued)
Lab Sample ID: 22G0514-13RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 17:15
Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)										
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Chrysene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.289V, J	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.465V, V2, J	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Fluorene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Isophorone (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 17:24	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	Phenol, Total (Rerun)	A	1.39V, V2	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:24	KRB
SW-8270	Pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:24	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*85.5%*	*54.6-148*					*09/27/2022 17:24*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*104%*	*55-152*					*09/27/2022 17:24*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*91.3%*	*52.4-136*					*09/27/2022 17:24*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*114%*	*52-162*					*09/27/2022 17:24*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*108%*	*58.7-152*					*09/27/2022 17:24*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*68.6%*	*51.9-147*					*09/27/2022 17:24*	

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TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-E
Lab Sample ID: 22G0514-13RE2
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/24/2022 17:15
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 18:51	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*91.3%*		*54.6-148*					*09/28/2022 18:51*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*114%*		*55-152*					*09/28/2022 18:51*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*80.7%*		*52.4-136*					*09/28/2022 18:51*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*104%*		*52-162*					*09/28/2022 18:51*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*113%*		*58.7-152*					*09/28/2022 18:51*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*69.7%*		*51.9-147*					*09/28/2022 18:51*	

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TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-DUP-E
Lab Sample ID: 22G0514-14
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 13:20
Collected by:

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	BFI1055	09/22/2022 00:15	KRB
SW-8270	Benzidine	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/22/2022 00:15	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*99.9%*		*54.6-148*					*09/22/2022 00:15*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*94.7%*		*55-152*					*09/22/2022 00:15*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*99.6%*		*52.4-136*					*09/22/2022 00:15*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*104%*		*52-162*					*09/22/2022 00:15*	
SW-8270	*Surrogate: Phenol-d5-surr*		*89.7%*		*58.7-152*					*09/22/2022 00:15*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*60.9%*		*51.9-147*					*09/22/2022 00:15*	
Elutriate Organics by GC											
SW-8081	4,4'-DDD	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	4,4'-DDE	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	4,4'-DDT	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Aldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Chlordane (tech.)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	delta-BHC	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Dieldrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endosulfan I	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endosulfan II	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endosulfan sulfate	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endrin	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endrin aldehyde	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Endrin ketone	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	gamma-Chlordane	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Heptachlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Heptachlor epoxide	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Methoxychlor	A	<0.00600	U	ug/L	1	0.00600	0.00600	BFI1052	10/06/2022 08:57	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<0.300	U	ug/L	1	0.300	0.300	BFI1052	10/06/2022 08:57	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*136%*		*60-140*					*10/06/2022 08:57*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-DUP-E (Continued)
Lab Sample ID: 22G0514-14
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 13:20
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*118%*		*60-140*					*10/06/2022 08:57*	
SW-8082	PCBs, Total	A	<0.00600	U	ug/L	1	0.00600	0.120	BFI1099	10/06/2022 12:11	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*71.5%*		*60-140*					*10/06/2022 12:11*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*39.2%*	*S*	*60-140*					*10/06/2022 12:11*	
Elutriate Metals, Dissolved											
EPA 200.8	Antimony	A	2.64	J	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Arsenic	A	12.2	CQe	ug/L	5	0.500	2.50	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Beryllium	A	<0.0500	CQd, U	ug/L	5	0.0500	1.00	BFI2337	10/03/2022 13:52	TBB
EPA 200.8	Cadmium	A	<0.250	U	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Chromium	A	<0.400	CQf, U	ug/L	5	0.400	15.0	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Copper	A	<1.00	B, CQf, U	ug/L	5	1.00	5.00	BFI2337	10/03/2022 10:30	TBB
Calc	Chromium (III)		<1.90	U	ug/L	5	1.90	18.0	[CALC]	10/03/2022 10:30	SAB
SM 3500-Cr B	Chromium (VI)	A	<0.00150	U	mg/L	1	0.00150	0.00300	BFI1720	09/13/2022 17:01	SAB
EPA 200.8	Lead	A	<0.500	CQf, U	ug/L	5	0.500	2.50	BFI2337	10/03/2022 13:52	TBB
EPA 200.8	Nickel	A	4.56	CQe, J	ug/L	5	0.250	5.00	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Silver	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Thallium	A	<0.150	U	ug/L	5	0.150	2.50	BFI2337	10/03/2022 10:30	TBB
EPA 200.8	Zinc	A	1.12	CQe, V, J	ug/L	5	1.00	10.0	BFI2337	10/03/2022 13:52	TBB
Elutriate Metals, Total											
EPA 245.1	Mercury	A	<0.150	U	ug/L	1	0.150	0.200	BFI1464	09/12/2022 19:26	NAZ
EPA 200.8	Selenium	A	2.44	J	ug/L	5	1.65	25.0	BFI2519	10/03/2022 20:48	TBB
Elutriate General Chemistry											
EPA 350.1	Ammonia as N	A	2.14		mg/L	5	0.100	0.250	BFI1167	09/09/2022 10:44	PNU
SM 2540 D	Residue-nonfilterable (TSS)	A	7.37	CQc	mg/L	1	1.00	1.00	BFI1663	09/14/2022 12:23	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-DUP-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-14RE1	Date Collected:	08/19/2022 13:20
Sample Alias:		Collected by:	

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	BFI1055	09/27/2022 17:59	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<0.281C+, U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<0.560U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<4.50U	ug/L	1	4.50	4.50	BFI1055	09/27/2022 17:59	KRB
SW-8270	Acenaphthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Acenaphthylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<0.281U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-DUP-E (Continued)
Lab Sample ID: 22G0514-14RE1
Sample Alias:

Sample Matrix: Elutriate
Date Collected: 08/19/2022 13:20
Collected by:

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS (Continued)											
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Chrysene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Diethyl phthalate (Rerun)	A	0.699	V	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	0.683	V, V2	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Fluoranthene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Fluorene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Hexachloroethane (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Isophorone (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Naphthalene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Nitrobenzene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	2.25	BFI1055	09/27/2022 17:59	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<0.560	U	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	Phenanthrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	Phenol, Total (Rerun)	A	1.61	V, V2	ug/L	1	0.560	1.12	BFI1055	09/27/2022 17:59	KRB
SW-8270	Pyrene (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/27/2022 17:59	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*81.9%*		*54.6-148*					*09/27/2022 17:59*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*99.3%*		*55-152*					*09/27/2022 17:59*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*92.7%*		*52.4-136*					*09/27/2022 17:59*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*111%*		*52-162*					*09/27/2022 17:59*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*101%*		*58.7-152*					*09/27/2022 17:59*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*64.9%*		*51.9-147*					*09/27/2022 17:59*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-DUP-E	Sample Matrix:	Elutriate
Lab Sample ID:	22G0514-14RE2	Date Collected:	08/19/2022 13:20
Sample Alias:		Collected by:	

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Elutriate Semivolatile Organic Compounds by GCMS											
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<0.281	U	ug/L	1	0.281	0.562	BFI1055	09/28/2022 19:26	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*90.7%*		*54.6-148*					*09/28/2022 19:26*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*112%*		*55-152*					*09/28/2022 19:26*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*79.6%*		*52.4-136*					*09/28/2022 19:26*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*98.7%*		*52-162*					*09/28/2022 19:26*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*112%*		*58.7-152*					*09/28/2022 19:26*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*66.2%*		*51.9-147*					*09/28/2022 19:26*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-15	Date Collected:	08/17/2022 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	3,3'-Dichlorobenzidine	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/21/2022 02:14	KRB
SW-8270	Benzidine	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/21/2022 02:14	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*90.6%*	*60-140*					*09/21/2022 02:14*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*80.8%*	*60-140*					*09/21/2022 02:14*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*94.7%*	*60-140*					*09/21/2022 02:14*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*93.9%*	*60-140*					*09/21/2022 02:14*	
SW-8270	*Surrogate: Phenol-d5-surr*		*96.4%*	*60-140*					*09/21/2022 02:14*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*67.8%*	*60-140*					*09/21/2022 02:14*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	4,4'-DDE	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	4,4'-DDT	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Aldrin	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Chlordane (tech.)	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	delta-BHC	A	<0.432C+, U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Dieldrin	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endosulfan I	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endosulfan II	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endosulfan sulfate	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endrin	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endrin aldehyde	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Endrin ketone	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	gamma-Chlordane	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Heptachlor	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Heptachlor epoxide	A	<0.432U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Methoxychlor	A	<0.432C+, U	ug/kg dry	10	0.432	1.44	BFH3884	09/15/2022 03:49	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<21.6U	ug/kg dry	10	21.6	21.6	BFH3884	09/15/2022 03:49	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*90.5%*	*60-140*					*09/15/2022 03:49*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-01-S (Continued)
Lab Sample ID: 22G0514-15
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/17/2022 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*		*120%*		*60-140*					*09/15/2022 03:49*	
SW-8082	PCBs, Total	A	<1.45	U	ug/kg dry	1	1.45	2.91	BFH3855	09/24/2022 04:08	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*140%*		*60-140*					*09/24/2022 04:08*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*65.8%*		*60-140*					*09/24/2022 04:08*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0307	U	mg/kg dry	1	0.0307	0.0615	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Arsenic	A	5.61		mg/kg dry	1	0.00307	0.0307	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Beryllium	A	0.490		mg/kg dry	1	0.000615	0.0123	BFI3440	10/05/2022 17:55	TBB
EPA 200.8	Cadmium	A	0.0383	J	mg/kg dry	1	0.00307	0.0615	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Chromium	A	8.21		mg/kg dry	1	0.00920	0.184	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Copper	A	5.58	V	mg/kg dry	1	0.0123	0.0615	BFI3440	10/05/2022 14:42	TBB
Calc	Chromium (III)		8.21		mg/kg (dry wt) dry	1	2.61	7.53	[CALC]	10/05/2022 14:42	EM
SW-7196	Chromium (VI)	A	<2.60	U	mg/kg dry	1	2.60	7.35	BFI1134	09/08/2022 18:07	EM
SW-7471B	Mercury	A	0.0146	J	mg/kg dry	1	0.00963	0.0193	BFI0904	09/08/2022 14:51	NAZ
EPA 200.8	Lead	A	9.12		mg/kg dry	5	0.0153	0.153	BFI3440	10/05/2022 14:45	TBB
EPA 200.8	Nickel	A	9.57		mg/kg dry	1	0.0615	0.0615	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Selenium	A	1.82		mg/kg dry	1	0.0615	0.307	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Silver	A	0.0211	J	mg/kg dry	1	0.00153	0.0307	BFI3440	10/05/2022 14:42	TBB
EPA 200.8	Thallium	A	0.0829		mg/kg dry	1	0.00153	0.0307	BFI3440	10/05/2022 17:55	TBB
EPA 200.8	Zinc	A	33.0		mg/kg dry	5	0.307	0.613	BFI3440	10/05/2022 14:45	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0352	U	mg/kg dry	1	0.0352	0.0704	BFH3925	08/29/2022 18:25	CTC
EPA 350.2	Ammonia as N	A	111		mg/kg dry	1	14.9	29.9	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	9.27	H	pH Units @ 25 °C	1		0.100	BFH3717	08/26/2022 11:37	CST
SM 2540 G	% Solids	A	67.0		%	1	0.100	0.100	BFH3228	08/25/2022 12:08	JRU

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-15RE1	Date Collected:	08/17/2022 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	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.6U	ug/kg dry	1	14.6	29.3	BFH3323	09/30/2022 00:49	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-01-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-15RE1	Date Collected:	08/17/2022 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	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	6.15V	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Chrysene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	9.13V	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Fluorene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Isophorone (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Naphthalene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	36.6	BFH3323	09/30/2022 00:49	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.66U	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	Phenol, Total (Rerun)	A	4.77J	ug/kg dry	1	3.66	7.32	BFH3323	09/30/2022 00:49	KRB
SW-8270	Pyrene (Rerun)	A	<1.83U	ug/kg dry	1	1.83	3.66	BFH3323	09/30/2022 00:49	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*71.1%*	*60-140*					*09/30/2022 00:49*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*74.8%*	*60-140*					*09/30/2022 00:49*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*71.7%*	*60-140*					*09/30/2022 00:49*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*64.4%*	*60-140*					*09/30/2022 00:49*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*82.4%*	*60-140*					*09/30/2022 00:49*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*69.8%*	*60-140*					*09/30/2022 00:49*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-16	Date Collected:	08/18/2022 8:30
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	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/21/2022 02:49	KRB
SW-8270	Benzidine	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/21/2022 02:49	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*90.4%*	*60-140*					*09/21/2022 02:49*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*87.6%*	*60-140*					*09/21/2022 02:49*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*93.3%*	*60-140*					*09/21/2022 02:49*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*105%*	*60-140*					*09/21/2022 02:49*	
SW-8270	*Surrogate: Phenol-d5-surr*		*89.6%*	*60-140*					*09/21/2022 02:49*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*67.2%*	*60-140*					*09/21/2022 02:49*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	4,4'-DDE	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	4,4'-DDT	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Aldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Chlordane (tech.)	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	delta-BHC	A	<0.410C+, U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Dieldrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endosulfan I	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endosulfan II	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endosulfan sulfate	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endrin	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endrin aldehyde	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Endrin ketone	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	gamma-Chlordane	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Heptachlor	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Heptachlor epoxide	A	<0.410U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Methoxychlor	A	<0.410C+, U	ug/kg dry	10	0.410	1.37	BFH3884	09/15/2022 04:12	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.5U	ug/kg dry	10	20.5	20.5	BFH3884	09/15/2022 04:12	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*85.3%*	*60-140*					*09/15/2022 04:12*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-02-S (Continued)
Lab Sample ID: 22G0514-16
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/18/2022 8:30
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*122%*		*60-140*					*09/15/2022 04:12*	
SW-8082	PCBs, Total	A	<1.34	U	ug/kg dry	1	1.34	2.69	BFH3855	09/24/2022 04:55	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*161%*	*S*	*60-140*					*09/24/2022 04:55*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*50.4%*	*S*	*60-140*					*09/24/2022 04:55*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0277	U	mg/kg dry	1	0.0277	0.0555	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Arsenic	A	4.53		mg/kg dry	1	0.00277	0.0277	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Beryllium	A	0.409		mg/kg dry	1	0.000555	0.0111	BFI3440	10/05/2022 18:04	TBB
EPA 200.8	Cadmium	A	0.0324	J	mg/kg dry	1	0.00277	0.0555	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Chromium	A	7.18		mg/kg dry	1	0.00830	0.166	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Copper	A	4.79	V	mg/kg dry	1	0.0111	0.0555	BFI3440	10/05/2022 14:59	TBB
Calc	Chromium (III)		7.18		mg/kg (dry wt) dry	1	2.38	6.86	[CALC]	10/05/2022 14:59	EM
SW-7196	Chromium (VI)	A	<2.37	U	mg/kg dry	1	2.37	6.69	BFI1134	09/08/2022 18:08	EM
SW-7471B	Mercury	A	0.0161	J	mg/kg dry	1	0.00971	0.0194	BFI0904	09/08/2022 15:01	NAZ
EPA 200.8	Lead	A	7.90		mg/kg dry	5	0.0138	0.138	BFI3440	10/05/2022 15:11	TBB
EPA 200.8	Nickel	A	8.41		mg/kg dry	1	0.0555	0.0555	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Selenium	A	1.59		mg/kg dry	1	0.0555	0.277	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Silver	A	0.0189	J	mg/kg dry	1	0.00138	0.0277	BFI3440	10/05/2022 14:59	TBB
EPA 200.8	Thallium	A	0.0742		mg/kg dry	1	0.00138	0.0277	BFI3440	10/05/2022 18:04	TBB
EPA 200.8	Zinc	A	30.3		mg/kg dry	5	0.277	0.553	BFI3440	10/05/2022 15:11	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0351	U	mg/kg dry	1	0.0351	0.0703	BFH3925	08/29/2022 18:25	CTC
EPA 350.2	Ammonia as N	A	24.9	J	mg/kg dry	1	13.9	27.8	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	9.47	H	pH Units @ 25 °C	1		0.100	BFH3717	08/26/2022 11:37	CST
SM 2540 G	% Solids	A	71.9		%	1	0.100	0.100	BFH3228	08/25/2022 12:08	JRU

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-16RE1	Date Collected:	08/18/2022 8:30
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
SW-8270	1,2,4-Trichlorobenzene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<13.3U	ug/kg dry	1	13.3	26.7	BFH3323	09/30/2022 01:24	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Anthracene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-02-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-16RE1	Date Collected:	08/18/2022 8:30
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	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	6.02V	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Chrysene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	8.27V	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Fluorene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Isophorone (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Naphthalene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.67U	ug/kg dry	1	1.67	33.3	BFH3323	09/30/2022 01:24	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.33U	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	Phenol, Total (Rerun)	A	4.19J	ug/kg dry	1	3.33	6.67	BFH3323	09/30/2022 01:24	KRB
SW-8270	Pyrene (Rerun)	A	<1.67U	ug/kg dry	1	1.67	3.33	BFH3323	09/30/2022 01:24	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*59.8% S*	*60-140*					*09/30/2022 01:24*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*69.9%*	*60-140*					*09/30/2022 01:24*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*69.7%*	*60-140*					*09/30/2022 01:24*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*59.8% S*	*60-140*					*09/30/2022 01:24*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*83.8%*	*60-140*					*09/30/2022 01:24*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*76.9%*	*60-140*					*09/30/2022 01:24*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-17	Date Collected:	08/19/2022 8:10
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	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/21/2022 03:24	KRB
SW-8270	Benzidine	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/21/2022 03:24	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*87.5%*	*60-140*					*09/21/2022 03:24*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*74.6%*	*60-140*					*09/21/2022 03:24*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*78.9%*	*60-140*					*09/21/2022 03:24*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*85.3%*	*60-140*					*09/21/2022 03:24*	
SW-8270	*Surrogate: Phenol-d5-surr*		*78.2%*	*60-140*					*09/21/2022 03:24*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*63.7%*	*60-140*					*09/21/2022 03:24*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	4,4'-DDE	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	4,4'-DDT	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Aldrin	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Chlordane (tech.)	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	delta-BHC	A	<0.429C+, U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Dieldrin	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endosulfan I	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endosulfan II	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endosulfan sulfate	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endrin	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endrin aldehyde	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Endrin ketone	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	gamma-Chlordane	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Heptachlor	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Heptachlor epoxide	A	<0.429U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Methoxychlor	A	<0.429C+, U	ug/kg dry	10	0.429	1.43	BFH3884	09/15/2022 04:36	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<21.4U	ug/kg dry	10	21.4	21.4	BFH3884	09/15/2022 04:36	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*98.2%*	*60-140*					*09/15/2022 04:36*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-03-S (Continued)
Lab Sample ID: 22G0514-17
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/19/2022 8:10
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*122%*		*60-140*					*09/15/2022 04:36*	
SW-8082	PCBs, Total	A	<1.45	U	ug/kg dry	1	1.45	2.90	BFH3855	09/24/2022 05:18	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*120%*		*60-140*					*09/24/2022 05:18*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*88.7%*		*60-140*					*09/24/2022 05:18*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0293	U	mg/kg dry	1	0.0293	0.0588	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Arsenic	A	6.95		mg/kg dry	5	0.0147	0.147	BFI3440	10/05/2022 15:17	TBB
EPA 200.8	Beryllium	A	0.542		mg/kg dry	1	0.000588	0.0117	BFI3440	10/05/2022 18:06	TBB
EPA 200.8	Cadmium	A	0.0507	J	mg/kg dry	1	0.00293	0.0588	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Chromium	A	8.75		mg/kg dry	1	0.00880	0.176	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Copper	A	7.33	V	mg/kg dry	1	0.0117	0.0588	BFI3440	10/05/2022 15:14	TBB
Calc	Chromium (III)		8.75		mg/kg (dry wt) dry	1	2.67	7.69	[CALC]	10/05/2022 15:14	EM
SW-7196	Chromium (VI)	A	<2.66	U	mg/kg dry	1	2.66	7.52	BFI1134	09/08/2022 18:09	EM
SW-7471B	Mercury	A	0.0194		mg/kg dry	1	0.00915	0.0183	BFI0904	09/08/2022 15:04	NAZ
EPA 200.8	Lead	A	9.88		mg/kg dry	5	0.0147	0.147	BFI3440	10/05/2022 15:17	TBB
EPA 200.8	Nickel	A	11.0		mg/kg dry	1	0.0588	0.0588	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Selenium	A	1.91		mg/kg dry	1	0.0588	0.293	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Silver	A	0.0236	J	mg/kg dry	1	0.00147	0.0293	BFI3440	10/05/2022 15:14	TBB
EPA 200.8	Thallium	A	0.0902		mg/kg dry	1	0.00147	0.0293	BFI3440	10/05/2022 18:06	TBB
EPA 200.8	Zinc	A	38.2		mg/kg dry	5	0.294	0.586	BFI3440	10/05/2022 15:17	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0363	U	mg/kg dry	1	0.0363	0.0725	BFH3925	08/29/2022 18:26	CTC
EPA 350.2	Ammonia as N	A	38.1		mg/kg dry	1	14.8	29.6	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	9.37	H	pH Units @ 25 °C	1		0.100	BFH3717	08/26/2022 11:37	CST
SM 2540 G	% Solids	A	67.6		%	1	0.100	0.100	BFH3228	08/25/2022 12:08	JRU

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-17RE1	Date Collected:	08/19/2022 8:10
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	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.2U	ug/kg dry	1	14.2	28.3	BFH3323	09/30/2022 01:59	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-03-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-17RE1	Date Collected:	08/19/2022 8:10
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	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	5.57V	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Chrysene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	7.10V	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Fluorene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Isophorone (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Naphthalene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	35.4	BFH3323	09/30/2022 01:59	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	Phenol, Total (Rerun)	A	4.48J	ug/kg dry	1	3.54	7.08	BFH3323	09/30/2022 01:59	KRB
SW-8270	Pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 01:59	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*69.4%*	*60-140*					*09/30/2022 01:59*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*65.9%*	*60-140*					*09/30/2022 01:59*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*59.4% S*	*60-140*					*09/30/2022 01:59*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*55.3% S*	*60-140*					*09/30/2022 01:59*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*84.1%*	*60-140*					*09/30/2022 01:59*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*71.2%*	*60-140*					*09/30/2022 01:59*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-18	Date Collected:	08/24/2022 15:52
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	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	1,2-Diphenylhydrazine	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,4,6-Trichlorophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,4-Dichlorophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,4-Dimethylphenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,4-Dinitrophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	2-Chloronaphthalene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	2-Chlorophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<17.9U	ug/kg dry	1	17.9	35.9	BFI0002	09/13/2022 06:09	KRB
SW-8270	2-Nitrophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	4-Chloro-3-methylphenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	4-Chlorophenyl phenylether	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	4-Nitrophenol	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Acenaphthene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Acenaphthylene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Anthracene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Benzo(a)anthracene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Benzo(a)pyrene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Benzo(b)fluoranthene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Benzo(g,h,i)perylene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Benzo(k)fluoranthene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	3.74V, J	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Butyl benzyl phthalate	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Chrysene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Diethyl phthalate	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-18	Date Collected:	08/24/2022 15:52
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	Dimethyl phthalate	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Di-n-butyl phthalate	A	3.55V, J	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Di-n-octyl phthalate	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Fluoranthene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Fluorene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Hexachlorobenzene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Hexachlorobutadiene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Hexachlorocyclopentadiene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Hexachloroethane	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Isophorone	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Naphthalene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Nitrobenzene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	n-Nitrosodimethylamine	A	<2.24U	ug/kg dry	1	2.24	44.9	BFI0002	09/13/2022 06:09	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	n-Nitrosodiphenylamine	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Pentachlorophenol	A	<4.49U	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	Phenanthrene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	Phenol, Total	A	5.80J	ug/kg dry	1	4.49	8.97	BFI0002	09/13/2022 06:09	KRB
SW-8270	Pyrene	A	<2.24U	ug/kg dry	1	2.24	4.49	BFI0002	09/13/2022 06:09	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*81.3%*	*60-140*					*09/13/2022 06:09*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*99.9%*	*60-140*					*09/13/2022 06:09*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*92.6%*	*60-140*					*09/13/2022 06:09*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*74.4%*	*60-140*					*09/13/2022 06:09*	
SW-8270	*Surrogate: Phenol-d5-surr*		*88.7%*	*60-140*					*09/13/2022 06:09*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*71.9%*	*60-140*					*09/13/2022 06:09*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	4,4'-DDE	A	<0.538C+, U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	4,4'-DDT	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Aldrin	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.538C+, U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Chlordane (tech.)	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-04-S (Continued)
Lab Sample ID: 22G0514-18
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/24/2022 15:52
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Dieldrin	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endosulfan I	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endosulfan II	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endosulfan sulfate	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endrin	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endrin aldehyde	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Endrin ketone	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	gamma-BHC (Lindane, gamma-Hexachlorocyclohexa nE)	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	gamma-Chlordane	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Heptachlor	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Heptachlor epoxide	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Methoxychlor	A	<0.538U	ug/kg dry	10	0.538	1.79	BFI0003	09/16/2022 07:57	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<26.9U	ug/kg dry	10	26.9	26.9	BFI0003	09/16/2022 07:57	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*107%*	*60-140*					*09/16/2022 07:57*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*113%*	*60-140*					*09/16/2022 07:57*	
SW-8082	PCBs, Total	A	<1.79U	ug/kg dry	1	1.79	3.59	BFH4254	09/20/2022 02:43	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*87.6%*	*60-140*					*09/20/2022 02:43*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*41.7% S*	*60-140*					*09/20/2022 02:43*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0360U	mg/kg dry	1	0.0360	0.0721	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Arsenic	A	5.78	mg/kg dry	1	0.00360	0.0360	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Beryllium	A	0.623	mg/kg dry	1	0.000721	0.0144	BFI3440	10/05/2022 18:09	TBB
EPA 200.8	Cadmium	A	0.0418J	mg/kg dry	1	0.00360	0.0721	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Chromium	A	10.9	mg/kg dry	1	0.0108	0.216	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Copper	A	6.70V	mg/kg dry	1	0.0144	0.0721	BFI3440	10/05/2022 15:20	TBB
Calc	Chromium (III)		10.9	mg/kg (dry wt) dry	1	3.06	8.84	[CALC]	10/05/2022 15:20	EM
SW-7196	Chromium (VI)	A	<3.05U	mg/kg dry	1	3.05	8.63	BFI2361	09/16/2022 17:17	EM
SW-7471B	Mercury	A	0.0328	mg/kg dry	1	0.00953	0.0191	BFI0904	09/08/2022 15:07	NAZ
EPA 200.8	Lead	A	12.4	mg/kg dry	5	0.0180	0.180	BFI3440	10/05/2022 15:23	TBB
EPA 200.8	Nickel	A	11.7	mg/kg dry	1	0.0721	0.0721	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Selenium	A	1.97	mg/kg dry	1	0.0721	0.360	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Silver	A	0.0307J	mg/kg dry	1	0.00180	0.0360	BFI3440	10/05/2022 15:20	TBB
EPA 200.8	Thallium	A	0.0991	mg/kg dry	1	0.00180	0.0360	BFI3440	10/05/2022 18:09	TBB
EPA 200.8	Zinc	A	46.6	mg/kg dry	5	0.360	0.719	BFI3440	10/05/2022 15:23	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-18	Date Collected:	08/24/2022 15:52
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
SW-9014	Total Cyanide	A	<0.0449	U	mg/kg dry	1	0.0449	0.0897	BFH2402	09/02/2022 15:57	CTC
EPA 350.2	Ammonia as N	A	39.2		mg/kg dry	1	17.9	35.9	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	8.93	H	pH Units @ 25 °C	1		0.100	BFH4228	08/31/2022 15:24	AKA
SM 2540 G	% Solids	A	55.7		%	1	0.100	0.100	BFH4130	09/01/2022 11:11	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-04-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-18RE1	Date Collected:	08/24/2022 15:52
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 (Rerun)	A	<2.24	U	ug/kg dry	1	2.24	4.49	BFI0002	09/18/2022 21:44	KRB
SW-8270	Benzidine (Rerun)	A	<2.24	U	ug/kg dry	1	2.24	4.49	BFI0002	09/18/2022 21:44	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*81.3%*		*60-140*					*09/18/2022 21:44*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*85.2%*		*60-140*					*09/18/2022 21:44*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*149%*	*S*	*60-140*					*09/18/2022 21:44*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*110%*		*60-140*					*09/18/2022 21:44*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*99.7%*		*60-140*					*09/18/2022 21:44*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*79.6%*		*60-140*					*09/18/2022 21:44*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-19	Date Collected:	08/24/2022 17:15
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	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	1,2-Diphenylhydrazine	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,4,6-Trichlorophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,4-Dichlorophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,4-Dimethylphenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,4-Dinitrophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	2-Chloronaphthalene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	2-Chlorophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<20.5U	ug/kg dry	1	20.5	41.1	BFI0002	09/13/2022 06:44	KRB
SW-8270	2-Nitrophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	4-Chloro-3-methylphenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	4-Chlorophenyl phenylether	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	4-Nitrophenol	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Acenaphthene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Acenaphthylene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Anthracene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Benzo(a)anthracene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Benzo(a)pyrene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Benzo(b)fluoranthene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Benzo(g,h,i)perylene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Benzo(k)fluoranthene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	3.48V, J	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Butyl benzyl phthalate	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Chrysene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Diethyl phthalate	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-19	Date Collected:	08/24/2022 17:15
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	Dimethyl phthalate	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Di-n-butyl phthalate	A	<2.57B, U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Di-n-octyl phthalate	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Fluoranthene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Fluorene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Hexachlorobenzene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Hexachlorobutadiene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Hexachlorocyclopentadiene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Hexachloroethane	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Isophorone	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Naphthalene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Nitrobenzene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	n-Nitrosodimethylamine	A	<2.57U	ug/kg dry	1	2.57	51.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	n-Nitrosodiphenylamine	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Pentachlorophenol	A	<5.13U	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	Phenanthrene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	Phenol, Total	A	6.29J	ug/kg dry	1	5.13	10.3	BFI0002	09/13/2022 06:44	KRB
SW-8270	Pyrene	A	<2.57U	ug/kg dry	1	2.57	5.13	BFI0002	09/13/2022 06:44	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*77.0%*	*60-140*					*09/13/2022 06:44*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*83.3%*	*60-140*					*09/13/2022 06:44*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*81.4%*	*60-140*					*09/13/2022 06:44*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*80.9%*	*60-140*					*09/13/2022 06:44*	
SW-8270	*Surrogate: Phenol-d5-surr*		*100%*	*60-140*					*09/13/2022 06:44*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*65.3%*	*60-140*					*09/13/2022 06:44*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	4,4'-DDE	A	<0.616C+, U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	4,4'-DDT	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Aldrin	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.616C+, U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Chlordane (tech.)	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-05-S (Continued)
Lab Sample ID: 22G0514-19
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/24/2022 17:15
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Dieldrin	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endosulfan I	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endosulfan II	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endosulfan sulfate	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endrin	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endrin aldehyde	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Endrin ketone	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	gamma-Chlordane	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Heptachlor	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Heptachlor epoxide	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Methoxychlor	A	<0.616U	ug/kg dry	10	0.616	2.05	BFI0003	09/16/2022 07:33	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<30.8U	ug/kg dry	10	30.8	30.8	BFI0003	09/16/2022 07:33	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*97.8%*	*60-140*					*09/16/2022 07:33*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*119%*	*60-140*					*09/16/2022 07:33*	
SW-8082	PCBs, Total	A	<2.05U	ug/kg dry	1	2.05	4.11	BFH4254	09/20/2022 05:04	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*79.3%*	*60-140*					*09/20/2022 05:04*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*67.9%*	*60-140*					*09/20/2022 05:04*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0427U	mg/kg dry	1	0.0427	0.0855	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Arsenic	A	6.62	mg/kg dry	1	0.00427	0.0427	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Beryllium	A	0.693	mg/kg dry	1	0.000855	0.0171	BFI3440	10/05/2022 18:12	TBB
EPA 200.8	Cadmium	A	0.0410J	mg/kg dry	1	0.00427	0.0855	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Chromium	A	12.1	mg/kg dry	1	0.0128	0.256	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Copper	A	7.62V	mg/kg dry	1	0.0171	0.0855	BFI3440	10/05/2022 15:26	TBB
Calc	Chromium (III)		12.1	mg/kg (dry wt) dry	1	3.46	9.98	[CALC]	10/05/2022 15:26	EM
SW-7196	Chromium (VI)	A	<3.44U	mg/kg dry	1	3.44	9.72	BFI2361	09/16/2022 17:17	EM
SW-7471B	Mercury	A	0.0382	mg/kg dry	1	0.00970	0.0194	BFI0904	09/08/2022 15:11	NAZ
EPA 200.8	Lead	A	13.2	mg/kg dry	5	0.0213	0.213	BFI3440	10/05/2022 15:29	TBB
EPA 200.8	Nickel	A	13.2	mg/kg dry	1	0.0855	0.0855	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Selenium	A	2.13	mg/kg dry	1	0.0855	0.427	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Silver	A	0.0336J	mg/kg dry	1	0.00214	0.0427	BFI3440	10/05/2022 15:26	TBB
EPA 200.8	Thallium	A	0.112	mg/kg dry	1	0.00214	0.0427	BFI3440	10/05/2022 18:12	TBB
EPA 200.8	Zinc	A	49.4	mg/kg dry	5	0.428	0.853	BFI3440	10/05/2022 15:29	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-19	Date Collected:	08/24/2022 17:15
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry										
SW-9014	Total Cyanide	A	<0.0467U	mg/kg dry	1	0.0467	0.0933	BFH2402	09/02/2022 15:57	CTC
EPA 350.2	Ammonia as N	A	46.0	mg/kg dry	1	20.5	41.1	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	8.96H	pH Units @ 25 °C	1		0.100	BFH4228	08/31/2022 15:24	AKA
SM 2540 G	% Solids	A	48.7	%	1	0.100	0.100	BFH4130	09/01/2022 11:11	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-05-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-19RE1	Date Collected:	08/24/2022 17:15
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 (Rerun)	A	<2.57	U	ug/kg dry	1	2.57	5.13	BFI0002	09/18/2022 22:19	KRB
SW-8270	Benzidine (Rerun)	A	<2.57	U	ug/kg dry	1	2.57	5.13	BFI0002	09/18/2022 22:19	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*78.3%*		*60-140*					*09/18/2022 22:19*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*90.5%*		*60-140*					*09/18/2022 22:19*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*129%*		*60-140*					*09/18/2022 22:19*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*113%*		*60-140*					*09/18/2022 22:19*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*101%*		*60-140*					*09/18/2022 22:19*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*80.4%*		*60-140*					*09/18/2022 22:19*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-20	Date Collected:	08/24/2022 12:25
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	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	1,2-Diphenylhydrazine	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,4,6-Trichlorophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,4-Dichlorophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,4-Dimethylphenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,4-Dinitrophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	2-Chloronaphthalene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	2-Chlorophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	A	<19.3U	ug/kg dry	1	19.3	38.6	BFI0002	09/13/2022 05:34	KRB
SW-8270	2-Nitrophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3)	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	4-Chloro-3-methylphenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	4-Chlorophenyl phenylether	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	4-Nitrophenol	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Acenaphthene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Acenaphthylene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Anthracene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Benzo(a)anthracene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Benzo(a)pyrene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Benzo(b)fluoranthene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Benzo(g,h,i)perylene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Benzo(k)fluoranthene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	bis(2-Chloroethoxy)methane	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	bis(2-Chloroethyl) ether	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Bis(2-ethylhexyl)phthalate	A	5.37V	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Butyl benzyl phthalate	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Chrysene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Dibenzo(a,h)anthracene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Diethyl phthalate	A	2.43J	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-20	Date Collected:	08/24/2022 12:25
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	Dimethyl phthalate	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Di-n-butyl phthalate	A	<2.41B, U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Di-n-octyl phthalate	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Fluoranthene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Fluorene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Hexachlorobenzene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Hexachlorobutadiene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Hexachlorocyclopentadiene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Hexachloroethane	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Indeno(1,2,3-cd) pyrene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Isophorone	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Naphthalene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Nitrobenzene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	n-Nitrosodimethylamine	A	<2.41U	ug/kg dry	1	2.41	48.2	BFI0002	09/13/2022 05:34	KRB
SW-8270	n-Nitrosodi-n-propylamine	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	n-Nitrosodiphenylamine	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Pentachlorophenol	A	<4.82U	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	Phenanthrene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	Phenol, Total	A	6.19J	ug/kg dry	1	4.82	9.65	BFI0002	09/13/2022 05:34	KRB
SW-8270	Pyrene	A	<2.41U	ug/kg dry	1	2.41	4.82	BFI0002	09/13/2022 05:34	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*95.9%*	*60-140*					*09/13/2022 05:34*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*101%*	*60-140*					*09/13/2022 05:34*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*103%*	*60-140*					*09/13/2022 05:34*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*79.5%*	*60-140*					*09/13/2022 05:34*	
SW-8270	*Surrogate: Phenol-d5-surr*		*92.0%*	*60-140*					*09/13/2022 05:34*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*52.0% S*	*60-140*					*09/13/2022 05:34*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	4,4'-DDE	A	<0.579C+, U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	4,4'-DDT	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Aldrin	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.579C+, U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Chlordane (tech.)	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-REF-S (Continued)
Lab Sample ID: 22G0514-20
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/24/2022 12:25
Collected by: Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)										
SW-8081	delta-BHC	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Dieldrin	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endosulfan I	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endosulfan II	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endosulfan sulfate	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endrin	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endrin aldehyde	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Endrin ketone	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	gamma-Chlordane	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Heptachlor	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Heptachlor epoxide	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Methoxychlor	A	<0.579U	ug/kg dry	10	0.579	1.93	BFI0003	09/16/2022 08:20	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<28.9U	ug/kg dry	10	28.9	28.9	BFI0003	09/16/2022 08:20	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*101%*	*60-140*					*09/16/2022 08:20*	
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*111%*	*60-140*					*09/16/2022 08:20*	
SW-8082	PCBs, Total	A	<1.93U	ug/kg dry	1	1.93	3.86	BFI0166	10/01/2022 04:38	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*98.4%*	*60-140*					*10/01/2022 04:38*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*71.3%*	*60-140*					*10/01/2022 04:38*	
Metals, Total										
EPA 200.8	Antimony	A	<0.0397U	mg/kg dry	1	0.0397	0.0796	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Arsenic	A	2.80	mg/kg dry	1	0.00397	0.0397	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Beryllium	A	0.380	mg/kg dry	1	0.000796	0.0159	BFI3440	10/05/2022 18:24	TBB
EPA 200.8	Cadmium	A	0.0346J	mg/kg dry	1	0.00397	0.0796	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Chromium	A	6.47	mg/kg dry	1	0.0119	0.238	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Copper	A	4.18V	mg/kg dry	1	0.0159	0.0796	BFI3440	10/05/2022 15:32	TBB
Calc	Chromium (III)		6.47J	mg/kg (dry wt) dry	1	3.50	10.1	[CALC]	10/05/2022 15:32	EM
SW-7196	Chromium (VI)	A	<3.48U	mg/kg dry	1	3.48	9.84	BFI2361	09/16/2022 17:18	EM
SW-7471B	Mercury	A	0.0175J	mg/kg dry	1	0.0113	0.0227	BFI0904	09/08/2022 15:14	NAZ
EPA 200.8	Lead	A	6.72	mg/kg dry	1	0.00397	0.0397	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Nickel	A	6.92	mg/kg dry	1	0.0796	0.0796	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Selenium	A	1.36	mg/kg dry	1	0.0796	0.397	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Silver	A	0.0203J	mg/kg dry	1	0.00199	0.0397	BFI3440	10/05/2022 15:32	TBB
EPA 200.8	Thallium	A	0.0638	mg/kg dry	1	0.00199	0.0397	BFI3440	10/05/2022 18:24	TBB
EPA 200.8	Zinc	A	24.4	mg/kg dry	1	0.0796	0.159	BFI3440	10/05/2022 15:32	TBB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-20	Date Collected:	08/24/2022 12:25
Sample Alias:		Collected by:	Michael Madonna

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry										
SW-9014	Total Cyanide	A	<0.0439U	mg/kg dry	1	0.0439	0.0877	BFH2402	09/02/2022 15:58	CTC
EPA 350.2	Ammonia as N	A	35.5J	mg/kg dry	1	19.2	38.4	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	8.75H	pH Units @ 25 °C	1		0.100	BFH4228	08/31/2022 15:24	AKA
SM 2540 G	% Solids	A	51.8	%	1	0.100	0.100	BFH4130	09/01/2022 11:11	SSM

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-REF-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-20RE1	Date Collected:	08/24/2022 12:25
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 (Rerun)	A	<2.41	U	ug/kg dry	1	2.41	4.82	BFI0002	09/18/2022 21:10	KRB
SW-8270	Benzidine (Rerun)	A	<2.41	U	ug/kg dry	1	2.41	4.82	BFI0002	09/18/2022 21:10	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*105%*		*60-140*					*09/18/2022 21:10*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*85.1%*		*60-140*					*09/18/2022 21:10*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*175%*	*S*	*60-140*					*09/18/2022 21:10*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*117%*		*60-140*					*09/18/2022 21:10*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*103%*		*60-140*					*09/18/2022 21:10*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*66.7%*		*60-140*					*09/18/2022 21:10*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-DUP-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-21	Date Collected:	08/19/2022 13:20
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	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/21/2022 03:59	KRB
SW-8270	Benzidine	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/21/2022 03:59	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr*		*88.8%*	*60-140*					*09/21/2022 03:59*	
SW-8270	*Surrogate: 2-Fluorophenol-surr*		*87.6%*	*60-140*					*09/21/2022 03:59*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr*		*87.6%*	*60-140*					*09/21/2022 03:59*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr*		*96.2%*	*60-140*					*09/21/2022 03:59*	
SW-8270	*Surrogate: Phenol-d5-surr*		*85.2%*	*60-140*					*09/21/2022 03:59*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr*		*69.7%*	*60-140*					*09/21/2022 03:59*	
Organics by GC										
SW-8081	4,4'-DDD	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	4,4'-DDE	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	4,4'-DDT	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Aldrin	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Chlordane (tech.)	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	cis-Chlordane (alpha-Chlordane)	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	delta-BHC	A	<0.416C+, U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Dieldrin	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endosulfan I	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endosulfan II	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endosulfan sulfate	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endrin	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endrin aldehyde	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Endrin ketone	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	gamma-Chlordane	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Heptachlor	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Heptachlor epoxide	A	<0.416U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Methoxychlor	A	<0.416C+, U	ug/kg dry	10	0.416	1.39	BFH3884	09/15/2022 04:59	KRB
SW-8081	Toxaphene (Chlorinated Camphene)	A	<20.8U	ug/kg dry	10	20.8	20.8	BFH3884	09/15/2022 04:59	KRB
SW-8081	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*75.0%*	*60-140*					*09/15/2022 04:59*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID: CDP-DUP-S (Continued)
Lab Sample ID: 22G0514-21
Sample Alias:

Sample Matrix: Sediment
Date Collected: 08/19/2022 13:20
Collected by: Michael Madonna

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
SW-8081	*Surrogate: Decachlorobiphenyl-surr*		*123%*		*60-140*					*09/15/2022 04:59*	
SW-8082	PCBs, Total	A	<1.41	U	ug/kg dry	1	1.41	2.83	BFH3855	09/24/2022 05:42	KRB
SW-8082	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*126%*		*60-140*					*09/24/2022 05:42*	
SW-8082	*Surrogate: Decachlorobiphenyl-surr*		*101%*		*60-140*					*09/24/2022 05:42*	
Metals, Total											
EPA 200.8	Antimony	A	<0.0302	U	mg/kg dry	1	0.0302	0.0606	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Arsenic	A	7.31		mg/kg dry	5	0.0151	0.151	BFI3440	10/05/2022 15:50	TBB
EPA 200.8	Beryllium	A	0.554		mg/kg dry	1	0.000606	0.0121	BFI3440	10/05/2022 18:27	TBB
EPA 200.8	Cadmium	A	0.0492	J	mg/kg dry	1	0.00302	0.0606	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Chromium	A	9.30		mg/kg dry	1	0.00907	0.181	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Copper	A	7.38	V	mg/kg dry	1	0.0121	0.0606	BFI3440	10/05/2022 15:38	TBB
Calc	Chromium (III)		9.30		mg/kg (dry wt) dry	1	2.52	7.27	[CALC]	10/05/2022 15:38	EM
SW-7196	Chromium (VI)	A	<2.51	U	mg/kg dry	1	2.51	7.09	BFI1134	09/08/2022 18:09	EM
SW-7471B	Mercury	A	0.0196	J	mg/kg dry	1	0.0116	0.0232	BFI0904	09/08/2022 15:17	NAZ
EPA 200.8	Lead	A	10.2		mg/kg dry	5	0.0151	0.151	BFI3440	10/05/2022 15:50	TBB
EPA 200.8	Nickel	A	11.3		mg/kg dry	1	0.0606	0.0606	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Selenium	A	1.86		mg/kg dry	1	0.0606	0.302	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Silver	A	0.0269	J	mg/kg dry	1	0.00151	0.0302	BFI3440	10/05/2022 15:38	TBB
EPA 200.8	Thallium	A	0.0960		mg/kg dry	1	0.00151	0.0302	BFI3440	10/05/2022 18:27	TBB
EPA 200.8	Zinc	A	36.1		mg/kg dry	5	0.303	0.604	BFI3440	10/05/2022 15:50	TBB
General Chemistry											
SW-9014	Total Cyanide	A	<0.0350	U	mg/kg dry	1	0.0350	0.0699	BFH3925	08/29/2022 18:26	CTC
EPA 350.2	Ammonia as N	A	37.3		mg/kg dry	1	14.5	29.0	BFI0408	09/06/2022 10:00	GIW
SW-9045C	pH	A	9.35	H	pH Units @ 25 °C	1		0.100	BFH3717	08/26/2022 11:37	CST
SM 2540 G	% Solids	A	68.1		%	1	0.100	0.100	BFH3228	08/25/2022 12:08	JRU

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-DUP-S	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-21RE1	Date Collected:	08/19/2022 13:20
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	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	1,2-Dichlorobenzene (o-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	1,2-Diphenylhydrazine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	1,3-Dichlorobenzene (m-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	1,4-Dichlorobenzene (p-Dichlorobenzene) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,4,6-Trichlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,4-Dichlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,4-Dimethylphenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,4-Dinitrophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	2-Chloronaphthalene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	2-Chlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<14.2U	ug/kg dry	1	14.2	28.3	BFH3323	09/30/2022 02:34	KRB
SW-8270	2-Nitrophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	4-Chloro-3-methylphenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	4-Chlorophenyl phenylether (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	4-Nitrophenol (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Acenaphthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Acenaphthylene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Benzo(a)anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Benzo(a)pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Benzo(b)fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Benzo(g,h,i)perylene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Benzo(k)fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	bis(2-Chloroethoxy)methane (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Sample Results
(Continued)

Client Sample ID:	CDP-DUP-S (Continued)	Sample Matrix:	Sediment
Lab Sample ID:	22G0514-21RE1	Date Collected:	08/19/2022 13:20
Sample Alias:		Collected by:	Michael Madonna

Semivolatile Organic Compounds by GCMS (Continued)

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
SW-8270	bis(2-Chloroethyl) ether (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Bis(2-ethylhexyl)phthalate (Rerun)	A	6.09V	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Butyl benzyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Chrysene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Dibenzo(a,h)anthracene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Diethyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Dimethyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Di-n-butyl phthalate (Rerun)	A	8.50V	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Di-n-octyl phthalate (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Fluoranthene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Fluorene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Hexachlorobenzene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Hexachlorobutadiene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Hexachlorocyclopentadiene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Hexachloroethane (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Indeno(1,2,3-cd) pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Isophorone (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Naphthalene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Nitrobenzene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	n-Nitrosodimethylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	35.4	BFH3323	09/30/2022 02:34	KRB
SW-8270	n-Nitrosodi-n-propylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	n-Nitrosodiphenylamine (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Pentachlorophenol (Rerun)	A	<3.54U	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	Phenanthrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	Phenol, Total (Rerun)	A	5.54J	ug/kg dry	1	3.54	7.09	BFH3323	09/30/2022 02:34	KRB
SW-8270	Pyrene (Rerun)	A	<1.77U	ug/kg dry	1	1.77	3.54	BFH3323	09/30/2022 02:34	KRB
SW-8270	*Surrogate: 2-Fluorobiphenyl-surr (Rerun)*		*81.4%*	*60-140*					*09/30/2022 02:34*	
SW-8270	*Surrogate: 2-Fluorophenol-surr (Rerun)*		*69.3%*	*60-140*					*09/30/2022 02:34*	
SW-8270	*Surrogate: 2,4,6-Tribromophenol-surr (Rerur*		*65.9%*	*60-140*					*09/30/2022 02:34*	
SW-8270	*Surrogate: Nitrobenzene-d5-surr (Rerun)*		*68.5%*	*60-140*					*09/30/2022 02:34*	
SW-8270	*Surrogate: Phenol-d5-surr (Rerun)*		*85.3%*	*60-140*					*09/30/2022 02:34*	
SW-8270	*Surrogate: p-Terphenyl-d14-surr (Rerun)*		*73.4%*	*60-140*					*09/30/2022 02:34*	

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control

Semivolatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3323 - SW-3570										
Blank (BFH3323-BLK1)				Prepared: 8/24/2022 Analyzed: 9/20/2022						
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet						
Benzidine	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*18.2*	*ug/kg wet*	*20.0*		*91.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*38.3*	*ug/kg wet*	*40.0*		*95.8*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*45.4*	*ug/kg wet*	*40.0*		*113*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*22.9*	*ug/kg wet*	*20.0*		*115*	*60-140*		
Surrogate: Phenol-d5-surr			*40.5*	*ug/kg wet*	*40.0*		*101*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.1*	*ug/kg wet*	*20.0*		*80.5*	*60-140*		
Blank (BFH3323-BLK2)				Prepared: 8/24/2022 Analyzed: 9/29/2022						
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	2.35	J	2.50	ug/kg wet						

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
Blank (BFH3323-BLK2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
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	2.96		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			*15.5*	*ug/kg wet*	*20.0*		*77.5*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*31.9*	*ug/kg wet*	*40.0*		*79.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*32.9*	*ug/kg wet*	*40.0*		*82.1*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.4*	*ug/kg wet*	*20.0*		*82.0*	*60-140*		
Surrogate: Phenol-d5-surr			*33.4*	*ug/kg wet*	*40.0*		*83.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*14.7*	*ug/kg wet*	*20.0*		*73.5*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
BS BENZ (BFH3323-BS1)					Prepared: 8/24/2022 Analyzed: 9/20/2022					
3,3'-Dichlorobenzidine	9.44	J1	2.50	ug/kg wet	20.0		47.2	60-140		
Benzidine	<2.50	J1, U	2.50	ug/kg wet	20.0			60-140		
Surrogate: 2-Fluorobiphenyl-surr			*18.0*	*ug/kg wet*	*20.0*		*89.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*39.5*	*ug/kg wet*	*40.0*		*98.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*43.1*	*ug/kg wet*	*40.0*		*108*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*22.5*	*ug/kg wet*	*20.0*		*113*	*60-140*		
Surrogate: Phenol-d5-surr			*39.5*	*ug/kg wet*	*40.0*		*98.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.5*	*ug/kg wet*	*20.0*		*82.3*	*60-140*		
BS SV (BFH3323-BS2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
1,2,4-Trichlorobenzene	14.3		2.50	ug/kg wet	20.0		71.5	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.7		2.50	ug/kg wet	20.0		63.3	60-140		
1,2-Diphenylhydrazine	23.5		2.50	ug/kg wet	20.0		117	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.4		2.50	ug/kg wet	20.0		62.2	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.7		2.50	ug/kg wet	20.0		63.3	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	14.9		2.50	ug/kg wet	20.0		74.6	60-140		
2,4,6-Trichlorophenol	34.2		5.00	ug/kg wet	40.0		85.5	60-140		
2,4-Dichlorophenol	34.5		5.00	ug/kg wet	40.0		86.3	60-140		
2,4-Dimethylphenol	40.0		5.00	ug/kg wet	40.0		100	60-140		
2,4-Dinitrophenol	32.9		5.00	ug/kg wet	100		32.9	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	16.8		2.50	ug/kg wet	20.0		83.8	60-140		
2,6-Dinitrotoluene (2,6-DNT)	17.3		2.50	ug/kg wet	20.0		86.5	60-140		
2-Chloronaphthalene	16.9		2.50	ug/kg wet	20.0		84.4	60-140		
2-Chlorophenol	33.7		5.00	ug/kg wet	40.0		84.2	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	26.8		20.0	ug/kg wet	40.0		66.9	60-140		
2-Nitrophenol	35.2		5.00	ug/kg wet	40.0		88.1	60-140		
4-Bromophenyl phenyl ether (BDE-3)	17.4		2.50	ug/kg wet	20.0		86.8	60-140		
4-Chloro-3-methylphenol	33.5		5.00	ug/kg wet	40.0		83.6	60-140		
4-Chlorophenyl phenylether	16.8		2.50	ug/kg wet	20.0		83.8	60-140		
4-Nitrophenol	91.6		2.50	ug/kg wet	100		91.6	60-140		
Acenaphthene	16.2		2.50	ug/kg wet	20.0		81.1	60-140		
Acenaphthylene	19.1		2.50	ug/kg wet	20.0		95.7	60-140		
Anthracene	17.5		2.50	ug/kg wet	20.0		87.6	60-140		
Benzo(a)anthracene	17.3		2.50	ug/kg wet	20.0		86.6	60-140		
Benzo(a)pyrene	20.5		2.50	ug/kg wet	20.0		102	60-140		
Benzo(b)fluoranthene	18.4		2.50	ug/kg wet	20.0		91.9	60-140		
Benzo(g,h,i)perylene	18.2		2.50	ug/kg wet	20.0		91.0	60-140		
Benzo(k)fluoranthene	19.3		2.50	ug/kg wet	20.0		96.5	60-140		
bis(2-Chloroethoxy)methane	17.4		2.50	ug/kg wet	20.0		87.1	60-140		
bis(2-Chloroethyl) ether	16.7		2.50	ug/kg wet	20.0		83.6	60-140		
Bis(2-ethylhexyl)phthalate	20.6		2.50	ug/kg wet	20.0		103	60-140		
Butyl benzyl phthalate	16.6		2.50	ug/kg wet	20.0		82.8	60-140		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
BS SV (BFH3323-BS2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
Chrysene	17.6		2.50	ug/kg wet	20.0		87.9	60-140		
Dibenzo(a,h)anthracene	19.0		2.50	ug/kg wet	20.0		95.2	60-140		
Diethyl phthalate	18.3		2.50	ug/kg wet	20.0		91.4	60-140		
Dimethyl phthalate	17.4		2.50	ug/kg wet	20.0		87.2	60-140		
Di-n-butyl phthalate	20.6		2.50	ug/kg wet	20.0		103	60-140		
Di-n-octyl phthalate	18.0		2.50	ug/kg wet	20.0		90.2	60-140		
Fluoranthene	17.5		2.50	ug/kg wet	20.0		87.3	60-140		
Fluorene	16.0		2.50	ug/kg wet	20.0		79.9	60-140		
Hexachlorobenzene	15.9		2.50	ug/kg wet	20.0		79.4	60-140		
Hexachlorobutadiene	10.8	J1	2.50	ug/kg wet	20.0		53.8	60-140		
Hexachlorocyclopentadiene	15.4		2.50	ug/kg wet	20.0		77.2	60-140		
Hexachloroethane	11.4	J1	2.50	ug/kg wet	20.0		57.1	60-140		
Indeno(1,2,3-cd) pyrene	18.5		2.50	ug/kg wet	20.0		92.6	60-140		
Isophorone	15.6		2.50	ug/kg wet	20.0		78.0	60-140		
Naphthalene	15.2		2.50	ug/kg wet	20.0		75.9	60-140		
Nitrobenzene	17.4		2.50	ug/kg wet	20.0		87.1	60-140		
n-Nitrosodimethylamine	51.2	J1	2.50	ug/kg wet	100		51.2	60-140		
n-Nitrosodi-n-propylamine	17.6		2.50	ug/kg wet	20.0		87.9	60-140		
n-Nitrosodiphenylamine	14.9		2.50	ug/kg wet	20.0		74.3	60-140		
Pentachlorophenol	30.0		5.00	ug/kg wet	40.0		75.0	60-140		
Phenanthrene	16.6		2.50	ug/kg wet	20.0		82.9	60-140		
Phenol, Total	37.7		5.00	ug/kg wet	40.0		94.1	60-140		
Pyrene	15.4		2.50	ug/kg wet	20.0		76.9	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*16.0*	*ug/kg wet*	*20.0*		*79.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*33.2*	*ug/kg wet*	*40.0*		*82.9*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*34.9*	*ug/kg wet*	*40.0*		*87.4*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.5*	*ug/kg wet*	*20.0*		*87.4*	*60-140*		
Surrogate: Phenol-d5-surr			*36.4*	*ug/kg wet*	*40.0*		*91.0*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.9*	*ug/kg wet*	*20.0*		*89.7*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
BSD BENZ (BFH3323-BSD1)					Prepared: 8/24/2022 Analyzed: 9/20/2022					
3,3'-Dichlorobenzidine	9.96	J1	2.50	ug/kg wet	20.0		49.8	60-140	5.37	40
Benzidine	<2.50	J1, U	2.50	ug/kg wet	20.0			60-140	200	40
Surrogate: 2-Fluorobiphenyl-surr			*17.1*	*ug/kg wet*	*20.0*		*85.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*34.6*	*ug/kg wet*	*40.0*		*86.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*43.4*	*ug/kg wet*	*40.0*		*108*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*22.6*	*ug/kg wet*	*20.0*		*113*	*60-140*		
Surrogate: Phenol-d5-surr			*38.1*	*ug/kg wet*	*40.0*		*95.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.2*	*ug/kg wet*	*20.0*		*80.8*	*60-140*		
BSD SV (BFH3323-BSD2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
1,2,4-Trichlorobenzene	14.0		2.50	ug/kg wet	20.0		70.1	60-140	1.94	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.2		2.50	ug/kg wet	20.0		61.1	60-140	3.50	40
1,2-Diphenylhydrazine	23.5		2.50	ug/kg wet	20.0		117	60-140	0.00947	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	11.2	J1	2.50	ug/kg wet	20.0		55.8	60-140	10.8	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.4		2.50	ug/kg wet	20.0		62.1	60-140	1.98	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.5		2.50	ug/kg wet	20.0		77.3	60-140	3.58	40
2,4,6-Trichlorophenol	33.6		5.00	ug/kg wet	40.0		84.0	60-140	1.70	40
2,4-Dichlorophenol	33.9		5.00	ug/kg wet	40.0		84.7	60-140	1.88	40
2,4-Dimethylphenol	39.2		5.00	ug/kg wet	40.0		98.0	60-140	2.07	40
2,4-Dinitrophenol	43.0		5.00	ug/kg wet	100		43.0	10-50.4	26.6	40
2,4-Dinitrotoluene (2,4-DNT)	17.1		2.50	ug/kg wet	20.0		85.4	60-140	1.87	40
2,6-Dinitrotoluene (2,6-DNT)	17.4		2.50	ug/kg wet	20.0		86.9	60-140	0.523	40
2-Chloronaphthalene	16.6		2.50	ug/kg wet	20.0		83.0	60-140	1.70	40
2-Chlorophenol	33.8		5.00	ug/kg wet	40.0		84.4	60-140	0.204	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	28.9		20.0	ug/kg wet	40.0		72.3	60-140	7.69	40
2-Nitrophenol	34.7		5.00	ug/kg wet	40.0		86.6	60-140	1.71	40
4-Bromophenyl phenyl ether (BDE-3)	17.5		2.50	ug/kg wet	20.0		87.7	60-140	1.10	40
4-Chloro-3-methylphenol	31.4		5.00	ug/kg wet	40.0		78.4	60-140	6.42	40
4-Chlorophenyl phenylether	16.8		2.50	ug/kg wet	20.0		83.9	60-140	0.105	40
4-Nitrophenol	86.5		2.50	ug/kg wet	100		86.5	60-140	5.76	40
Acenaphthene	15.9		2.50	ug/kg wet	20.0		79.4	60-140	2.14	40
Acenaphthylene	18.9		2.50	ug/kg wet	20.0		94.3	60-140	1.48	40
Anthracene	17.2		2.50	ug/kg wet	20.0		86.2	60-140	1.62	40
Benzo(a)anthracene	16.9		2.50	ug/kg wet	20.0		84.7	60-140	2.23	40
Benzo(a)pyrene	19.8		2.50	ug/kg wet	20.0		99.1	60-140	3.22	40
Benzo(b)fluoranthene	17.7		2.50	ug/kg wet	20.0		88.7	60-140	3.61	40
Benzo(g,h,i)perylene	17.3		2.50	ug/kg wet	20.0		86.7	60-140	4.89	40
Benzo(k)fluoranthene	18.5		2.50	ug/kg wet	20.0		92.7	60-140	4.08	40
bis(2-Chloroethoxy)methane	17.0		2.50	ug/kg wet	20.0		85.0	60-140	2.38	40
bis(2-Chloroethyl) ether	16.3		2.50	ug/kg wet	20.0		81.7	60-140	2.32	40
Bis(2-ethylhexyl)phthalate	19.7		2.50	ug/kg wet	20.0		98.7	60-140	4.13	40
Butyl benzyl phthalate	15.8		2.50	ug/kg wet	20.0		79.2	60-140	4.39	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
BSD SV (BFH3323-BSD2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
Chrysene	17.3		2.50	ug/kg wet	20.0		86.4	60-140	1.72	40
Dibenzo(a,h)anthracene	17.7		2.50	ug/kg wet	20.0		88.3	60-140	7.45	40
Diethyl phthalate	17.2		2.50	ug/kg wet	20.0		86.1	60-140	6.02	40
Dimethyl phthalate	17.2		2.50	ug/kg wet	20.0		86.2	60-140	1.09	40
Di-n-butyl phthalate	18.9		2.50	ug/kg wet	20.0		94.5	60-140	8.44	40
Di-n-octyl phthalate	18.3		2.50	ug/kg wet	20.0		91.3	60-140	1.16	40
Fluoranthene	17.3		2.50	ug/kg wet	20.0		86.5	60-140	0.885	40
Fluorene	15.4		2.50	ug/kg wet	20.0		76.9	60-140	3.89	40
Hexachlorobenzene	15.4		2.50	ug/kg wet	20.0		77.0	60-140	3.00	40
Hexachlorobutadiene	10.8	J1	2.50	ug/kg wet	20.0		54.2	60-140	0.728	40
Hexachlorocyclopentadiene	13.9		2.50	ug/kg wet	20.0		69.6	60-140	10.3	40
Hexachloroethane	10.9	J1	2.50	ug/kg wet	20.0		54.3	60-140	5.07	40
Indeno(1,2,3-cd) pyrene	17.4		2.50	ug/kg wet	20.0		86.9	60-140	6.29	40
Isophorone	15.3		2.50	ug/kg wet	20.0		76.5	60-140	1.87	40
Naphthalene	14.9		2.50	ug/kg wet	20.0		74.5	60-140	1.86	40
Nitrobenzene	16.8		2.50	ug/kg wet	20.0		83.9	60-140	3.74	40
n-Nitrosodimethylamine	70.3		2.50	ug/kg wet	100		70.3	60-140	31.4	40
n-Nitrosodi-n-propylamine	16.6		2.50	ug/kg wet	20.0		83.1	60-140	5.65	40
n-Nitrosodiphenylamine	22.7	J1	2.50	ug/kg wet	20.0		113	60-140	41.7	40
Pentachlorophenol	28.8		5.00	ug/kg wet	40.0		71.9	60-140	4.15	40
Phenanthrene	16.2		2.50	ug/kg wet	20.0		80.8	60-140	2.65	40
Phenol, Total	37.2		5.00	ug/kg wet	40.0		93.0	60-140	1.23	40
Pyrene	15.2		2.50	ug/kg wet	20.0		75.8	60-140	1.45	40
Surrogate: 2-Fluorobiphenyl-surr			*15.1*	*ug/kg wet*	*20.0*		*75.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*32.5*	*ug/kg wet*	*40.0*		*81.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*34.5*	*ug/kg wet*	*40.0*		*86.2*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.7*	*ug/kg wet*	*20.0*		*83.7*	*60-140*		
Surrogate: Phenol-d5-surr			*35.9*	*ug/kg wet*	*40.0*		*89.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.7*	*ug/kg wet*	*20.0*		*88.6*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
MDL BENZ (BFH3323-MRL1)					Prepared: 8/24/2022 Analyzed: 9/20/2022					
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet	2.00					
Benzidine	<2.50	U	2.50	ug/kg wet	2.00					
Surrogate: 2-Fluorobiphenyl-surr			*18.5*	*ug/kg wet*	*20.0*		*92.4*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*38.5*	*ug/kg wet*	*40.0*		*96.3*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*46.1*	*ug/kg wet*	*40.0*		*115*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*23.9*	*ug/kg wet*	*20.0*		*119*	*60-140*		
Surrogate: Phenol-d5-surr			*42.7*	*ug/kg wet*	*40.0*		*107*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.1*	*ug/kg wet*	*20.0*		*85.5*	*60-140*		
MDL SV (BFH3323-MRL2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
1,2,4-Trichlorobenzene	1.68	J	2.50	ug/kg wet	2.00		84.2			
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
1,2-Diphenylhydrazine	4.50		2.50	ug/kg wet	2.00		225			
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.89	J	2.50	ug/kg wet	2.00		94.6			
2,4,6-Trichlorophenol	3.07	J	5.00	ug/kg wet	4.00		76.7			
2,4-Dichlorophenol	3.00	J	5.00	ug/kg wet	4.00		75.0			
2,4-Dimethylphenol	3.37	J	5.00	ug/kg wet	4.00		84.3			
2,4-Dinitrophenol	8.75		5.00	ug/kg wet	10.0		87.5	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.59	J	2.50	ug/kg wet	2.00		79.7			
2,6-Dinitrotoluene (2,6-DNT)	1.60	J	2.50	ug/kg wet	2.00		79.8			
2-Chloronaphthalene	1.47	J	2.50	ug/kg wet	2.00		73.7			
2-Chlorophenol	3.08	J	5.00	ug/kg wet	4.00		77.1			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<20.0	U	20.0	ug/kg wet	4.00					
2-Nitrophenol	3.36	J	5.00	ug/kg wet	4.00		84.0			
4-Bromophenyl phenyl ether (BDE-3)	1.51	J	2.50	ug/kg wet	2.00		75.5			
4-Chloro-3-methylphenol	3.10	J	5.00	ug/kg wet	4.00		77.4			
4-Chlorophenyl phenylether	1.40	J	2.50	ug/kg wet	2.00		69.9			
4-Nitrophenol	8.65		2.50	ug/kg wet	10.0		86.5	50-150		
Acenaphthene	1.52	J	2.50	ug/kg wet	2.00		75.9			
Acenaphthylene	1.65	J	2.50	ug/kg wet	2.00		82.4			
Anthracene	1.52	J	2.50	ug/kg wet	2.00		76.1			
Benzo(a)anthracene	1.55	J	2.50	ug/kg wet	2.00		77.5			
Benzo(a)pyrene	1.89	J	2.50	ug/kg wet	2.00		94.5			
Benzo(b)fluoranthene	1.53	J	2.50	ug/kg wet	2.00		76.6			
Benzo(g,h,i)perylene	1.55	J	2.50	ug/kg wet	2.00		77.5			
Benzo(k)fluoranthene	1.74	J	2.50	ug/kg wet	2.00		87.2			
bis(2-Chloroethoxy)methane	1.51	J	2.50	ug/kg wet	2.00		75.7			
bis(2-Chloroethyl) ether	1.50	J	2.50	ug/kg wet	2.00		75.2			
Bis(2-ethylhexyl)phthalate	4.27		2.50	ug/kg wet	2.00		214			

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
MDL SV (BFH3323-MRL2)					Prepared: 8/24/2022 Analyzed: 9/29/2022					
Butyl benzyl phthalate	1.56	J	2.50	ug/kg wet	2.00		78.0			
Chrysene	1.66	J	2.50	ug/kg wet	2.00		83.2			
Dibenzo(a,h)anthracene	1.49	J	2.50	ug/kg wet	2.00		74.4			
Diethyl phthalate	2.26	J	2.50	ug/kg wet	2.00		113			
Dimethyl phthalate	1.55	J	2.50	ug/kg wet	2.00		77.6			
Di-n-butyl phthalate	4.95		2.50	ug/kg wet	2.00		247			
Di-n-octyl phthalate	1.56	J	2.50	ug/kg wet	2.00		78.2			
Fluoranthene	1.63	J	2.50	ug/kg wet	2.00		81.3			
Fluorene	1.45	J	2.50	ug/kg wet	2.00		72.4			
Hexachlorobenzene	1.39	J	2.50	ug/kg wet	2.00		69.5			
Hexachlorobutadiene	<2.50	U	2.50	ug/kg wet	2.00					
Hexachlorocyclopentadiene	1.67	J	2.50	ug/kg wet	2.00		83.6			
Hexachloroethane	<2.50	U	2.50	ug/kg wet	2.00					
Indeno(1,2,3-cd) pyrene	1.51	J	2.50	ug/kg wet	2.00		75.4			
Isophorone	1.38	J	2.50	ug/kg wet	2.00		69.0			
Naphthalene	1.39	J	2.50	ug/kg wet	2.00		69.7			
Nitrobenzene	1.57	J	2.50	ug/kg wet	2.00		78.3			
n-Nitrosodimethylamine	<2.50	J1, U	2.50	ug/kg wet	10.0			50-150		
n-Nitrosodi-n-propylamine	1.40	J	2.50	ug/kg wet	2.00		70.1			
n-Nitrosodiphenylamine	<2.50	U	2.50	ug/kg wet	2.00					
Pentachlorophenol	2.58	J	5.00	ug/kg wet	4.00		64.6			
Phenanthrene	1.53	J	2.50	ug/kg wet	2.00		76.7			
Phenol, Total	4.19	J	5.00	ug/kg wet	4.00		105			
Pyrene	1.31	J	2.50	ug/kg wet	2.00		65.7			
Surrogate: 2-Fluorobiphenyl-surr			*14.6*	*ug/kg wet*	*20.0*		*73.2*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*31.8*	*ug/kg wet*	*40.0*		*79.5*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*33.8*	*ug/kg wet*	*40.0*		*84.5*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*16.1*	*ug/kg wet*	*20.0*		*80.6*	*60-140*		
Surrogate: Phenol-d5-surr			*33.4*	*ug/kg wet*	*40.0*		*83.6*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*16.5*	*ug/kg wet*	*20.0*		*82.7*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
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Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
22H3062-10 MS (BFH3323-MS1)			**Source: 22H3062-10**		Prepared: 8/24/2022 Analyzed: 9/29/2022					
1,2,4-Trichlorobenzene	44.0		8.02	ug/kg dry	64.2	<8.02	68.6	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	36.0	J1	8.02	ug/kg dry	64.2	<8.02	56.1	60-140		
1,2-Diphenylhydrazine	62.6		8.02	ug/kg dry	64.2	<8.02	97.5	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	33.9	J1	8.02	ug/kg dry	64.2	<8.02	52.9	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	45.2		8.02	ug/kg dry	64.2	<8.02	70.5	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	42.1		8.02	ug/kg dry	64.2	<8.02	65.6	60-140		
2,4,6-Trichlorophenol	88.3		16.0	ug/kg dry	128	<16.0	68.8	60-140		
2,4-Dichlorophenol	87.8		16.0	ug/kg dry	128	<16.0	68.4	60-140		
2,4-Dimethylphenol	133		16.0	ug/kg dry	128	<16.0	103	60-140		
2,4-Dinitrophenol	47.2		16.0	ug/kg dry	321	<16.0	14.7	10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	44.5		8.02	ug/kg dry	64.2	<8.02	69.3	60-140		
2,6-Dinitrotoluene (2,6-DNT)	46.9		8.02	ug/kg dry	64.2	<8.02	73.1	60-140		
2-Chloronaphthalene	52.0		8.02	ug/kg dry	64.2	<8.02	81.0	60-140		
2-Chlorophenol	93.4		16.0	ug/kg dry	128	<16.0	72.8	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	52.6	J1, J	64.2	ug/kg dry	128	<64.2	41.0	60-140		
2-Nitrophenol	96.4		16.0	ug/kg dry	128	<16.0	75.1	60-140		
4-Bromophenyl phenyl ether (BDE-3)	47.8		8.02	ug/kg dry	64.2	<8.02	74.5	60-140		
4-Chloro-3-methylphenol	80.6		16.0	ug/kg dry	128	<16.0	62.8	60-140		
4-Chlorophenyl phenylether	40.6		8.02	ug/kg dry	64.2	<8.02	63.3	60-140		
4-Nitrophenol	232		8.02	ug/kg dry	321	<8.02	72.4	60-140		
Acenaphthene	44.0		8.02	ug/kg dry	64.2	<8.02	68.6	60-140		
Acenaphthylene	54.0		8.02	ug/kg dry	64.2	4.09	77.7	60-140		
Anthracene	52.3		8.02	ug/kg dry	64.2	<8.02	81.5	60-140		
Benzo(a)anthracene	51.6		8.02	ug/kg dry	64.2	5.27	72.2	60-140		
Benzo(a)pyrene	70.9		8.02	ug/kg dry	64.2	8.63	97.0	60-140		
Benzo(b)fluoranthene	66.1		8.02	ug/kg dry	64.2	10.3	86.8	60-140		
Benzo(g,h,i)perylene	49.8		8.02	ug/kg dry	64.2	4.05	71.3	60-140		
Benzo(k)fluoranthene	56.4		8.02	ug/kg dry	64.2	<8.02	87.9	60-140		
bis(2-Chloroethoxy)methane	50.8		8.02	ug/kg dry	64.2	<8.02	79.1	60-140		
bis(2-Chloroethyl) ether	45.5		8.02	ug/kg dry	64.2	<8.02	70.8	60-140		
Bis(2-ethylhexyl)phthalate	59.7		8.02	ug/kg dry	64.2	11.2	75.7	60-140		
Butyl benzyl phthalate	35.1	J1	8.02	ug/kg dry	64.2	<8.02	54.7	60-140		
Chrysene	55.0		8.02	ug/kg dry	64.2	8.71	72.1	60-140		
Dibenzo(a,h)anthracene	49.8		8.02	ug/kg dry	64.2	<8.02	77.6	60-140		
Diethyl phthalate	42.3		8.02	ug/kg dry	64.2	<8.02	65.9	60-140		
Dimethyl phthalate	47.8		8.02	ug/kg dry	64.2	<8.02	74.4	60-140		
Di-n-butyl phthalate	22.4	J1	8.02	ug/kg dry	64.2	9.28	20.4	60-140		
Di-n-octyl phthalate	50.5		8.02	ug/kg dry	64.2	<8.02	78.7	60-140		
Fluoranthene	12.5	J1	8.02	ug/kg dry	64.2	15.1	NR	60-140		
Fluorene	36.4	J1	8.02	ug/kg dry	64.2	<8.02	56.7	60-140		
Hexachlorobenzene	38.6		8.02	ug/kg dry	64.2	<8.02	60.1	60-140		
Hexachlorobutadiene	34.0	J1	8.02	ug/kg dry	64.2	<8.02	52.9	60-140		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
22H3062-10 MS (BFH3323-MS1)		**Source: 22H3062-10**		Prepared: 8/24/2022 Analyzed: 9/29/2022						
Hexachlorocyclopentadiene	29.1	J1	8.02	ug/kg dry	64.2	<8.02	45.4	60-140		
Hexachloroethane	32.8	J1	8.02	ug/kg dry	64.2	<8.02	51.0	60-140		
Indeno(1,2,3-cd) pyrene	50.1		8.02	ug/kg dry	64.2	<8.02	78.1	60-140		
Isophorone	46.1		8.02	ug/kg dry	64.2	<8.02	71.9	60-140		
Naphthalene	45.8		8.02	ug/kg dry	64.2	<8.02	71.3	60-140		
Nitrobenzene	47.4		8.02	ug/kg dry	64.2	<8.02	73.9	60-140		
n-Nitrosodimethylamine	223		8.02	ug/kg dry	321	<8.02	69.4	60-140		
n-Nitrosodi-n-propylamine	46.1		8.02	ug/kg dry	64.2	<8.02	71.9	60-140		
n-Nitrosodiphenylamine	40.1		8.02	ug/kg dry	64.2	<8.02	62.5	60-140		
Pentachlorophenol	72.3	J1	16.0	ug/kg dry	128	<16.0	56.3	60-140		
Phenanthrene	45.5		8.02	ug/kg dry	64.2	<8.02	70.9	60-140		
Phenol, Total	120		16.0	ug/kg dry	128	12.1	84.0	60-140		
Pyrene	60.4		8.02	ug/kg dry	64.2	14.7	71.3	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*43.4*	*ug/kg dry*	*64.2*		*67.6*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*86.8*	*ug/kg dry*	*128*		*67.6*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*70.9*	*ug/kg dry*	*128*		*55.3*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*41.3*	*ug/kg dry*	*64.2*		*64.4*	*60-140*		
Surrogate: Phenol-d5-surr			*103*	*ug/kg dry*	*128*		*80.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*39.2*	*ug/kg dry*	*64.2*		*61.1*	*60-140*		
22H3062-10 MSD (BFH3323-MSD1)		**Source: 22H3062-10**		Prepared: 8/24/2022 Analyzed: 9/29/2022						
1,2,4-Trichlorobenzene	48.6		8.02	ug/kg dry	64.2	<8.02	75.7	60-140	9.86	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	36.4	J1	8.02	ug/kg dry	64.2	<8.02	56.7	60-140	1.15	40
1,2-Diphenylhydrazine	58.6		8.02	ug/kg dry	64.2	<8.02	91.3	60-140	6.57	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	30.7	J1	8.02	ug/kg dry	64.2	<8.02	47.9	60-140	9.96	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	46.7		8.02	ug/kg dry	64.2	<8.02	72.8	60-140	3.27	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	38.8		8.02	ug/kg dry	64.2	<8.02	60.4	60-140	8.14	40
2,4,6-Trichlorophenol	86.3		16.0	ug/kg dry	128	<16.0	67.2	60-140	2.26	40
2,4-Dichlorophenol	82.4		16.0	ug/kg dry	128	<16.0	64.2	60-140	6.34	40
2,4-Dimethylphenol	167		16.0	ug/kg dry	128	<16.0	130	60-140	23.1	40
2,4-Dinitrophenol	40.7		16.0	ug/kg dry	321	<16.0	12.7	10-51.3	14.9	40
2,4-Dinitrotoluene (2,4-DNT)	38.5		8.02	ug/kg dry	64.2	<8.02	60.1	60-140	14.3	40
2,6-Dinitrotoluene (2,6-DNT)	43.8		8.02	ug/kg dry	64.2	<8.02	68.2	60-140	6.99	40
2-Chloronaphthalene	49.0		8.02	ug/kg dry	64.2	<8.02	76.3	60-140	5.99	40
2-Chlorophenol	86.2		16.0	ug/kg dry	128	<16.0	67.2	60-140	7.98	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	44.9	J1, J	64.2	ug/kg dry	128	<64.2	35.0	60-140	15.8	40
2-Nitrophenol	112		16.0	ug/kg dry	128	<16.0	87.1	60-140	14.7	40
4-Bromophenyl phenyl ether (BDE-3)	33.8	J1	8.02	ug/kg dry	64.2	<8.02	52.7	60-140	34.2	40
4-Chloro-3-methylphenol	75.5	J1	16.0	ug/kg dry	128	<16.0	58.8	60-140	6.54	40
4-Chlorophenyl phenylether	31.8	J1	8.02	ug/kg dry	64.2	<8.02	49.5	60-140	24.5	40
4-Nitrophenol	226		8.02	ug/kg dry	321	<8.02	70.3	60-140	2.93	40
Acenaphthene	39.6		8.02	ug/kg dry	64.2	<8.02	61.8	60-140	10.4	40

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH3323 - SW-3570 (Continued)										
22H3062-10 MSD (BFH3323-MSD1)		**Source: 22H3062-10**		Prepared: 8/24/2022 Analyzed: 9/29/2022						
Acenaphthylene	46.0		8.02	ug/kg dry	64.2	4.09	65.4	60-140	15.9	40
Anthracene	41.6		8.02	ug/kg dry	64.2	<8.02	64.9	60-140	22.8	40
Benzo(a)anthracene	39.0	J1	8.02	ug/kg dry	64.2	5.27	52.6	60-140	27.8	40
Benzo(a)pyrene	47.0	J1	8.02	ug/kg dry	64.2	8.63	59.8	60-140	40.5	40
Benzo(b)fluoranthene	45.2	J1	8.02	ug/kg dry	64.2	10.3	54.4	60-140	37.4	40
Benzo(g,h,i)perylene	29.4	J1	8.02	ug/kg dry	64.2	4.05	39.6	60-140	51.4	40
Benzo(k)fluoranthene	38.1	J1	8.02	ug/kg dry	64.2	<8.02	59.3	60-140	38.9	40
bis(2-Chloroethoxy)methane	62.2		8.02	ug/kg dry	64.2	<8.02	97.0	60-140	20.3	40
bis(2-Chloroethyl) ether	48.4		8.02	ug/kg dry	64.2	<8.02	75.5	60-140	6.32	40
Bis(2-ethylhexyl)phthalate	43.1	J1	8.02	ug/kg dry	64.2	11.2	49.8	60-140	32.3	40
Butyl benzyl phthalate	26.9	J1	8.02	ug/kg dry	64.2	<8.02	41.9	60-140	26.5	40
Chrysene	43.9	J1	8.02	ug/kg dry	64.2	8.71	54.9	60-140	22.3	40
Dibenzo(a,h)anthracene	29.4	J1	8.02	ug/kg dry	64.2	<8.02	45.9	60-140	51.4	40
Diethyl phthalate	39.4		8.02	ug/kg dry	64.2	<8.02	61.4	60-140	7.02	40
Dimethyl phthalate	45.4		8.02	ug/kg dry	64.2	<8.02	70.8	60-140	4.98	40
Di-n-butyl phthalate	22.0	J1	8.02	ug/kg dry	64.2	9.28	19.8	60-140	1.85	40
Di-n-octyl phthalate	28.7	J1	8.02	ug/kg dry	64.2	<8.02	44.7	60-140	55.0	40
Fluoranthene	16.6	J1	8.02	ug/kg dry	64.2	15.1	2.34	60-140	27.9	40
Fluorene	31.1	J1	8.02	ug/kg dry	64.2	<8.02	48.4	60-140	15.7	40
Hexachlorobenzene	25.8	J1	8.02	ug/kg dry	64.2	<8.02	40.2	60-140	39.7	40
Hexachlorobutadiene	36.8	J1	8.02	ug/kg dry	64.2	<8.02	57.3	60-140	7.85	40
Hexachlorocyclopentadiene	18.1	J1	8.02	ug/kg dry	64.2	<8.02	28.2	60-140	46.7	40
Hexachloroethane	30.7	J1	8.02	ug/kg dry	64.2	<8.02	47.8	60-140	6.61	40
Indeno(1,2,3-cd) pyrene	30.4	J1	8.02	ug/kg dry	64.2	<8.02	47.4	60-140	48.8	40
Isophorone	56.2		8.02	ug/kg dry	64.2	<8.02	87.5	60-140	19.6	40
Naphthalene	42.9		8.02	ug/kg dry	64.2	<8.02	66.8	60-140	6.55	40
Nitrobenzene	53.5		8.02	ug/kg dry	64.2	<8.02	83.4	60-140	12.1	40
n-Nitrosodimethylamine	101	J1	8.02	ug/kg dry	321	<8.02	31.6	60-140	75.0	40
n-Nitrosodi-n-propylamine	56.1		8.02	ug/kg dry	64.2	<8.02	87.4	60-140	19.5	40
n-Nitrosodiphenylamine	35.3	J1	8.02	ug/kg dry	64.2	<8.02	55.0	60-140	12.8	40
Pentachlorophenol	64.0	J1	16.0	ug/kg dry	128	<16.0	49.8	60-140	12.2	40
Phenanthrene	38.5	J1	8.02	ug/kg dry	64.2	<8.02	59.9	60-140	16.8	40
Phenol, Total	141		16.0	ug/kg dry	128	12.1	100	60-140	16.1	40
Pyrene	55.2		8.02	ug/kg dry	64.2	14.7	63.1	60-140	9.09	40
Surrogate: 2-Fluorobiphenyl-surr			*51.3*	*ug/kg dry*	*64.2*		*79.9*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*85.3*	*ug/kg dry*	*128*		*66.4*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*66.7*	*ug/kg dry*	*128*		*52.0*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*45.7*	*ug/kg dry*	*64.2*		*71.3*	*60-140*		
Surrogate: Phenol-d5-surr			*104*	*ug/kg dry*	*128*		*81.3*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*31.1*	*ug/kg dry*	*64.2*		*48.5*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511										
Blank (BFH4196-BLK1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	<0.559	U	0.559	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<0.559	U	0.559	ug/L						
1,2-Diphenylhydrazine	<0.559	U	0.559	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<0.559	U	0.559	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<0.559	U	0.559	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<0.559	U	0.559	ug/L						
2,4,6-Trichlorophenol	<1.12	U	1.12	ug/L						
2,4-Dichlorophenol	<0.559	U	0.559	ug/L						
2,4-Dimethylphenol	<1.12	U	1.12	ug/L						
2,4-Dinitrophenol	<4.47	U	4.47	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<0.559	U	0.559	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<0.559	U	0.559	ug/L						
2-Chloronaphthalene	<0.559	U	0.559	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)	<0.559	U	0.559	ug/L						
4-Chloro-3-methylphenol	<1.12	U	1.12	ug/L						
4-Chlorophenyl phenylether	<0.559	U	0.559	ug/L						
4-Nitrophenol	<4.47	U	4.47	ug/L						
Acenaphthene	<0.559	U	0.559	ug/L						
Acenaphthylene	<0.559	U	0.559	ug/L						
Anthracene	<0.559	U	0.559	ug/L						
Benzo(a)anthracene	<0.559	U	0.559	ug/L						
Benzo(a)pyrene	<0.559	U	0.559	ug/L						
Benzo(b)fluoranthene	<0.559	U	0.559	ug/L						
Benzo(g,h,i)perylene	<0.559	U	0.559	ug/L						
Benzo(k)fluoranthene	<0.559	U	0.559	ug/L						
bis(2-Chloroethoxy)methane	<0.559	U	0.559	ug/L						
bis(2-Chloroethyl) ether	<0.559	U	0.559	ug/L						
Bis(2-ethylhexyl)phthalate	0.331	J	0.559	ug/L						
Butyl benzyl phthalate	<0.559	U	0.559	ug/L						
Chrysene	<0.559	U	0.559	ug/L						
Dibenzo(a,h)anthracene	<0.559	U	0.559	ug/L						
Diethyl phthalate	0.619		0.559	ug/L						
Dimethyl phthalate	<0.559	U	0.559	ug/L						
Di-n-butyl phthalate	0.594		0.559	ug/L						
Di-n-octyl phthalate	<0.559	U	0.559	ug/L						
Fluoranthene	<0.559	U	0.559	ug/L						
Fluorene	<0.559	U	0.559	ug/L						
Hexachlorobenzene	<0.559	U	0.559	ug/L						

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
Blank (BFH4196-BLK1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Hexachlorobutadiene	<0.559	U	0.559	ug/L						
Hexachlorocyclopentadiene	<0.559	U	0.559	ug/L						
Hexachloroethane	<0.559	U	0.559	ug/L						
Indeno(1,2,3-cd) pyrene	<0.559	U	0.559	ug/L						
Isophorone	<0.559	U	0.559	ug/L						
Naphthalene	<0.559	U	0.559	ug/L						
Nitrobenzene	<0.559	U	0.559	ug/L						
n-Nitrosodimethylamine	<2.23	U	2.23	ug/L						
n-Nitrosodi-n-propylamine	<0.559	U	0.559	ug/L						
n-Nitrosodiphenylamine	<0.559	U	0.559	ug/L						
Pentachlorophenol	<1.12	U	1.12	ug/L						
Phenanthrene	<0.559	U	0.559	ug/L						
Phenol, Total	1.69		1.12	ug/L						
Pyrene	<0.559	U	0.559	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*10.3*	*ug/L*	*9.93*		*103*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.8*	*ug/L*	*19.9*		*115*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.4*	*ug/L*	*19.9*		*108*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.2*	*ug/L*	*9.93*		*103*	*52-162*		
Surrogate: Phenol-d5-surr			*20.6*	*ug/L*	*19.9*		*104*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.3*	*ug/L*	*9.93*		*104*	*51.9-147*		
Blank (BFH4196-BLK2)					Prepared: 8/31/2022 Analyzed: 9/15/2022					
3,3'-Dichlorobenzidine	<0.559	U	0.559	ug/L						
Benzidine	<0.559	U	0.559	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*11.7*	*ug/L*	*9.93*		*118*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.3*	*ug/L*	*19.9*		*123*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*39.3*	*ug/L*	*19.9*		*198*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr		*S*	*16.3*	*ug/L*	*9.93*		*164*	*52-162*		
Surrogate: Phenol-d5-surr			*22.3*	*ug/L*	*19.9*		*112*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.80*	*ug/L*	*9.93*		*98.6*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
BS BENZ (BFH4196-BS1)					Prepared: 8/31/2022 Analyzed: 9/15/2022					
3,3'-Dichlorobenzidine	6.97		0.561	ug/L	9.98		69.9	22.3-156		
Benzidine	<0.561	J1, U	0.561	ug/L	9.98			9.32-162		
Surrogate: 2-Fluorobiphenyl-surr			*9.87*	*ug/L*	*9.98*		*98.9*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.4*	*ug/L*	*20.0*		*102*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*29.7*	*ug/L*	*20.0*		*149*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*14.3*	*ug/L*	*9.98*		*143*	*52-162*		
Surrogate: Phenol-d5-surr			*19.3*	*ug/L*	*20.0*		*96.6*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.13*	*ug/L*	*9.98*		*81.5*	*51.9-147*		
BS SV (BFH4196-BS2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	8.85		0.562	ug/L	9.99		88.6	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	7.95		0.562	ug/L	9.99		79.6	60-140		
1,2-Diphenylhydrazine	8.52		0.562	ug/L	9.99		85.3	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	7.94		0.562	ug/L	9.99		79.5	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	7.77		0.562	ug/L	9.99		77.8	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.28		0.562	ug/L	9.99		92.9	60-140		
2,4,6-Trichlorophenol	18.1		1.12	ug/L	20.0		90.8	60-140		
2,4-Dichlorophenol	21.2		0.562	ug/L	20.0		106	60-140		
2,4-Dimethylphenol	19.3		1.12	ug/L	20.0		96.8	35.9-153		
2,4-Dinitrophenol	55.1		4.49	ug/L	49.9		110	60-140		
2,4-Dinitrotoluene (2,4-DNT)	9.14		0.562	ug/L	9.99		91.6	60-140		
2,6-Dinitrotoluene (2,6-DNT)	9.43		0.562	ug/L	9.99		94.4	60-140		
2-Chloronaphthalene	9.37		0.562	ug/L	9.99		93.8	60-140		
2-Chlorophenol	21.9		1.12	ug/L	20.0		109	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	19.1		1.12	ug/L	20.0		95.4	60-140		
2-Nitrophenol	21.9		1.12	ug/L	20.0		110	60-140		
4-Bromophenyl phenyl ether (BDE-3)	9.35		0.562	ug/L	9.99		93.7	60-140		
4-Chloro-3-methylphenol	20.2		1.12	ug/L	20.0		101	60-140		
4-Chlorophenyl phenylether	9.58		0.562	ug/L	9.99		96.0	60-140		
4-Nitrophenol	51.6		4.49	ug/L	49.9		103	60-140		
Acenaphthene	9.66		0.562	ug/L	9.99		96.7	60-140		
Acenaphthylene	10.5		0.562	ug/L	9.99		105	60-140		
Anthracene	8.01		0.562	ug/L	9.99		80.2	60-140		
Benzo(a)anthracene	8.95		0.562	ug/L	9.99		89.6	60-140		
Benzo(a)pyrene	8.74		0.562	ug/L	9.99		87.6	60-140		
Benzo(b)fluoranthene	8.33		0.562	ug/L	9.99		83.5	60-140		
Benzo(g,h,i)perylene	8.66		0.562	ug/L	9.99		86.8	60-140		
Benzo(k)fluoranthene	8.73		0.562	ug/L	9.99		87.4	60-140		
bis(2-Chloroethoxy)methane	9.93		0.562	ug/L	9.99		99.5	60-140		
bis(2-Chloroethyl) ether	9.10		0.562	ug/L	9.99		91.1	60-140		
Bis(2-ethylhexyl)phthalate	9.50		0.562	ug/L	9.99		95.2	60-140		
Butyl benzyl phthalate	8.28		0.562	ug/L	9.99		82.9	60-140		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
BS SV (BFH4196-BS2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Chrysene	8.97		0.562	ug/L	9.99		89.8	60-140		
Dibenzo(a,h)anthracene	8.45		0.562	ug/L	9.99		84.7	60-140		
Diethyl phthalate	9.54		0.562	ug/L	9.99		95.6	60-140		
Dimethyl phthalate	8.70		0.562	ug/L	9.99		87.1	60-140		
Di-n-butyl phthalate	8.01		0.562	ug/L	9.99		80.3	60-140		
Di-n-octyl phthalate	8.97		0.562	ug/L	9.99		89.8	60-140		
Fluoranthene	8.29		0.562	ug/L	9.99		83.0	60-140		
Fluorene	9.39		0.562	ug/L	9.99		94.0	60-140		
Hexachlorobenzene	9.18		0.562	ug/L	9.99		91.9	60-140		
Hexachlorobutadiene	6.26		0.562	ug/L	9.99		62.7	60-140		
Hexachlorocyclopentadiene	7.31		0.562	ug/L	9.99		73.3	60-140		
Hexachloroethane	7.09		0.562	ug/L	9.99		71.1	60-140		
Indeno(1,2,3-cd) pyrene	8.29		0.562	ug/L	9.99		83.0	60-140		
Isophorone	9.04		0.562	ug/L	9.99		90.5	60-140		
Naphthalene	8.87		0.562	ug/L	9.99		88.9	60-140		
Nitrobenzene	10.0		0.562	ug/L	9.99		100	60-140		
n-Nitrosodimethylamine	6.05		2.25	ug/L	49.9		12.1	2.5-65.7		
n-Nitrosodi-n-propylamine	9.85		0.562	ug/L	9.99		98.7	60-140		
n-Nitrosodiphenylamine	5.99		0.562	ug/L	9.99		60.0	60-140		
Pentachlorophenol	16.4		1.12	ug/L	20.0		82.2	36.8-149		
Phenanthrene	8.70		0.562	ug/L	9.99		87.1	60-140		
Phenol, Total	21.4		1.12	ug/L	20.0		107	60-140		
Pyrene	8.03		0.562	ug/L	9.99		80.4	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*10.1*	*ug/L*	*9.99*		*101*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.4*	*ug/L*	*20.0*		*122*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.4*	*ug/L*	*20.0*		*107*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.4*	*ug/L*	*9.99*		*104*	*52-162*		
Surrogate: Phenol-d5-surr			*22.0*	*ug/L*	*20.0*		*110*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.1*	*ug/L*	*9.99*		*101*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
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Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
BSD BENZ (BFH4196-BSD1)					Prepared: 8/31/2022 Analyzed: 9/15/2022					
3,3'-Dichlorobenzidine	6.70		0.551	ug/L	9.80		68.4	22.3-156	3.91	40
Benzidine	0.431	J1, J	0.551	ug/L	9.80		4.40	9.32-162	123	40
Surrogate: 2-Fluorobiphenyl-surr			*10.3*	*ug/L*	*9.80*		*105*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.0*	*ug/L*	*19.6*		*102*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*31.8*	*ug/L*	*19.6*		*162*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*14.3*	*ug/L*	*9.80*		*146*	*52-162*		
Surrogate: Phenol-d5-surr			*19.2*	*ug/L*	*19.6*		*97.8*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.07*	*ug/L*	*9.80*		*82.4*	*51.9-147*		
BSD SV (BFH4196-BSD2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	9.84		0.558	ug/L	9.92		99.2	60-140	10.6	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.91		0.558	ug/L	9.92		89.9	60-140	11.4	40
1,2-Diphenylhydrazine	9.27		0.558	ug/L	9.92		93.5	60-140	8.50	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.79		0.558	ug/L	9.92		88.6	60-140	10.2	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.55		0.558	ug/L	9.92		86.3	60-140	9.65	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.1		0.558	ug/L	9.92		101	60-140	8.04	40
2,4,6-Trichlorophenol	21.0		1.12	ug/L	19.8		106	60-140	14.5	40
2,4-Dichlorophenol	22.7		0.558	ug/L	19.8		114	60-140	6.84	40
2,4-Dimethylphenol	21.1		1.12	ug/L	19.8		106	35.9-153	8.66	40
2,4-Dinitrophenol	53.4		4.46	ug/L	49.6		108	60-140	3.23	40
2,4-Dinitrotoluene (2,4-DNT)	9.76		0.558	ug/L	9.92		98.4	60-140	6.52	40
2,6-Dinitrotoluene (2,6-DNT)	10.3		0.558	ug/L	9.92		104	60-140	8.50	40
2-Chloronaphthalene	9.94		0.558	ug/L	9.92		100	60-140	5.91	40
2-Chlorophenol	22.9		1.12	ug/L	19.8		115	60-140	4.50	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	18.4		1.12	ug/L	19.8		93.0	60-140	3.24	40
2-Nitrophenol	23.1		1.12	ug/L	19.8		116	60-140	5.24	40
4-Bromophenyl phenyl ether (BDE-3)	10.1		0.558	ug/L	9.92		101	60-140	7.29	40
4-Chloro-3-methylphenol	22.2		1.12	ug/L	19.8		112	60-140	9.37	40
4-Chlorophenyl phenylether	10.3		0.558	ug/L	9.92		104	60-140	7.52	40
4-Nitrophenol	45.0		4.46	ug/L	49.6		90.8	60-140	13.7	40
Acenaphthene	10.4		0.558	ug/L	9.92		105	60-140	7.57	40
Acenaphthylene	11.3		0.558	ug/L	9.92		114	60-140	7.11	40
Anthracene	8.60		0.558	ug/L	9.92		86.8	60-140	7.12	40
Benzo(a)anthracene	9.37		0.558	ug/L	9.92		94.5	60-140	4.63	40
Benzo(a)pyrene	9.34		0.558	ug/L	9.92		94.2	60-140	6.63	40
Benzo(b)fluoranthene	8.78		0.558	ug/L	9.92		88.6	60-140	5.25	40
Benzo(g,h,i)perylene	9.03		0.558	ug/L	9.92		91.1	60-140	4.12	40
Benzo(k)fluoranthene	9.12		0.558	ug/L	9.92		92.0	60-140	4.36	40
bis(2-Chloroethoxy)methane	11.0		0.558	ug/L	9.92		111	60-140	10.2	40
bis(2-Chloroethyl) ether	9.68		0.558	ug/L	9.92		97.6	60-140	6.24	40
Bis(2-ethylhexyl)phthalate	10.2		0.558	ug/L	9.92		102	60-140	6.66	40
Butyl benzyl phthalate	8.95		0.558	ug/L	9.92		90.2	60-140	7.73	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
BSD SV (BFH4196-BSD2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Chrysene	9.49		0.558	ug/L	9.92		95.7	60-140	5.66	40
Dibenzo(a,h)anthracene	8.98		0.558	ug/L	9.92		90.5	60-140	6.01	40
Diethyl phthalate	10.4		0.558	ug/L	9.92		105	60-140	8.63	40
Dimethyl phthalate	9.40		0.558	ug/L	9.92		94.8	60-140	7.81	40
Di-n-butyl phthalate	8.92		0.558	ug/L	9.92		90.0	60-140	10.7	40
Di-n-octyl phthalate	9.66		0.558	ug/L	9.92		97.4	60-140	7.45	40
Fluoranthene	9.02		0.558	ug/L	9.92		91.0	60-140	8.45	40
Fluorene	10.2		0.558	ug/L	9.92		103	60-140	7.97	40
Hexachlorobenzene	9.93		0.558	ug/L	9.92		100	60-140	7.82	40
Hexachlorobutadiene	7.01		0.558	ug/L	9.92		70.7	60-140	11.3	40
Hexachlorocyclopentadiene	7.49		0.558	ug/L	9.92		75.5	60-140	2.31	40
Hexachloroethane	8.01		0.558	ug/L	9.92		80.8	60-140	12.1	40
Indeno(1,2,3-cd) pyrene	8.98		0.558	ug/L	9.92		90.5	60-140	7.95	40
Isophorone	9.74		0.558	ug/L	9.92		98.3	60-140	7.49	40
Naphthalene	9.52		0.558	ug/L	9.92		96.0	60-140	7.07	40
Nitrobenzene	10.8		0.558	ug/L	9.92		109	60-140	8.16	40
n-Nitrosodimethylamine	5.83		2.23	ug/L	49.6		11.8	2.5-65.7	3.68	40
n-Nitrosodi-n-propylamine	10.6		0.558	ug/L	9.92		107	60-140	7.32	40
n-Nitrosodiphenylamine	6.24		0.558	ug/L	9.92		62.9	60-140	4.10	40
Pentachlorophenol	17.7		1.12	ug/L	19.8		89.2	36.8-149	7.39	40
Phenanthrene	9.36		0.558	ug/L	9.92		94.4	60-140	7.38	40
Phenol, Total	22.9		1.12	ug/L	19.8		116	60-140	6.71	40
Pyrene	8.85		0.558	ug/L	9.92		89.3	60-140	9.77	40
Surrogate: 2-Fluorobiphenyl-surr			*10.5*	*ug/L*	*9.92*		*106*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*26.0*	*ug/L*	*19.8*		*131*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*22.4*	*ug/L*	*19.8*		*113*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.3*	*ug/L*	*9.92*		*114*	*52-162*		
Surrogate: Phenol-d5-surr			*23.2*	*ug/L*	*19.8*		*117*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.6*	*ug/L*	*9.92*		*107*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
BFH3979-BLK1 (BFH4196-LBK2)					Prepared: 8/31/2022 Analyzed: 9/16/2022					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L						
Benzidine	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*13.6*	*ug/L*	*10.0*		*136*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*26.0*	*ug/L*	*20.0*		*130*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.8*	*ug/L*	*20.0*		*89.1*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*15.0*	*ug/L*	*10.0*		*150*	*52-162*		
Surrogate: Phenol-d5-surr			*20.5*	*ug/L*	*20.0*		*103*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.00*	*ug/L*	*10.0*		*80.0*	*51.9-147*		
MDL BENZ (BFH4196-MRL1)					Prepared: 8/31/2022 Analyzed: 9/15/2022					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L	0.500					
Benzidine	<0.562	J1, U	0.562	ug/L	0.500					
Surrogate: 2-Fluorobiphenyl-surr			*10.2*	*ug/L*	*10.0*		*102*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.1*	*ug/L*	*20.0*		*105*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr		*S*	*33.6*	*ug/L*	*20.0*		*168*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*14.8*	*ug/L*	*10.0*		*148*	*52-162*		
Surrogate: Phenol-d5-surr			*20.0*	*ug/L*	*20.0*		*100*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.04*	*ug/L*	*10.0*		*80.4*	*51.9-147*		
MDL SV (BFH4196-MRL2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	0.592		0.561	ug/L	0.498		119			
1,2-Dichlorobenzene (o-Dichlorobenzene)	0.583		0.561	ug/L	0.498		117			
1,2-Diphenylhydrazine	0.726		0.561	ug/L	0.498		146			
1,3-Dichlorobenzene (m-Dichlorobenzene)	0.613		0.561	ug/L	0.498		123			
1,4-Dichlorobenzene (p-Dichlorobenzene)	0.541	J	0.561	ug/L	0.498		109			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	0.589		0.561	ug/L	0.498		118			
2,4,6-Trichlorophenol	1.33		1.12	ug/L	0.997		133			
2,4-Dichlorophenol	1.39		0.561	ug/L	0.997		139			
2,4-Dimethylphenol	1.36		1.12	ug/L	0.997		136			
2,4-Dinitrophenol	5.40		4.48	ug/L	2.49		217			
2,4-Dinitrotoluene (2,4-DNT)	0.573		0.561	ug/L	0.498		115			
2,6-Dinitrotoluene (2,6-DNT)	0.607		0.561	ug/L	0.498		122			
2-Chloronaphthalene	0.636		0.561	ug/L	0.498		128			
2-Chlorophenol	1.46		1.12	ug/L	0.997		146			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	1.35		1.12	ug/L	0.997		136			
2-Nitrophenol	1.44		1.12	ug/L	0.997		144			
4-Bromophenyl phenyl ether (BDE-3)	0.595		0.561	ug/L	0.498		119			
4-Chloro-3-methylphenol	1.39		1.12	ug/L	0.997		139			
4-Chlorophenyl phenylether	0.572		0.561	ug/L	0.498		115			
4-Nitrophenol	4.56		4.48	ug/L	2.49		183			
Acenaphthene	0.532	J	0.561	ug/L	0.498		107			

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
MDL SV (BFH4196-MRL2)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Acenaphthylene	0.645		0.561	ug/L	0.498		129			
Anthracene	0.471	J	0.561	ug/L	0.498		94.6			
Benzo(a)anthracene	0.473	J	0.561	ug/L	0.498		95.0			
Benzo(a)pyrene	0.463	J	0.561	ug/L	0.498		93.0			
Benzo(b)fluoranthene	0.469	J	0.561	ug/L	0.498		94.1			
Benzo(g,h,i)perylene	0.465	J	0.561	ug/L	0.498		93.4			
Benzo(k)fluoranthene	0.440	J	0.561	ug/L	0.498		88.4			
bis(2-Chloroethoxy)methane	0.677		0.561	ug/L	0.498		136			
bis(2-Chloroethyl) ether	0.628		0.561	ug/L	0.498		126			
Bis(2-ethylhexyl)phthalate	0.777		0.561	ug/L	0.498		156			
Butyl benzyl phthalate	0.480	J	0.561	ug/L	0.498		96.3			
Chrysene	0.451	J	0.561	ug/L	0.498		90.5			
Dibenzo(a,h)anthracene	0.483	J	0.561	ug/L	0.498		96.9			
Diethyl phthalate	1.10		0.561	ug/L	0.498		220			
Dimethyl phthalate	0.638		0.561	ug/L	0.498		128			
Di-n-butyl phthalate	0.926		0.561	ug/L	0.498		186			
Di-n-octyl phthalate	0.552	J	0.561	ug/L	0.498		111			
Fluoranthene	0.466	J	0.561	ug/L	0.498		93.4			
Fluorene	0.646		0.561	ug/L	0.498		130			
Hexachlorobenzene	0.506	J	0.561	ug/L	0.498		102			
Hexachlorobutadiene	0.442	J	0.561	ug/L	0.498		88.7			
Hexachlorocyclopentadiene	0.508	J	0.561	ug/L	0.498		102			
Hexachloroethane	0.344	J	0.561	ug/L	0.498		69.1			
Indeno(1,2,3-cd) pyrene	0.470	J	0.561	ug/L	0.498		94.2			
Isophorone	0.613		0.561	ug/L	0.498		123			
Naphthalene	0.555	J	0.561	ug/L	0.498		111			
Nitrobenzene	0.679		0.561	ug/L	0.498		136			
n-Nitrosodimethylamine	1.05	J1, J	2.24	ug/L	2.49		42.3	50-150		
n-Nitrosodi-n-propylamine	0.669		0.561	ug/L	0.498		134			
n-Nitrosodiphenylamine	0.293	J	0.561	ug/L	0.498		58.8			
Pentachlorophenol	1.19		1.12	ug/L	0.997		120			
Phenanthrene	0.566		0.561	ug/L	0.498		114			
Phenol, Total	2.64		1.12	ug/L	0.997		264			
Pyrene	0.475	J	0.561	ug/L	0.498		95.3			
Surrogate: 2-Fluorobiphenyl-surr			*11.8*	*ug/L*	*9.97*		*118*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*26.0*	*ug/L*	*19.9*		*130*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*22.7*	*ug/L*	*19.9*		*114*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.2*	*ug/L*	*9.97*		*112*	*52-162*		
Surrogate: Phenol-d5-surr			*22.1*	*ug/L*	*19.9*		*111*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.9*	*ug/L*	*9.97*		*109*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
22H3034-01 MS (BFH4196-MS1)			**Source: 22H3034-01**		Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	9.35		0.562	ug/L	10.0	<0.562	93.5	35.3-142		
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.50		0.562	ug/L	10.0	<0.562	85.0	31.4-142		
1,2-Diphenylhydrazine	9.17		0.562	ug/L	10.0	<0.562	91.7	48.9-156		
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.33		0.562	ug/L	10.0	<0.562	83.3	30.5-135		
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.18		0.562	ug/L	10.0	<0.562	81.8	37.2-133		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.50		0.562	ug/L	10.0	<0.562	95.0	41.7-151		
2,4,6-Trichlorophenol	20.9		1.12	ug/L	20.0	<1.12	105	34.7-143		
2,4-Dichlorophenol	21.8		0.562	ug/L	20.0	<0.562	109	42.7-158		
2,4-Dimethylphenol	20.6		1.12	ug/L	20.0	<1.12	103	38.4-170		
2,4-Dinitrophenol	53.8		4.50	ug/L	50.0	<4.50	108	60-140		
2,4-Dinitrotoluene (2,4-DNT)	9.42		0.562	ug/L	10.0	<0.562	94.2	50.3-144		
2,6-Dinitrotoluene (2,6-DNT)	10.0		0.562	ug/L	10.0	<0.562	100	43.7-157		
2-Chloronaphthalene	9.79		0.562	ug/L	10.0	<0.562	97.9	27.4-158		
2-Chlorophenol	20.6		1.12	ug/L	20.0	<1.12	103	49.2-150		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	19.2		1.12	ug/L	20.0	<1.12	95.9	41.9-153		
2-Nitrophenol	22.3		1.12	ug/L	20.0	<1.12	111	51.9-150		
4-Bromophenyl phenyl ether (BDE-3)	9.84		0.562	ug/L	10.0	<0.562	98.4	45.2-146		
4-Chloro-3-methylphenol	21.2		1.12	ug/L	20.0	<1.12	106	46.9-147		
4-Chlorophenyl phenylether	10.3		0.562	ug/L	10.0	<0.562	103	44.5-143		
4-Nitrophenol	49.6		4.50	ug/L	50.0	<4.50	99.2	2-173		
Acenaphthene	10.2		0.562	ug/L	10.0	<0.562	102	47.3-149		
Acenaphthylene	11.4		0.562	ug/L	10.0	<0.562	114	56.5-173		
Anthracene	9.47		0.562	ug/L	10.0	<0.562	94.7	49.7-160		
Benzo(a)anthracene	8.95		0.562	ug/L	10.0	<0.562	89.5	41.7-151		
Benzo(a)pyrene	7.74		0.562	ug/L	10.0	<0.562	77.4	45.4-133		
Benzo(b)fluoranthene	8.43		0.562	ug/L	10.0	<0.562	84.3	36.9-152		
Benzo(g,h,i)perylene	8.77		0.562	ug/L	10.0	<0.562	87.7	37.9-152		
Benzo(k)fluoranthene	8.67		0.562	ug/L	10.0	<0.562	86.7	31.6-158		
bis(2-Chloroethoxy)methane	10.2		0.562	ug/L	10.0	<0.562	102	40.1-151		
bis(2-Chloroethyl) ether	9.44		0.562	ug/L	10.0	<0.562	94.4	45.9-163		
Bis(2-ethylhexyl)phthalate	10.2		0.562	ug/L	10.0	0.325	98.6	38.3-135		
Butyl benzyl phthalate	8.59		0.562	ug/L	10.0	<0.562	85.9	41.1-148		
Chrysene	9.17		0.562	ug/L	10.0	<0.562	91.7	51-147		
Dibenzo(a,h)anthracene	8.68		0.562	ug/L	10.0	<0.562	86.8	27.5-156		
Diethyl phthalate	10.1		0.562	ug/L	10.0	0.439	96.3	53.4-146		
Dimethyl phthalate	9.08		0.562	ug/L	10.0	<0.562	90.8	53-151		
Di-n-butyl phthalate	8.41		0.562	ug/L	10.0	0.459	79.5	25.4-168		
Di-n-octyl phthalate	9.66		0.562	ug/L	10.0	<0.562	96.6	39.2-123		
Fluoranthene	8.66		0.562	ug/L	10.0	<0.562	86.6	45.3-156		
Fluorene	9.98		0.562	ug/L	10.0	<0.562	99.8	56.3-145		
Hexachlorobenzene	9.74		0.562	ug/L	10.0	<0.562	97.4	56.1-137		
Hexachlorobutadiene	7.80		0.562	ug/L	10.0	<0.562	78.0	33.1-110		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
22H3034-01 MS (BFH4196-MS1)		**Source: 22H3034-01**			Prepared: 8/31/2022 Analyzed: 9/8/2022					
Hexachlorocyclopentadiene	8.18		0.562	ug/L	10.0	<0.562	81.8	2-179		
Hexachloroethane	7.92		0.562	ug/L	10.0	<0.562	79.2	36.2-106		
Indeno(1,2,3-cd) pyrene	8.36		0.562	ug/L	10.0	<0.562	83.6	33.4-153		
Isophorone	9.12		0.562	ug/L	10.0	<0.562	91.2	43.3-154		
Naphthalene	9.36		0.562	ug/L	10.0	<0.562	93.6	45.1-153		
Nitrobenzene	10.3		0.562	ug/L	10.0	<0.562	103	54.9-156		
n-Nitrosodimethylamine	6.01		2.25	ug/L	50.0	<2.25	12.0	2-56.4		
n-Nitrosodi-n-propylamine	9.72		0.562	ug/L	10.0	<0.562	97.2	38.3-160		
n-Nitrosodiphenylamine	6.15		0.562	ug/L	10.0	<0.562	61.5	38.1-163		
Pentachlorophenol	17.3		1.12	ug/L	20.0	<1.12	86.6	42.2-151		
Phenanthrene	9.09		0.562	ug/L	10.0	<0.562	90.9	45.3-165		
Phenol, Total	21.6		1.12	ug/L	20.0	1.48	101	39.8-164		
Pyrene	8.72		0.562	ug/L	10.0	<0.562	87.2	46.3-149		
Surrogate: 2-Fluorobiphenyl-surr			*10.5*	*ug/L*	*10.0*		*105*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.4*	*ug/L*	*20.0*		*122*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.8*	*ug/L*	*20.0*		*109*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.7*	*ug/L*	*10.0*		*107*	*52-162*		
Surrogate: Phenol-d5-surr			*22.2*	*ug/L*	*20.0*		*111*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.3*	*ug/L*	*10.0*		*103*	*51.9-147*		
22H3034-01 MSD (BFH4196-MSD1)		**Source: 22H3034-01**			Prepared: 8/31/2022 Analyzed: 9/8/2022					
1,2,4-Trichlorobenzene	9.24		0.562	ug/L	10.0	<0.562	92.4	35.3-142	1.25	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.40		0.562	ug/L	10.0	<0.562	84.0	31.4-142	1.23	40
1,2-Diphenylhydrazine	9.58		0.562	ug/L	10.0	<0.562	95.8	48.9-156	4.36	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.15		0.562	ug/L	10.0	<0.562	81.5	30.5-135	2.20	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.04		0.562	ug/L	10.0	<0.562	80.4	37.2-133	1.62	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.65		0.562	ug/L	10.0	<0.562	96.5	41.7-151	1.54	40
2,4,6-Trichlorophenol	21.2		1.12	ug/L	20.0	<1.12	106	34.7-143	1.04	40
2,4-Dichlorophenol	21.1		0.562	ug/L	20.0	<0.562	106	42.7-158	3.28	40
2,4-Dimethylphenol	20.0		1.12	ug/L	20.0	<1.12	100	38.4-170	3.02	40
2,4-Dinitrophenol	51.4		4.50	ug/L	50.0	<4.50	103	60-140	4.43	40
2,4-Dinitrotoluene (2,4-DNT)	9.37		0.562	ug/L	10.0	<0.562	93.7	50.3-144	0.622	40
2,6-Dinitrotoluene (2,6-DNT)	9.72		0.562	ug/L	10.0	<0.562	97.2	43.7-157	2.95	40
2-Chloronaphthalene	9.67		0.562	ug/L	10.0	<0.562	96.7	27.4-158	1.26	40
2-Chlorophenol	20.6		1.12	ug/L	20.0	<1.12	103	49.2-150	0.205	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	18.8		1.12	ug/L	20.0	<1.12	93.8	41.9-153	2.27	40
2-Nitrophenol	22.4		1.12	ug/L	20.0	<1.12	112	51.9-150	0.684	40
4-Bromophenyl phenyl ether (BDE-3)	9.82		0.562	ug/L	10.0	<0.562	98.2	45.2-146	0.252	40
4-Chloro-3-methylphenol	20.5		1.12	ug/L	20.0	<1.12	102	46.9-147	3.47	40
4-Chlorophenyl phenylether	10.3		0.562	ug/L	10.0	<0.562	103	44.5-143	0.0390	40
4-Nitrophenol	46.5		4.50	ug/L	50.0	<4.50	92.9	2-173	6.52	40
Acenaphthene	10.3		0.562	ug/L	10.0	<0.562	103	47.3-149	0.309	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFH4196 - SW-3511 (Continued)										
22H3034-01 MSD (BFH4196-MSD1)		**Source: 22H3034-01**		Prepared: 8/31/2022 Analyzed: 9/8/2022						
Acenaphthylene	11.4		0.562	ug/L	10.0	<0.562	114	56.5-173	0.0463	40
Anthracene	9.59		0.562	ug/L	10.0	<0.562	95.9	49.7-160	1.27	40
Benzo(a)anthracene	8.82		0.562	ug/L	10.0	<0.562	88.2	41.7-151	1.48	40
Benzo(a)pyrene	8.14		0.562	ug/L	10.0	<0.562	81.4	45.4-133	5.04	40
Benzo(b)fluoranthene	8.09		0.562	ug/L	10.0	<0.562	80.9	36.9-152	4.18	40
Benzo(g,h,i)perylene	8.25		0.562	ug/L	10.0	<0.562	82.5	37.9-152	6.10	40
Benzo(k)fluoranthene	8.31		0.562	ug/L	10.0	<0.562	83.1	31.6-158	4.28	40
bis(2-Chloroethoxy)methane	10.4		0.562	ug/L	10.0	<0.562	104	40.1-151	1.04	40
bis(2-Chloroethyl) ether	9.28		0.562	ug/L	10.0	<0.562	92.8	45.9-163	1.79	40
Bis(2-ethylhexyl)phthalate	10.7		0.562	ug/L	10.0	0.325	103	38.3-135	4.59	40
Butyl benzyl phthalate	8.64		0.562	ug/L	10.0	<0.562	86.4	41.1-148	0.487	40
Chrysene	9.10		0.562	ug/L	10.0	<0.562	91.0	51-147	0.797	40
Dibenzo(a,h)anthracene	8.03		0.562	ug/L	10.0	<0.562	80.3	27.5-156	7.85	40
Diethyl phthalate	10.3		0.562	ug/L	10.0	0.439	98.3	53.4-146	1.99	40
Dimethyl phthalate	8.89		0.562	ug/L	10.0	<0.562	88.9	53-151	2.14	40
Di-n-butyl phthalate	8.57		0.562	ug/L	10.0	0.459	81.1	25.4-168	1.90	40
Di-n-octyl phthalate	10.2		0.562	ug/L	10.0	<0.562	102	39.2-123	5.13	40
Fluoranthene	8.60		0.562	ug/L	10.0	<0.562	86.0	45.3-156	0.660	40
Fluorene	10.2		0.562	ug/L	10.0	<0.562	102	56.3-145	1.85	40
Hexachlorobenzene	9.84		0.562	ug/L	10.0	<0.562	98.4	56.1-137	1.03	40
Hexachlorobutadiene	7.15		0.562	ug/L	10.0	<0.562	71.5	33.1-110	8.78	40
Hexachlorocyclopentadiene	7.45		0.562	ug/L	10.0	<0.562	74.5	2-179	9.43	40
Hexachloroethane	7.51		0.562	ug/L	10.0	<0.562	75.1	36.2-106	5.35	40
Indeno(1,2,3-cd) pyrene	7.98		0.562	ug/L	10.0	<0.562	79.8	33.4-153	4.65	40
Isophorone	9.15		0.562	ug/L	10.0	<0.562	91.5	43.3-154	0.331	40
Naphthalene	9.24		0.562	ug/L	10.0	<0.562	92.4	45.1-153	1.27	40
Nitrobenzene	10.3		0.562	ug/L	10.0	<0.562	103	54.9-156	0.259	40
n-Nitrosodimethylamine	5.89		2.25	ug/L	50.0	<2.25	11.8	2-56.4	1.98	40
n-Nitrosodi-n-propylamine	10.1		0.562	ug/L	10.0	<0.562	101	38.3-160	4.19	40
n-Nitrosodiphenylamine	6.00		0.562	ug/L	10.0	<0.562	60.0	38.1-163	2.52	40
Pentachlorophenol	17.4		1.12	ug/L	20.0	<1.12	87.1	42.2-151	0.469	40
Phenanthrene	9.22		0.562	ug/L	10.0	<0.562	92.2	45.3-165	1.41	40
Phenol, Total	21.5		1.12	ug/L	20.0	1.48	100	39.8-164	0.278	40
Pyrene	8.72		0.562	ug/L	10.0	<0.562	87.2	46.3-149	0.0877	40
Surrogate: 2-Fluorobiphenyl-surr			*10.4*	*ug/L*	*10.0*		*104*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.8*	*ug/L*	*20.0*		*124*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*21.7*	*ug/L*	*20.0*		*109*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.6*	*ug/L*	*10.0*		*106*	*52-162*		
Surrogate: Phenol-d5-surr			*21.8*	*ug/L*	*20.0*		*109*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*10.1*	*ug/L*	*10.0*		*101*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570										
Blank (BFI0002-BLK1)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
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	1.60	J	2.50	ug/kg wet						
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	2.92		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						

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
Blank (BFI0002-BLK1)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
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			*16.8*	*ug/kg wet*	*20.0*		*83.8*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*37.2*	*ug/kg wet*	*40.0*		*93.0*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.7*	*ug/kg wet*	*40.0*		*96.7*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.1*	*ug/kg wet*	*20.0*		*90.3*	*60-140*		
Surrogate: Phenol-d5-surr			*34.0*	*ug/kg wet*	*40.0*		*85.1*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*20.9*	*ug/kg wet*	*20.0*		*104*	*60-140*		
Blank (BFI0002-BLK2)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet						
Benzidine	<2.50	U	2.50	ug/kg wet						
Surrogate: 2-Fluorobiphenyl-surr			*16.2*	*ug/kg wet*	*20.0*		*81.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*31.4*	*ug/kg wet*	*40.0*		*78.5*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*32.5*	*ug/kg wet*	*40.0*		*81.3*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*24.1*	*ug/kg wet*	*20.0*		*120*	*60-140*		
Surrogate: Phenol-d5-surr			*30.2*	*ug/kg wet*	*40.0*		*75.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*13.7*	*ug/kg wet*	*20.0*		*68.6*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
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: BFI0002 - SW-3570 (Continued)										
BENZ LCS (BFI0002-BS1)					Prepared: 9/1/2022 Analyzed: 9/18/2022					
3,3'-Dichlorobenzidine	17.5		2.50	ug/kg wet	20.0		87.6	60-140		
Benzidine	3.82	J1	2.50	ug/kg wet	20.0		19.1	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*15.9*	*ug/kg wet*	*20.0*		*79.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*32.3*	*ug/kg wet*	*40.0*		*80.7*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*46.0*	*ug/kg wet*	*40.0*		*115*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*22.3*	*ug/kg wet*	*20.0*		*111*	*60-140*		
Surrogate: Phenol-d5-surr			*38.0*	*ug/kg wet*	*40.0*		*95.1*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*17.7*	*ug/kg wet*	*20.0*		*88.5*	*60-140*		
LCS (BFI0002-BS2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
1,2,4-Trichlorobenzene	13.0		2.50	ug/kg wet	20.0		65.1	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.6		2.50	ug/kg wet	20.0		63.2	60-140		
1,2-Diphenylhydrazine	18.2		2.50	ug/kg wet	20.0		90.9	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.3		2.50	ug/kg wet	20.0		61.5	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.4		2.50	ug/kg wet	20.0		62.2	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.7		2.50	ug/kg wet	20.0		78.5	60-140		
2,4,6-Trichlorophenol	40.9		5.00	ug/kg wet	40.0		102	60-140		
2,4-Dichlorophenol	40.0		5.00	ug/kg wet	40.0		100	60-140		
2,4-Dimethylphenol	36.9		5.00	ug/kg wet	40.0		92.3	60-140		
2,4-Dinitrophenol	42.6		5.00	ug/kg wet	100		42.6	10-50.4		
2,4-Dinitrotoluene (2,4-DNT)	16.8		2.50	ug/kg wet	20.0		84.0	60-140		
2,6-Dinitrotoluene (2,6-DNT)	17.8		2.50	ug/kg wet	20.0		88.8	60-140		
2-Chloronaphthalene	17.9		2.50	ug/kg wet	20.0		89.3	60-140		
2-Chlorophenol	29.3		5.00	ug/kg wet	40.0		73.2	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	29.1		20.0	ug/kg wet	40.0		72.9	60-140		
2-Nitrophenol	34.9		5.00	ug/kg wet	40.0		87.3	60-140		
4-Bromophenyl phenyl ether (BDE-3)	18.3		2.50	ug/kg wet	20.0		91.4	60-140		
4-Chloro-3-methylphenol	38.4		5.00	ug/kg wet	40.0		96.1	60-140		
4-Chlorophenyl phenylether	18.4		2.50	ug/kg wet	20.0		92.0	60-140		
4-Nitrophenol	86.6		2.50	ug/kg wet	100		86.6	60-140		
Acenaphthene	17.9		2.50	ug/kg wet	20.0		89.3	60-140		
Acenaphthylene	20.6		2.50	ug/kg wet	20.0		103	60-140		
Anthracene	18.8		2.50	ug/kg wet	20.0		94.0	60-140		
Benzo(a)anthracene	18.9		2.50	ug/kg wet	20.0		94.5	60-140		
Benzo(a)pyrene	20.2		2.50	ug/kg wet	20.0		101	60-140		
Benzo(b)fluoranthene	19.1		2.50	ug/kg wet	20.0		95.7	60-140		
Benzo(g,h,i)perylene	18.7		2.50	ug/kg wet	20.0		93.4	60-140		
Benzo(k)fluoranthene	19.9		2.50	ug/kg wet	20.0		99.6	60-140		
bis(2-Chloroethoxy)methane	15.2		2.50	ug/kg wet	20.0		76.0	60-140		
bis(2-Chloroethyl) ether	17.5		2.50	ug/kg wet	20.0		87.5	60-140		
Bis(2-ethylhexyl)phthalate	22.0		2.50	ug/kg wet	20.0		110	60-140		
Butyl benzyl phthalate	17.8		2.50	ug/kg wet	20.0		89.1	60-140		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
LCS (BFI0002-BS2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
Chrysene	18.1		2.50	ug/kg wet	20.0		90.5	60-140		
Dibenzo(a,h)anthracene	19.4		2.50	ug/kg wet	20.0		97.2	60-140		
Diethyl phthalate	18.5		2.50	ug/kg wet	20.0		92.6	60-140		
Dimethyl phthalate	17.3		2.50	ug/kg wet	20.0		86.3	60-140		
Di-n-butyl phthalate	18.0		2.50	ug/kg wet	20.0		90.2	60-140		
Di-n-octyl phthalate	20.8		2.50	ug/kg wet	20.0		104	60-140		
Fluoranthene	17.4		2.50	ug/kg wet	20.0		86.8	60-140		
Fluorene	19.0		2.50	ug/kg wet	20.0		95.1	60-140		
Hexachlorobenzene	18.2		2.50	ug/kg wet	20.0		90.9	60-140		
Hexachlorobutadiene	12.6		2.50	ug/kg wet	20.0		63.0	60-140		
Hexachlorocyclopentadiene	14.3		2.50	ug/kg wet	20.0		71.4	60-140		
Hexachloroethane	12.1		2.50	ug/kg wet	20.0		60.4	60-140		
Indeno(1,2,3-cd) pyrene	18.9		2.50	ug/kg wet	20.0		94.6	60-140		
Isophorone	14.1		2.50	ug/kg wet	20.0		70.3	60-140		
Naphthalene	16.2		2.50	ug/kg wet	20.0		81.0	60-140		
Nitrobenzene	15.6		2.50	ug/kg wet	20.0		78.1	60-140		
n-Nitrosodimethylamine	79.5		2.50	ug/kg wet	100		79.5	60-140		
n-Nitrosodi-n-propylamine	16.3		2.50	ug/kg wet	20.0		81.4	60-140		
n-Nitrosodiphenylamine	14.4		2.50	ug/kg wet	20.0		72.2	60-140		
Pentachlorophenol	34.6		5.00	ug/kg wet	40.0		86.6	60-140		
Phenanthrene	18.3		2.50	ug/kg wet	20.0		91.5	60-140		
Phenol, Total	35.9		5.00	ug/kg wet	40.0		89.8	60-140		
Pyrene	17.1		2.50	ug/kg wet	20.0		85.7	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*16.1*	*ug/kg wet*	*20.0*		*80.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*39.5*	*ug/kg wet*	*40.0*		*98.9*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.7*	*ug/kg wet*	*40.0*		*96.9*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.9*	*ug/kg wet*	*20.0*		*89.4*	*60-140*		
Surrogate: Phenol-d5-surr			*35.4*	*ug/kg wet*	*40.0*		*88.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.3*	*ug/kg wet*	*20.0*		*96.5*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
BENZ LCSD (BFI0002-BSD1)					Prepared: 9/1/2022 Analyzed: 9/18/2022					
3,3'-Dichlorobenzidine	21.2		2.50	ug/kg wet	20.0		106	60-140	18.9	40
Benzidine	2.26	J1, J	2.50	ug/kg wet	20.0		11.3	60-140	51.5	40
Surrogate: 2-Fluorobiphenyl-surr			*16.9*	*ug/kg wet*	*20.0*		*84.6*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*40.5*	*ug/kg wet*	*40.0*		*101*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*48.8*	*ug/kg wet*	*40.0*		*122*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*21.4*	*ug/kg wet*	*20.0*		*107*	*60-140*		
Surrogate: Phenol-d5-surr			*39.0*	*ug/kg wet*	*40.0*		*97.4*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*23.7*	*ug/kg wet*	*20.0*		*119*	*60-140*		
LCS Dup (BFI0002-BSD2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
1,2,4-Trichlorobenzene	12.9		2.50	ug/kg wet	20.0		64.4	60-140	1.06	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	12.4		2.50	ug/kg wet	20.0		62.0	60-140	1.85	40
1,2-Diphenylhydrazine	18.9		2.50	ug/kg wet	20.0		94.4	60-140	3.77	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	12.9		2.50	ug/kg wet	20.0		64.3	60-140	4.57	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	12.3		2.50	ug/kg wet	20.0		61.5	60-140	1.16	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	15.4		2.50	ug/kg wet	20.0		76.8	60-140	2.20	40
2,4,6-Trichlorophenol	41.1		5.00	ug/kg wet	40.0		103	60-140	0.427	40
2,4-Dichlorophenol	38.7		5.00	ug/kg wet	40.0		96.7	60-140	3.45	40
2,4-Dimethylphenol	35.2		5.00	ug/kg wet	40.0		88.0	60-140	4.76	40
2,4-Dinitrophenol	39.6		5.00	ug/kg wet	100		39.6	10-50.4	7.31	40
2,4-Dinitrotoluene (2,4-DNT)	17.3		2.50	ug/kg wet	20.0		86.5	60-140	2.86	40
2,6-Dinitrotoluene (2,6-DNT)	17.5		2.50	ug/kg wet	20.0		87.4	60-140	1.59	40
2-Chloronaphthalene	17.9		2.50	ug/kg wet	20.0		89.7	60-140	0.511	40
2-Chlorophenol	30.3		5.00	ug/kg wet	40.0		75.7	60-140	3.30	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	28.3		20.0	ug/kg wet	40.0		70.8	60-140	2.89	40
2-Nitrophenol	35.5		5.00	ug/kg wet	40.0		88.8	60-140	1.66	40
4-Bromophenyl phenyl ether (BDE-3)	18.6		2.50	ug/kg wet	20.0		93.2	60-140	1.94	40
4-Chloro-3-methylphenol	38.2		5.00	ug/kg wet	40.0		95.5	60-140	0.669	40
4-Chlorophenyl phenylether	18.3		2.50	ug/kg wet	20.0		91.7	60-140	0.330	40
4-Nitrophenol	90.3		2.50	ug/kg wet	100		90.3	60-140	4.14	40
Acenaphthene	17.5		2.50	ug/kg wet	20.0		87.5	60-140	2.02	40
Acenaphthylene	20.2		2.50	ug/kg wet	20.0		101	60-140	1.77	40
Anthracene	18.6		2.50	ug/kg wet	20.0		92.9	60-140	1.26	40
Benzo(a)anthracene	18.8		2.50	ug/kg wet	20.0		93.9	60-140	0.670	40
Benzo(a)pyrene	19.8		2.50	ug/kg wet	20.0		99.0	60-140	1.86	40
Benzo(b)fluoranthene	19.1		2.50	ug/kg wet	20.0		95.6	60-140	0.142	40
Benzo(g,h,i)perylene	18.2		2.50	ug/kg wet	20.0		91.2	60-140	2.42	40
Benzo(k)fluoranthene	19.5		2.50	ug/kg wet	20.0		97.5	60-140	2.15	40
bis(2-Chloroethoxy)methane	15.5		2.50	ug/kg wet	20.0		77.4	60-140	1.81	40
bis(2-Chloroethyl) ether	17.3		2.50	ug/kg wet	20.0		86.6	60-140	0.958	40
Bis(2-ethylhexyl)phthalate	21.8		2.50	ug/kg wet	20.0		109	60-140	1.28	40
Butyl benzyl phthalate	17.8		2.50	ug/kg wet	20.0		88.9	60-140	0.233	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
LCS Dup (BFI0002-BSD2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
Chrysene	17.8		2.50	ug/kg wet	20.0		88.8	60-140	1.84	40
Dibenzo(a,h)anthracene	18.6		2.50	ug/kg wet	20.0		92.9	60-140	4.53	40
Diethyl phthalate	19.6		2.50	ug/kg wet	20.0		97.8	60-140	5.50	40
Dimethyl phthalate	17.2		2.50	ug/kg wet	20.0		85.9	60-140	0.530	40
Di-n-butyl phthalate	18.4		2.50	ug/kg wet	20.0		92.2	60-140	2.16	40
Di-n-octyl phthalate	20.9		2.50	ug/kg wet	20.0		105	60-140	0.647	40
Fluoranthene	17.4		2.50	ug/kg wet	20.0		87.2	60-140	0.513	40
Fluorene	18.9		2.50	ug/kg wet	20.0		94.7	60-140	0.418	40
Hexachlorobenzene	18.5		2.50	ug/kg wet	20.0		92.7	60-140	1.97	40
Hexachlorobutadiene	12.6		2.50	ug/kg wet	20.0		63.2	60-140	0.278	40
Hexachlorocyclopentadiene	15.1		2.50	ug/kg wet	20.0		75.3	60-140	5.23	40
Hexachloroethane	11.9	J1	2.50	ug/kg wet	20.0		59.4	60-140	1.76	40
Indeno(1,2,3-cd) pyrene	18.4		2.50	ug/kg wet	20.0		91.8	60-140	2.94	40
Isophorone	13.9		2.50	ug/kg wet	20.0		69.7	60-140	0.826	40
Naphthalene	16.0		2.50	ug/kg wet	20.0		79.9	60-140	1.41	40
Nitrobenzene	15.7		2.50	ug/kg wet	20.0		78.7	60-140	0.726	40
n-Nitrosodimethylamine	83.6		2.50	ug/kg wet	100		83.6	60-140	4.97	40
n-Nitrosodi-n-propylamine	16.5		2.50	ug/kg wet	20.0		82.6	60-140	1.37	40
n-Nitrosodiphenylamine	14.2		2.50	ug/kg wet	20.0		71.0	60-140	1.72	40
Pentachlorophenol	35.9		5.00	ug/kg wet	40.0		89.8	60-140	3.55	40
Phenanthrene	18.1		2.50	ug/kg wet	20.0		90.5	60-140	1.11	40
Phenol, Total	37.0		5.00	ug/kg wet	40.0		92.6	60-140	3.03	40
Pyrene	17.1		2.50	ug/kg wet	20.0		85.5	60-140	0.174	40
Surrogate: 2-Fluorobiphenyl-surr			*16.3*	*ug/kg wet*	*20.0*		*81.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*40.5*	*ug/kg wet*	*40.0*		*101*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*38.8*	*ug/kg wet*	*40.0*		*97.0*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.4*	*ug/kg wet*	*20.0*		*92.0*	*60-140*		
Surrogate: Phenol-d5-surr			*35.9*	*ug/kg wet*	*40.0*		*89.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.4*	*ug/kg wet*	*20.0*		*97.0*	*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: BFI0002 - SW-3570 (Continued)										
BENZ MRL (BFI0002-MRL1)					Prepared: 9/1/2022 Analyzed: 9/18/2022					
3,3'-Dichlorobenzidine	<2.50	U	2.50	ug/kg wet	2.00					
Benzidine	1.42	J	2.50	ug/kg wet	2.00		71.1			
Surrogate: 2-Fluorobiphenyl-surr			*13.5*	*ug/kg wet*	*20.0*		*67.3*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*30.9*	*ug/kg wet*	*40.0*		*77.2*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*39.3*	*ug/kg wet*	*40.0*		*98.3*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*18.8*	*ug/kg wet*	*20.0*		*94.2*	*60-140*		
Surrogate: Phenol-d5-surr			*34.5*	*ug/kg wet*	*40.0*		*86.2*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*18.5*	*ug/kg wet*	*20.0*		*92.6*	*60-140*		
MRL Check (BFI0002-MRL2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
1,2,4-Trichlorobenzene	1.64	J	2.50	ug/kg wet	2.00		82.2			
1,2-Dichlorobenzene (o-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
1,2-Diphenylhydrazine	2.37	J	2.50	ug/kg wet	2.00		118			
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.50	U	2.50	ug/kg wet	2.00					
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.50	J	2.50	ug/kg wet	2.00		75.0			
2,4,6-Trichlorophenol	4.28	J	5.00	ug/kg wet	4.00		107			
2,4-Dichlorophenol	3.64	J	5.00	ug/kg wet	4.00		90.9			
2,4-Dimethylphenol	3.46	J	5.00	ug/kg wet	4.00		86.4			
2,4-Dinitrophenol	9.75		5.00	ug/kg wet	10.0		97.5	50-150		
2,4-Dinitrotoluene (2,4-DNT)	1.86	J	2.50	ug/kg wet	2.00		93.0			
2,6-Dinitrotoluene (2,6-DNT)	1.72	J	2.50	ug/kg wet	2.00		85.8			
2-Chloronaphthalene	1.72	J	2.50	ug/kg wet	2.00		86.2			
2-Chlorophenol	3.25	J	5.00	ug/kg wet	4.00		81.1			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<20.0	U	20.0	ug/kg wet	4.00					
2-Nitrophenol	3.64	J	5.00	ug/kg wet	4.00		91.1			
4-Bromophenyl phenyl ether (BDE-3)	1.68	J	2.50	ug/kg wet	2.00		84.2			
4-Chloro-3-methylphenol	3.67	J	5.00	ug/kg wet	4.00		91.8			
4-Chlorophenyl phenylether	1.69	J	2.50	ug/kg wet	2.00		84.4			
4-Nitrophenol	10.7		2.50	ug/kg wet	10.0		107	50-150		
Acenaphthene	1.82	J	2.50	ug/kg wet	2.00		90.9			
Acenaphthylene	2.04	J	2.50	ug/kg wet	2.00		102			
Anthracene	1.84	J	2.50	ug/kg wet	2.00		92.2			
Benzo(a)anthracene	1.91	J	2.50	ug/kg wet	2.00		95.6			
Benzo(a)pyrene	1.86	J	2.50	ug/kg wet	2.00		92.9			
Benzo(b)fluoranthene	1.80	J	2.50	ug/kg wet	2.00		90.1			
Benzo(g,h,i)perylene	1.87	J	2.50	ug/kg wet	2.00		93.7			
Benzo(k)fluoranthene	1.91	J	2.50	ug/kg wet	2.00		95.3			
bis(2-Chloroethoxy)methane	1.61	J	2.50	ug/kg wet	2.00		80.5			
bis(2-Chloroethyl) ether	1.69	J	2.50	ug/kg wet	2.00		84.6			
Bis(2-ethylhexyl)phthalate	3.83		2.50	ug/kg wet	2.00		191			

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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: BFI0002 - SW-3570 (Continued)										
MRL Check (BFI0002-MRL2)					Prepared: 9/1/2022 Analyzed: 9/13/2022					
Butyl benzyl phthalate	1.91	J	2.50	ug/kg wet	2.00		95.4			
Chrysene	1.87	J	2.50	ug/kg wet	2.00		93.6			
Dibenzo(a,h)anthracene	1.81	J	2.50	ug/kg wet	2.00		90.6			
Diethyl phthalate	2.81		2.50	ug/kg wet	2.00		140			
Dimethyl phthalate	1.80	J	2.50	ug/kg wet	2.00		89.9			
Di-n-butyl phthalate	3.14		2.50	ug/kg wet	2.00		157			
Di-n-octyl phthalate	2.02	J	2.50	ug/kg wet	2.00		101			
Fluoranthene	1.79	J	2.50	ug/kg wet	2.00		89.3			
Fluorene	1.82	J	2.50	ug/kg wet	2.00		91.2			
Hexachlorobenzene	1.61	J	2.50	ug/kg wet	2.00		80.5			
Hexachlorobutadiene	<2.50	U	2.50	ug/kg wet	2.00					
Hexachlorocyclopentadiene	1.52	J	2.50	ug/kg wet	2.00		76.2			
Hexachloroethane	<2.50	U	2.50	ug/kg wet	2.00					
Indeno(1,2,3-cd) pyrene	1.82	J	2.50	ug/kg wet	2.00		91.1			
Isophorone	1.47	J	2.50	ug/kg wet	2.00		73.7			
Naphthalene	1.59	J	2.50	ug/kg wet	2.00		79.7			
Nitrobenzene	1.60	J	2.50	ug/kg wet	2.00		80.1			
n-Nitrosodimethylamine	11.6		2.50	ug/kg wet	10.0		116	50-150		
n-Nitrosodi-n-propylamine	1.76	J	2.50	ug/kg wet	2.00		88.0			
n-Nitrosodiphenylamine	<2.50	U	2.50	ug/kg wet	2.00					
Pentachlorophenol	3.19	J	5.00	ug/kg wet	4.00		79.8			
Phenanthrene	1.88	J	2.50	ug/kg wet	2.00		94.2			
Phenol, Total	5.18		5.00	ug/kg wet	4.00		130			
Pyrene	1.78	J	2.50	ug/kg wet	2.00		88.8			
Surrogate: 2-Fluorobiphenyl-surr			*15.6*	*ug/kg wet*	*20.0*		*78.1*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*40.5*	*ug/kg wet*	*40.0*		*101*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*39.7*	*ug/kg wet*	*40.0*		*99.4*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*17.9*	*ug/kg wet*	*20.0*		*89.4*	*60-140*		
Surrogate: Phenol-d5-surr			*35.9*	*ug/kg wet*	*40.0*		*89.7*	*60-140*		
Surrogate: p-Terphenyl-d14-surr			*19.5*	*ug/kg wet*	*20.0*		*97.3*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
22G0514-20 MS (BFI0002-MS1)		**Source: 22G0514-20**		Prepared: 9/1/2022 Analyzed: 9/13/2022						
1,2,4-Trichlorobenzene	29.4		4.82	ug/kg dry	38.6	<4.82	76.3	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	27.4		4.82	ug/kg dry	38.6	<4.82	71.0	60-140		
1,2-Diphenylhydrazine	30.9		4.82	ug/kg dry	38.6	<4.82	80.0	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	26.3		4.82	ug/kg dry	38.6	<4.82	68.1	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	26.9		4.82	ug/kg dry	38.6	<4.82	69.8	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	31.0		4.82	ug/kg dry	38.6	<4.82	80.4	60-140		
2,4,6-Trichlorophenol	76.1		9.65	ug/kg dry	77.2	<9.65	98.6	60-140		
2,4-Dichlorophenol	78.8		9.65	ug/kg dry	77.2	<9.65	102	60-140		
2,4-Dimethylphenol	74.3		9.65	ug/kg dry	77.2	<9.65	96.3	60-140		
2,4-Dinitrophenol	19.7		9.65	ug/kg dry	193	<9.65	10.2	10-51.3		
2,4-Dinitrotoluene (2,4-DNT)	27.1		4.82	ug/kg dry	38.6	<4.82	70.2	60-140		
2,6-Dinitrotoluene (2,6-DNT)	28.9		4.82	ug/kg dry	38.6	<4.82	74.8	60-140		
2-Chloronaphthalene	36.5		4.82	ug/kg dry	38.6	<4.82	94.6	60-140		
2-Chlorophenol	62.4		9.65	ug/kg dry	77.2	<9.65	80.9	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<38.6	J1, U	38.6	ug/kg dry	77.2	<38.6		60-140		
2-Nitrophenol	65.6		9.65	ug/kg dry	77.2	<9.65	84.9	60-140		
4-Bromophenyl phenyl ether (BDE-3)	28.4		4.82	ug/kg dry	38.6	<4.82	73.6	60-140		
4-Chloro-3-methylphenol	72.7		9.65	ug/kg dry	77.2	<9.65	94.2	60-140		
4-Chlorophenyl phenylether	31.0		4.82	ug/kg dry	38.6	<4.82	80.4	60-140		
4-Nitrophenol	165		4.82	ug/kg dry	193	<4.82	85.4	60-140		
Acenaphthene	35.7		4.82	ug/kg dry	38.6	<4.82	92.4	60-140		
Acenaphthylene	39.2		4.82	ug/kg dry	38.6	<4.82	102	60-140		
Anthracene	29.3		4.82	ug/kg dry	38.6	<4.82	75.9	60-140		
Benzo(a)anthracene	29.2		4.82	ug/kg dry	38.6	<4.82	75.6	60-140		
Benzo(a)pyrene	27.4		4.82	ug/kg dry	38.6	<4.82	71.1	60-140		
Benzo(b)fluoranthene	27.2		4.82	ug/kg dry	38.6	<4.82	70.6	60-140		
Benzo(g,h,i)perylene	19.6	J1	4.82	ug/kg dry	38.6	<4.82	50.8	60-140		
Benzo(k)fluoranthene	25.4		4.82	ug/kg dry	38.6	<4.82	65.8	60-140		
bis(2-Chloroethoxy)methane	33.2		4.82	ug/kg dry	38.6	<4.82	85.9	60-140		
bis(2-Chloroethyl) ether	32.0		4.82	ug/kg dry	38.6	<4.82	82.9	60-140		
Bis(2-ethylhexyl)phthalate	20.5	J1	4.82	ug/kg dry	38.6	5.37	39.2	60-140		
Butyl benzyl phthalate	30.5		4.82	ug/kg dry	38.6	<4.82	78.9	60-140		
Chrysene	28.5		4.82	ug/kg dry	38.6	<4.82	73.8	60-140		
Dibenzo(a,h)anthracene	19.7	J1	4.82	ug/kg dry	38.6	<4.82	50.9	60-140		
Diethyl phthalate	31.0		4.82	ug/kg dry	38.6	2.43	74.0	60-140		
Dimethyl phthalate	29.6		4.82	ug/kg dry	38.6	<4.82	76.7	60-140		
Di-n-butyl phthalate	18.7	J1	4.82	ug/kg dry	38.6	<4.82	48.5	60-140		
Di-n-octyl phthalate	17.0	J1	4.82	ug/kg dry	38.6	<4.82	43.9	60-140		
Fluoranthene	10.3	J1	4.82	ug/kg dry	38.6	<4.82	26.7	60-140		
Fluorene	34.4		4.82	ug/kg dry	38.6	<4.82	89.2	60-140		
Hexachlorobenzene	25.3		4.82	ug/kg dry	38.6	<4.82	65.5	60-140		
Hexachlorobutadiene	27.3		4.82	ug/kg dry	38.6	<4.82	70.8	60-140		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
22G0514-20 MS (BFI0002-MS1)		**Source: 22G0514-20**		Prepared: 9/1/2022 Analyzed: 9/13/2022						
Hexachlorocyclopentadiene	8.65	J1	4.82	ug/kg dry	38.6	<4.82	22.4	60-140		
Hexachloroethane	21.8	J1	4.82	ug/kg dry	38.6	<4.82	56.4	60-140		
Indeno(1,2,3-cd) pyrene	19.3	J1	4.82	ug/kg dry	38.6	<4.82	50.0	60-140		
Isophorone	30.7		4.82	ug/kg dry	38.6	<4.82	79.6	60-140		
Naphthalene	32.8		4.82	ug/kg dry	38.6	<4.82	85.0	60-140		
Nitrobenzene	31.7		4.82	ug/kg dry	38.6	<4.82	82.1	60-140		
n-Nitrosodimethylamine	109	J1	4.82	ug/kg dry	193	<4.82	56.4	60-140		
n-Nitrosodi-n-propylamine	34.8		4.82	ug/kg dry	38.6	<4.82	90.1	60-140		
n-Nitrosodiphenylamine	21.1	J1	4.82	ug/kg dry	38.6	<4.82	54.6	60-140		
Pentachlorophenol	54.6		9.65	ug/kg dry	77.2	<9.65	70.7	60-140		
Phenanthrene	28.9		4.82	ug/kg dry	38.6	<4.82	74.9	60-140		
Phenol, Total	74.1		9.65	ug/kg dry	77.2	6.19	88.0	60-140		
Pyrene	24.3		4.82	ug/kg dry	38.6	<4.82	62.9	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*36.9*	*ug/kg dry*	*38.6*		*95.7*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*79.7*	*ug/kg dry*	*77.2*		*103*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*79.7*	*ug/kg dry*	*77.2*		*103*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*32.1*	*ug/kg dry*	*38.6*		*83.1*	*60-140*		
Surrogate: Phenol-d5-surr			*72.2*	*ug/kg dry*	*77.2*		*93.5*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*19.9*	*ug/kg dry*	*38.6*		*51.6*	*60-140*		
22G0514-20 MSD (BFI0002-MSD1)		**Source: 22G0514-20**		Prepared: 9/1/2022 Analyzed: 9/13/2022						
1,2,4-Trichlorobenzene	32.2		4.82	ug/kg dry	38.6	<4.82	83.3	60-140	8.79	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	30.4		4.82	ug/kg dry	38.6	<4.82	78.8	60-140	10.3	40
1,2-Diphenylhydrazine	32.7		4.82	ug/kg dry	38.6	<4.82	84.7	60-140	5.69	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	28.0		4.82	ug/kg dry	38.6	<4.82	72.5	60-140	6.20	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	30.1		4.82	ug/kg dry	38.6	<4.82	78.1	60-140	11.2	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	31.7		4.82	ug/kg dry	38.6	<4.82	82.3	60-140	2.26	40
2,4,6-Trichlorophenol	79.0		9.65	ug/kg dry	77.2	<9.65	102	60-140	3.76	40
2,4-Dichlorophenol	81.1		9.65	ug/kg dry	77.2	<9.65	105	60-140	2.84	40
2,4-Dimethylphenol	78.7		9.65	ug/kg dry	77.2	<9.65	102	60-140	5.79	40
2,4-Dinitrophenol	17.8	J1	9.65	ug/kg dry	193	<9.65	9.23	10-51.3	10.1	40
2,4-Dinitrotoluene (2,4-DNT)	27.2		4.82	ug/kg dry	38.6	<4.82	70.5	60-140	0.451	40
2,6-Dinitrotoluene (2,6-DNT)	29.5		4.82	ug/kg dry	38.6	<4.82	76.4	60-140	2.09	40
2-Chloronaphthalene	38.1		4.82	ug/kg dry	38.6	<4.82	98.6	60-140	4.13	40
2-Chlorophenol	65.0		9.65	ug/kg dry	77.2	<9.65	84.2	60-140	4.02	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<38.6	J1, U	38.6	ug/kg dry	77.2	<38.6		60-140		40
2-Nitrophenol	71.4		9.65	ug/kg dry	77.2	<9.65	92.5	60-140	8.53	40
4-Bromophenyl phenyl ether (BDE-3)	28.9		4.82	ug/kg dry	38.6	<4.82	75.0	60-140	1.85	40
4-Chloro-3-methylphenol	76.5		9.65	ug/kg dry	77.2	<9.65	99.2	60-140	5.16	40
4-Chlorophenyl phenylether	31.8		4.82	ug/kg dry	38.6	<4.82	82.3	60-140	2.40	40
4-Nitrophenol	174		4.82	ug/kg dry	193	<4.82	90.4	60-140	5.68	40
Acenaphthene	36.6		4.82	ug/kg dry	38.6	<4.82	94.8	60-140	2.60	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI0002 - SW-3570 (Continued)										
22G0514-20 MSD (BFI0002-MSD1)		**Source: 22G0514-20**		Prepared: 9/1/2022 Analyzed: 9/13/2022						
Acenaphthylene	40.9		4.82	ug/kg dry	38.6	<4.82	106	60-140	4.33	40
Anthracene	30.0		4.82	ug/kg dry	38.6	<4.82	77.7	60-140	2.43	40
Benzo(a)anthracene	30.0		4.82	ug/kg dry	38.6	<4.82	77.8	60-140	2.81	40
Benzo(a)pyrene	28.3		4.82	ug/kg dry	38.6	<4.82	73.4	60-140	3.27	40
Benzo(b)fluoranthene	28.4		4.82	ug/kg dry	38.6	<4.82	73.6	60-140	4.27	40
Benzo(g,h,i)perylene	20.4	J1	4.82	ug/kg dry	38.6	<4.82	52.9	60-140	4.03	40
Benzo(k)fluoranthene	26.1		4.82	ug/kg dry	38.6	<4.82	67.6	60-140	2.75	40
bis(2-Chloroethoxy)methane	35.3		4.82	ug/kg dry	38.6	<4.82	91.6	60-140	6.38	40
bis(2-Chloroethyl) ether	32.9		4.82	ug/kg dry	38.6	<4.82	85.2	60-140	2.79	40
Bis(2-ethylhexyl)phthalate	23.1	J1	4.82	ug/kg dry	38.6	5.37	45.9	60-140	11.9	40
Butyl benzyl phthalate	31.9		4.82	ug/kg dry	38.6	<4.82	82.7	60-140	4.73	40
Chrysene	29.0		4.82	ug/kg dry	38.6	<4.82	75.1	60-140	1.78	40
Dibenzo(a,h)anthracene	20.9	J1	4.82	ug/kg dry	38.6	<4.82	54.1	60-140	5.99	40
Diethyl phthalate	34.2		4.82	ug/kg dry	38.6	2.43	82.2	60-140	9.67	40
Dimethyl phthalate	30.0		4.82	ug/kg dry	38.6	<4.82	77.8	60-140	1.42	40
Di-n-butyl phthalate	19.4	J1	4.82	ug/kg dry	38.6	<4.82	50.2	60-140	3.43	40
Di-n-octyl phthalate	18.6	J1	4.82	ug/kg dry	38.6	<4.82	48.1	60-140	9.13	40
Fluoranthene	11.7	J1	4.82	ug/kg dry	38.6	<4.82	30.3	60-140	12.8	40
Fluorene	35.3		4.82	ug/kg dry	38.6	<4.82	91.5	60-140	2.57	40
Hexachlorobenzene	25.1		4.82	ug/kg dry	38.6	<4.82	65.1	60-140	0.621	40
Hexachlorobutadiene	30.1		4.82	ug/kg dry	38.6	<4.82	78.0	60-140	9.71	40
Hexachlorocyclopentadiene	7.52	J1	4.82	ug/kg dry	38.6	<4.82	19.5	60-140	13.9	40
Hexachloroethane	22.3	J1	4.82	ug/kg dry	38.6	<4.82	57.7	60-140	2.37	40
Indeno(1,2,3-cd) pyrene	20.4	J1	4.82	ug/kg dry	38.6	<4.82	53.0	60-140	5.86	40
Isophorone	32.7		4.82	ug/kg dry	38.6	<4.82	84.8	60-140	6.32	40
Naphthalene	34.3		4.82	ug/kg dry	38.6	<4.82	88.8	60-140	4.41	40
Nitrobenzene	34.3		4.82	ug/kg dry	38.6	<4.82	88.9	60-140	7.92	40
n-Nitrosodimethylamine	135		4.82	ug/kg dry	193	<4.82	70.0	60-140	21.4	40
n-Nitrosodi-n-propylamine	36.2		4.82	ug/kg dry	38.6	<4.82	93.7	60-140	3.99	40
n-Nitrosodiphenylamine	12.0	J1	4.82	ug/kg dry	38.6	<4.82	31.2	60-140	54.6	40
Pentachlorophenol	51.5		9.65	ug/kg dry	77.2	<9.65	66.7	60-140	5.82	40
Phenanthrene	29.8		4.82	ug/kg dry	38.6	<4.82	77.1	60-140	3.00	40
Phenol, Total	78.1		9.65	ug/kg dry	77.2	6.19	93.2	60-140	5.27	40
Pyrene	26.7		4.82	ug/kg dry	38.6	<4.82	69.2	60-140	9.61	40
Surrogate: 2-Fluorobiphenyl-surr			*35.9*	*ug/kg dry*	*38.6*		*93.0*	*60-140*		
Surrogate: 2-Fluorophenol-surr			*84.9*	*ug/kg dry*	*77.2*		*110*	*60-140*		
Surrogate: 2,4,6-Tribromophenol-surr			*79.9*	*ug/kg dry*	*77.2*		*104*	*60-140*		
Surrogate: Nitrobenzene-d5-surr			*32.4*	*ug/kg dry*	*38.6*		*84.0*	*60-140*		
Surrogate: Phenol-d5-surr			*77.2*	*ug/kg dry*	*77.2*		*100*	*60-140*		
Surrogate: p-Terphenyl-d14-surr		*S*	*19.5*	*ug/kg dry*	*38.6*		*50.4*	*60-140*		

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Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3855 - SW-3570										
Blank (BFH3855-BLK1)					Prepared: 8/29/2022 Analyzed: 9/20/2022					
PCBs, Total	<2.00	U	2.00	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.513*	*ug/kg wet*	*0.600*		*85.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.483*	*ug/kg wet*	*0.600*		*80.4*	*60-140*		
LCS (BFH3855-BS1)					Prepared: 8/29/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	3.89		2.00	ug/kg wet	6.00		64.9	60-140		
Aroclor-1260 (PCB-1260)	4.90		2.00	ug/kg wet	6.00		81.7	60-140		
PCBs, Total	4.78		2.00	ug/kg wet	6.00		79.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.459*	*ug/kg wet*	*0.600*		*76.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.649*	*ug/kg wet*	*0.600*		*108*	*60-140*		
LCS Dup (BFH3855-BSD1)					Prepared: 8/29/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	5.00		2.00	ug/kg wet	6.00		83.3	60-140	24.9	40
Aroclor-1260 (PCB-1260)	6.16		2.00	ug/kg wet	6.00		103	60-140	22.6	40
PCBs, Total	6.01		2.00	ug/kg wet	6.00		100	60-140	22.9	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.556*	*ug/kg wet*	*0.600*		*92.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.607*	*ug/kg wet*	*0.600*		*101*	*60-140*		
MRL Check (BFH3855-MRL1)					Prepared: 8/29/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	0.604	J	2.00	ug/kg wet	1.20		50.3			
Aroclor-1221 (PCB-1221)	<2.00	U	2.00	ug/kg wet						
Aroclor-1232 (PCB-1232)	<2.00	U	2.00	ug/kg wet						
Aroclor-1242 (PCB-1242)	<2.00	U	2.00	ug/kg wet						
Aroclor-1248 (PCB-1248)	<2.00	U	2.00	ug/kg wet						
Aroclor-1254 (PCB-1254)	<2.00	U	2.00	ug/kg wet						
Aroclor-1260 (PCB-1260)	1.20	J	2.00	ug/kg wet	1.20		100			
PCBs, Total	1.13	J	2.00	ug/kg wet	1.20		93.9			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.490*	*ug/kg wet*	*0.600*		*81.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.556*	*ug/kg wet*	*0.600*		*92.6*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3855 - SW-3570 (Continued)										
Matrix Spike (BFH3855-MS1)		**Source: 22H2692-26**		Prepared: 8/29/2022 Analyzed: 9/20/2022						
Aroclor-1016 (PCB-1016)	54.8	J1, L	3.22	ug/kg dry	9.65	<3.22	568	60-140		
Aroclor-1260 (PCB-1260)	9.60		3.22	ug/kg dry	9.65	<3.22	99.5	60-140		
PCBs, Total	14.3	J1	3.22	ug/kg dry	9.65	<3.22	149	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*1.02*	*ug/kg dry*	*0.965*		*105*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.961*	*ug/kg dry*	*0.965*		*99.6*	*60-140*		
Matrix Spike Dup (BFH3855-MSD1)		**Source: 22H2692-26**		Prepared: 8/29/2022 Analyzed: 9/20/2022						
Aroclor-1016 (PCB-1016)	18.8	J1	3.22	ug/kg dry	9.65	<3.22	194	60-140	98.0	40
Aroclor-1260 (PCB-1260)	7.77		3.22	ug/kg dry	9.65	<3.22	80.5	60-140	21.1	40
PCBs, Total	9.07	J1	3.22	ug/kg dry	9.65	<3.22	94.0	60-140	45.1	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.973*	*ug/kg dry*	*0.965*		*101*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.873*	*ug/kg dry*	*0.965*		*90.5*	*60-140*		
Batch: BFH3884 - SW-3570										
Blank (BFH3884-BLK1)				Prepared: 8/29/2022 Analyzed: 9/14/2022						
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			*5.52*	*ug/kg wet*	*6.00*		*92.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.22*	*ug/kg wet*	*6.00*		*120*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3884 - SW-3570 (Continued)										
Blank (BFH3884-BLK2)					Prepared: 8/29/2022 Analyzed: 9/13/2022					
alpha-BHC (alpha-Hexachlorocyclohexane)	<1.00	U	1.00	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.25*	*ug/kg wet*	*6.00*		*104*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.12*	*ug/kg wet*	*6.00*		*119*	*60-140*		
BS TOX (BFH3884-BS1)					Prepared: 8/29/2022 Analyzed: 9/14/2022					
Toxaphene (Chlorinated Camphene)	67.0		15.0	ug/kg wet	60.0		112	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*6.21*	*ug/kg wet*	*6.00*		*104*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.62*	*ug/kg wet*	*6.00*		*127*	*60-140*		
BS OCP (BFH3884-BS2)					Prepared: 8/29/2022 Analyzed: 9/14/2022					
4,4'-DDD	5.96		1.00	ug/kg wet	6.00		99.4	60-140		
4,4'-DDE	6.11		1.00	ug/kg wet	6.00		102	60-140		
4,4'-DDT	6.62		1.00	ug/kg wet	6.00		110	60-140		
Aldrin	5.93		1.00	ug/kg wet	6.00		98.8	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.45		1.00	ug/kg wet	6.00		107	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	6.72		1.00	ug/kg wet	6.00		112	60-140		
Chlordane (tech.)	25.8		1.00	ug/kg wet	24.0		108	60-140		
cis-Chlordane (alpha-Chlordane)	6.05		1.00	ug/kg wet	6.00		101	60-140		
delta-BHC	6.60		1.00	ug/kg wet	6.00		110	60-140		
Dieldrin	6.03		1.00	ug/kg wet	6.00		100	60-140		
Endosulfan I	4.84		1.00	ug/kg wet	6.00		80.6	60-140		
Endosulfan II	5.70		1.00	ug/kg wet	6.00		95.0	60-140		
Endosulfan sulfate	5.74		1.00	ug/kg wet	6.00		95.7	60-140		
Endrin	6.00		1.00	ug/kg wet	6.00		100	60-140		
Endrin aldehyde	5.07		1.00	ug/kg wet	6.00		84.5	60-140		
Endrin ketone	6.13		1.00	ug/kg wet	6.00		102	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.30		1.00	ug/kg wet	6.00		105	60-140		
gamma-Chlordane	7.01		1.00	ug/kg wet	6.00		117	60-140		
Heptachlor	6.35		1.00	ug/kg wet	6.00		106	60-140		
Heptachlor epoxide	6.42		1.00	ug/kg wet	6.00		107	60-140		
Methoxychlor	6.70		1.00	ug/kg wet	6.00		112	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.81*	*ug/kg wet*	*6.00*		*80.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.23*	*ug/kg wet*	*6.00*		*121*	*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: BFH3884 - SW-3570 (Continued)										
LCS (BFH3884-BS3)					Prepared: 8/29/2022 Analyzed: 9/13/2022					
alpha-BHC (alpha-Hexachlorocyclohexane)	6.22		1.00	ug/kg wet	6.00		104	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.75*	*ug/kg wet*	*6.00*		*79.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.17*	*ug/kg wet*	*6.00*		*120*	*60-140*		
BSD TOX (BFH3884-BSD1)					Prepared: 8/29/2022 Analyzed: 9/14/2022					
Toxaphene (Chlorinated Camphene)	59.8		15.0	ug/kg wet	60.0		99.6	60-140	11.4	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.51*	*ug/kg wet*	*6.00*		*91.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.48*	*ug/kg wet*	*6.00*		*108*	*60-140*		
BSD OCP (BFH3884-BSD2)					Prepared: 8/29/2022 Analyzed: 9/15/2022					
4,4'-DDD	6.07		1.00	ug/kg wet	6.00		101	60-140	1.81	40
4,4'-DDE	5.88		1.00	ug/kg wet	6.00		98.0	60-140	3.97	40
4,4'-DDT	6.66		1.00	ug/kg wet	6.00		111	60-140	0.551	40
Aldrin	5.58		1.00	ug/kg wet	6.00		93.0	60-140	6.07	40
alpha-BHC (alpha-Hexachlorocyclohexane)	6.05		1.00	ug/kg wet	6.00		101	60-140	6.36	40
beta-BHC (beta-Hexachlorocyclohexane)	6.30		1.00	ug/kg wet	6.00		105	60-140	6.48	40
Chlordane (tech.)	25.0		1.00	ug/kg wet	24.0		104	60-140	3.25	40
cis-Chlordane (alpha-Chlordane)	5.93		1.00	ug/kg wet	6.00		98.8	60-140	2.03	40
delta-BHC	6.78		1.00	ug/kg wet	6.00		113	60-140	2.64	40
Dieldrin	5.83		1.00	ug/kg wet	6.00		97.2	60-140	3.30	40
Endosulfan I	4.64		1.00	ug/kg wet	6.00		77.3	60-140	4.17	40
Endosulfan II	5.79		1.00	ug/kg wet	6.00		96.5	60-140	1.57	40
Endosulfan sulfate	5.98		1.00	ug/kg wet	6.00		99.7	60-140	4.06	40
Endrin	5.83		1.00	ug/kg wet	6.00		97.1	60-140	3.01	40
Endrin aldehyde	5.01		1.00	ug/kg wet	6.00		83.5	60-140	1.21	40
Endrin ketone	6.37		1.00	ug/kg wet	6.00		106	60-140	3.87	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	5.89		1.00	ug/kg wet	6.00		98.2	60-140	6.71	40
gamma-Chlordane	6.91		1.00	ug/kg wet	6.00		115	60-140	1.52	40
Heptachlor	5.96		1.00	ug/kg wet	6.00		99.3	60-140	6.39	40
Heptachlor epoxide	6.22		1.00	ug/kg wet	6.00		104	60-140	3.26	40
Methoxychlor	6.76		1.00	ug/kg wet	6.00		113	60-140	0.820	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.03*	*ug/kg wet*	*6.00*		*83.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.19*	*ug/kg wet*	*6.00*		*120*	*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: BFH3884 - SW-3570 (Continued)										
LCS Dup (BFH3884-BSD3)					Prepared: 8/29/2022 Analyzed: 9/13/2022					
alpha-BHC (alpha-Hexachlorocyclohexane)	6.41		1.00	ug/kg wet	6.00		107	60-140	2.87	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.46*	*ug/kg wet*	*6.00*		*90.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.00*	*ug/kg wet*	*6.00*		*117*	*60-140*		
MDL TOX (BFH3884-MRL1)					Prepared: 8/29/2022 Analyzed: 9/14/2022					
Toxaphene (Chlorinated Camphene)	24.1		15.0	ug/kg wet	15.0		160	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.19*	*ug/kg wet*	*6.00*		*86.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*6.96*	*ug/kg wet*	*6.00*		*116*	*60-140*		
MDL OCP (BFH3884-MRL2)					Prepared: 8/29/2022 Analyzed: 9/14/2022					
4,4'-DDD	0.387	J	1.00	ug/kg wet	0.400		96.8			
4,4'-DDE	0.385	J	1.00	ug/kg wet	0.400		96.2			
4,4'-DDT	0.449	J	1.00	ug/kg wet	0.400		112			
Aldrin	0.288	J	1.00	ug/kg wet	0.400		72.1			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.374	J	1.00	ug/kg wet	0.400		93.6			
beta-BHC (beta-Hexachlorocyclohexane)	0.624	J	1.00	ug/kg wet	0.400		156			
Chlordane (tech.)	2.10		1.00	ug/kg wet	1.60		131	50-150		
cis-Chlordane (alpha-Chlordane)	0.401	J	1.00	ug/kg wet	0.400		100			
delta-BHC	0.459	J	1.00	ug/kg wet	0.400		115			
Dieldrin	0.384	J	1.00	ug/kg wet	0.400		96.1			
Endosulfan I	0.273	J	1.00	ug/kg wet	0.400		68.2			
Endosulfan II	0.345	J	1.00	ug/kg wet	0.400		86.2			
Endosulfan sulfate	0.324	J	1.00	ug/kg wet	0.400		81.1			
Endrin	0.334	J	1.00	ug/kg wet	0.400		83.6			
Endrin aldehyde	0.245	J	1.00	ug/kg wet	0.400		61.4			
Endrin ketone	0.373	J	1.00	ug/kg wet	0.400		93.2			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.340	J	1.00	ug/kg wet	0.400		85.1			
gamma-Chlordane	0.984	J	1.00	ug/kg wet	0.400		246			
Heptachlor	0.322	J	1.00	ug/kg wet	0.400		80.6			
Heptachlor epoxide	0.392	J	1.00	ug/kg wet	0.400		98.0			
Methoxychlor	0.469	J	1.00	ug/kg wet	0.400		117			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*4.85*	*ug/kg wet*	*6.00*		*80.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.22*	*ug/kg wet*	*6.00*		*120*	*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: BFH3884 - SW-3570 (Continued)										
MRL Check (BFH3884-MRL3)				Prepared: 8/29/2022 Analyzed: 9/13/2022						
alpha-BHC (alpha-Hexachlorocyclohexane)	0.317	J	1.00	ug/kg wet	0.400		79.4	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.13*	*ug/kg wet*	*6.00*		*85.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.05*	*ug/kg wet*	*6.00*		*117*	*60-140*		
22H3060-06 MS (BFH3884-MS1)		**Source: 22H3060-06**		Prepared: 8/29/2022 Analyzed: 9/15/2022						
4,4'-DDD	11.5		1.96	ug/kg dry	11.7	<1.96	97.9	60-140		
4,4'-DDE	11.3		1.96	ug/kg dry	11.7	<1.96	96.1	60-140		
4,4'-DDT	13.1		1.96	ug/kg dry	11.7	<1.96	111	60-140		
Aldrin	12.0		1.96	ug/kg dry	11.7	<1.96	102	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	13.5		1.96	ug/kg dry	11.7	0.741	108	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	12.1		1.96	ug/kg dry	11.7	<1.96	103	60-140		
Chlordane (tech.)	49.9		1.96	ug/kg dry	47.0	<1.96	106	60-140		
cis-Chlordane (alpha-Chlordane)	10.8		1.96	ug/kg dry	11.7	<1.96	91.6	60-140		
delta-BHC	15.9		1.96	ug/kg dry	11.7	<1.96	136	60-140		
Dieldrin	11.1		1.96	ug/kg dry	11.7	<1.96	94.5	60-140		
Endosulfan I	9.39		1.96	ug/kg dry	11.7	<1.96	80.0	60-140		
Endosulfan II	10.5		1.96	ug/kg dry	11.7	<1.96	89.7	60-140		
Endosulfan sulfate	10.7		1.96	ug/kg dry	11.7	<1.96	91.2	60-140		
Endrin	11.0		1.96	ug/kg dry	11.7	<1.96	93.6	60-140		
Endrin aldehyde	7.82		1.96	ug/kg dry	11.7	<1.96	66.6	60-140		
Endrin ketone	11.7		1.96	ug/kg dry	11.7	<1.96	99.4	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	12.9		1.96	ug/kg dry	11.7	<1.96	110	60-140		
gamma-Chlordane	14.2		1.96	ug/kg dry	11.7	<1.96	121	60-140		
Heptachlor	12.8		1.96	ug/kg dry	11.7	<1.96	109	60-140		
Heptachlor epoxide	12.2		1.96	ug/kg dry	11.7	<1.96	104	60-140		
Methoxychlor	14.1		1.96	ug/kg dry	11.7	<1.96	120	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*11.0*	*ug/kg dry*	*11.7*		*93.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*14.6*	*ug/kg dry*	*11.7*		*124*	*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: BFH3884 - SW-3570 (Continued)										
Matrix Spike (BFH3884-MS2)			**Source: 22H3034-06RE1**		Prepared: 8/29/2022 Analyzed: 9/13/2022					
alpha-BHC (alpha-Hexachlorocyclohexane)	6.93		1.00	ug/kg wet	6.00	<1.00	115	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.70*	*ug/kg wet*	*6.00*		*95.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.47*	*ug/kg wet*	*6.00*		*124*	*60-140*		
22H3060-06 MSD (BFH3884-MSD1)			**Source: 22H3060-06**		Prepared: 8/29/2022 Analyzed: 9/15/2022					
4,4'-DDD	12.1		2.07	ug/kg dry	12.4	<2.07	97.7	60-140	5.38	40
4,4'-DDE	11.5		2.07	ug/kg dry	12.4	<2.07	92.4	60-140	1.74	40
4,4'-DDT	14.7		2.07	ug/kg dry	12.4	<2.07	118	60-140	11.6	40
Aldrin	12.4		2.07	ug/kg dry	12.4	<2.07	99.8	60-140	2.93	40
alpha-BHC (alpha-Hexachlorocyclohexane)	13.8		2.07	ug/kg dry	12.4	0.741	105	60-140	2.37	40
beta-BHC (beta-Hexachlorocyclohexane)	12.2		2.07	ug/kg dry	12.4	<2.07	98.5	60-140	0.862	40
Chlordane (tech.)	51.7		2.07	ug/kg dry	49.7	<2.07	104	60-140	3.38	40
cis-Chlordane (alpha-Chlordane)	10.9		2.07	ug/kg dry	12.4	<2.07	87.8	60-140	1.35	40
delta-BHC	16.9		2.07	ug/kg dry	12.4	<2.07	136	60-140	5.94	40
Dieldrin	11.4		2.07	ug/kg dry	12.4	<2.07	91.8	60-140	2.71	40
Endosulfan I	9.81		2.07	ug/kg dry	12.4	<2.07	78.9	60-140	4.35	40
Endosulfan II	11.3		2.07	ug/kg dry	12.4	<2.07	90.7	60-140	6.68	40
Endosulfan sulfate	11.7		2.07	ug/kg dry	12.4	<2.07	94.1	60-140	8.72	40
Endrin	11.6		2.07	ug/kg dry	12.4	<2.07	93.6	60-140	5.62	40
Endrin aldehyde	8.26		2.07	ug/kg dry	12.4	<2.07	66.5	60-140	5.51	40
Endrin ketone	12.7		2.07	ug/kg dry	12.4	<2.07	102	60-140	8.01	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	13.4		2.07	ug/kg dry	12.4	<2.07	108	60-140	3.43	40
gamma-Chlordane	15.0		2.07	ug/kg dry	12.4	<2.07	121	60-140	5.88	40
Heptachlor	13.1		2.07	ug/kg dry	12.4	<2.07	105	60-140	2.25	40
Heptachlor epoxide	12.6		2.07	ug/kg dry	12.4	<2.07	102	60-140	3.38	40
Methoxychlor	15.5		2.07	ug/kg dry	12.4	<2.07	125	60-140	9.68	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*11.0*	*ug/kg dry*	*12.4*		*88.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*15.7*	*ug/kg dry*	*12.4*		*126*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3884 - SW-3570 (Continued)										
Matrix Spike Dup (BFH3884-MSD2)			**Source: 22H3034-06RE1**		Prepared: 8/29/2022 Analyzed: 9/13/2022					
alpha-BHC (alpha-Hexachlorocyclohexane)	7.42		1.00	ug/kg wet	6.00	<1.00	124	60-140	6.94	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*5.93*	*ug/kg wet*	*6.00*		*98.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.26*	*ug/kg wet*	*6.00*		*121*	*60-140*		
Batch: BFH4117 - SW-3511										
Blank (BFH4117-BLK1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.154*	*ug/L*	*0.120*		*129*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.128*	*ug/L*	*0.120*		*106*	*60-140*		
LCS (BFH4117-BS1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Aroclor-1016 (PCB-1016)	1.16		0.120	ug/L	1.20		96.3	60-140		
Aroclor-1260 (PCB-1260)	1.15		0.120	ug/L	1.20		96.0	60-140		
PCBs, Total	1.15		0.120	ug/L	1.20		96.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.162*	*ug/L*	*0.120*		*135*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.130*	*ug/L*	*0.120*		*108*	*60-140*		
LCS Dup (BFH4117-BSD1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Aroclor-1016 (PCB-1016)	1.09		0.120	ug/L	1.20		90.6	60-140	6.17	40
Aroclor-1260 (PCB-1260)	1.07		0.120	ug/L	1.20		89.5	60-140	6.97	40
PCBs, Total	1.08		0.120	ug/L	1.20		89.7	60-140	6.83	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.141*	*ug/L*	*0.120*		*117*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.118*	*ug/L*	*0.120*		*98.4*	*60-140*		
BFH3979-LBK1 (BFH4117-LBK1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
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			*0.107*	*ug/L*	*0.120*		*89.3*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0179*	*ug/L*	*0.120*		*14.9*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH4117 - SW-3511 (Continued)										
MRL Check (BFH4117-MRL1)					Prepared: 8/31/2022 Analyzed: 9/8/2022					
Aroclor-1016 (PCB-1016)	0.329		0.120	ug/L	0.240		137	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)	0.322		0.120	ug/L	0.240		134	50-150		
PCBs, Total	0.323		0.120	ug/L	0.240		135	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.133*	*ug/L*	*0.120*		*111*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.112*	*ug/L*	*0.120*		*93.6*	*60-140*		
Matrix Spike (BFH4117-MS1)		**Source: 22H3776-05**			Prepared: 8/31/2022 Analyzed: 9/8/2022					
Aroclor-1016 (PCB-1016)	1.23		0.120	ug/L	1.20	<0.120	102	60-140		
Aroclor-1260 (PCB-1260)	0.688	J1	0.120	ug/L	1.20	<0.120	57.3	60-140		
PCBs, Total	0.782		0.120	ug/L	1.20	<0.120	65.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.141*	*ug/L*	*0.120*		*118*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.0789*	*ug/L*	*0.120*		*65.8*	*60-140*		
Matrix Spike Dup (BFH4117-MSD1)		**Source: 22H3776-05**			Prepared: 8/31/2022 Analyzed: 9/8/2022					
Aroclor-1016 (PCB-1016)	1.06		0.120	ug/L	1.20	<0.120	88.0	60-140	15.1	40
Aroclor-1260 (PCB-1260)	0.628	J1	0.120	ug/L	1.20	<0.120	52.3	60-140	9.04	40
PCBs, Total	0.703	J1	0.120	ug/L	1.20	<0.120	58.6	60-140	10.7	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.142*	*ug/L*	*0.120*		*118*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.0930*	*ug/L*	*0.120*		*77.5*	*60-140*		
Batch: BFH4198 - SW-3511										
Blank (BFH4198-BLK1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
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						

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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: BFH4198 - SW-3511 (Continued)										
Blank (BFH4198-BLK1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
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	*S*		*0.208*	*ug/L*	*0.120*		*173*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.204*	*ug/L*	*0.120*		*170*	*60-140*		
LCS Tox (BFH4198-BS1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
Toxaphene (Chlorinated Camphene)	1.40		0.300	ug/L	1.80		78.1	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.188*	*ug/L*	*0.120*		*157*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.240*	*ug/L*	*0.120*		*200*	*60-140*		
LCS (BFH4198-BS2)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
4,4'-DDD	0.157		0.00600	ug/L	0.120		131	60-140		
4,4'-DDE	0.140		0.00600	ug/L	0.120		117	60-140		
4,4'-DDT	0.152		0.00600	ug/L	0.120		126	60-140		
Aldrin	0.141		0.00600	ug/L	0.120		118	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.162		0.00600	ug/L	0.120		135	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.151		0.00600	ug/L	0.120		126	60-140		
Chlordane (tech.)	0.583		0.00600	ug/L	0.480		122	60-140		
cis-Chlordane (alpha-Chlordane)	0.133		0.00600	ug/L	0.120		111	60-140		
delta-BHC	0.145		0.00600	ug/L	0.120		121	60-140		
Dieldrin	0.139		0.00600	ug/L	0.120		116	60-140		
Endosulfan I	0.129		0.00600	ug/L	0.120		108	60-140		
Endosulfan II	0.141		0.00600	ug/L	0.120		118	60-140		
Endosulfan sulfate	0.147		0.00600	ug/L	0.120		123	60-140		
Endrin	0.140		0.00600	ug/L	0.120		117	60-140		
Endrin aldehyde	0.156		0.00600	ug/L	0.120		130	60-140		
Endrin ketone	0.153		0.00600	ug/L	0.120		127	60-140		
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	0.157		0.00600	ug/L	0.120		131	60-140		
gamma-Chlordane	0.145		0.00600	ug/L	0.120		121	60-140		
Heptachlor	0.148		0.00600	ug/L	0.120		123	60-140		
Heptachlor epoxide	0.157		0.00600	ug/L	0.120		131	60-140		
Methoxychlor	0.143		0.00600	ug/L	0.120		119	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: BFH4198 - SW-3511 (Continued)										
LCS (BFH4198-BS2)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.191*	*ug/L*	*0.120*		*159*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.205*	*ug/L*	*0.120*		*170*	*60-140*		
LCSD Tox (BFH4198-BSD1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
Toxaphene (Chlorinated Camphene)	1.25		0.300	ug/L	1.80		69.4	60-140	11.7	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.165*	*ug/L*	*0.120*		*137*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.203*	*ug/L*	*0.120*		*169*	*60-140*		
LCS Dup (BFH4198-BSD2)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
4,4'-DDD	0.194	J1	0.00600	ug/L	0.120		161	60-140	20.9	40
4,4'-DDE	0.180	J1	0.00600	ug/L	0.120		150	60-140	24.7	40
4,4'-DDT	0.195	J1	0.00600	ug/L	0.120		162	60-140	24.8	40
Aldrin	0.190	J1	0.00600	ug/L	0.120		158	60-140	29.2	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.219	J1	0.00600	ug/L	0.120		182	60-140	29.9	40
beta-BHC (beta-Hexachlorocyclohexane)	0.188	J1	0.00600	ug/L	0.120		156	60-140	21.4	40
Chlordane (tech.)	0.753	J1	0.00600	ug/L	0.480		157	60-140	25.4	40
cis-Chlordane (alpha-Chlordane)	0.173	J1	0.00600	ug/L	0.120		144	60-140	26.1	40
delta-BHC	0.179	J1	0.00600	ug/L	0.120		149	60-140	21.2	40
Dieldrin	0.170	J1	0.00600	ug/L	0.120		142	60-140	19.8	40
Endosulfan I	0.165		0.00600	ug/L	0.120		137	60-140	24.2	40
Endosulfan II	0.184	J1	0.00600	ug/L	0.120		153	60-140	26.5	40
Endosulfan sulfate	0.191	J1	0.00600	ug/L	0.120		159	60-140	26.1	40
Endrin	0.184	J1	0.00600	ug/L	0.120		153	60-140	27.0	40
Endrin aldehyde	0.187	J1	0.00600	ug/L	0.120		156	60-140	17.9	40
Endrin ketone	0.196	J1	0.00600	ug/L	0.120		163	60-140	24.9	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.210	J1	0.00600	ug/L	0.120		175	60-140	28.8	40
gamma-Chlordane	0.194	J1	0.00600	ug/L	0.120		162	60-140	28.6	40
Heptachlor	0.193	J1	0.00600	ug/L	0.120		161	60-140	26.6	40
Heptachlor epoxide	0.193	J1	0.00600	ug/L	0.120		161	60-140	20.7	40
Methoxychlor	0.196	J1	0.00600	ug/L	0.120		163	60-140	31.0	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.258*	*ug/L*	*0.120*		*215*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.267*	*ug/L*	*0.120*		*223*	*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: BFH4198 - SW-3511 (Continued)										
BFH1397-LBK1 (BFH4198-LBK1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
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	*S*		*0.173*	*ug/L*	*0.120*		*144*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0484*	*ug/L*	*0.120*		*40.3*	*60-140*		
MRL Tox (BFH4198-MRL1)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
Toxaphene (Chlorinated Camphene)	0.949	J1	0.300	ug/L	0.300		316	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.208*	*ug/L*	*0.120*		*174*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.241*	*ug/L*	*0.120*		*201*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH4198 - SW-3511 (Continued)										
MRL (BFH4198-MRL2)					Prepared: 8/31/2022 Analyzed: 9/10/2022					
4,4'-DDD	0.0148		0.00600	ug/L	0.0120		123	50-150		
4,4'-DDE	0.0165		0.00600	ug/L	0.0120		137	50-150		
4,4'-DDT	0.0204	J1	0.00600	ug/L	0.0120		170	50-150		
Aldrin	0.0145		0.00600	ug/L	0.0120		121	50-150		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0157		0.00600	ug/L	0.0120		131	50-150		
beta-BHC (beta-Hexachlorocyclohexane)	0.0200	J1	0.00600	ug/L	0.0120		167	50-150		
Chlordane (tech.)	0.0633		0.00600	ug/L	0.0480		132	50-150		
cis-Chlordane (alpha-Chlordane)	0.0158		0.00600	ug/L	0.0120		131	50-150		
delta-BHC	0.0209	J1	0.00600	ug/L	0.0120		174	50-150		
Dieldrin	0.0163		0.00600	ug/L	0.0120		136	50-150		
Endosulfan I	0.0147		0.00600	ug/L	0.0120		123	50-150		
Endosulfan II	0.0169		0.00600	ug/L	0.0120		141	50-150		
Endosulfan sulfate	0.0173		0.00600	ug/L	0.0120		144	50-150		
Endrin	0.0156		0.00600	ug/L	0.0120		130	50-150		
Endrin aldehyde	0.0146		0.00600	ug/L	0.0120		122	50-150		
Endrin ketone	0.0144		0.00600	ug/L	0.0120		120	50-150		
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	0.0122		0.00600	ug/L	0.0120		101	50-150		
gamma-Chlordane	0.0151		0.00600	ug/L	0.0120		126	50-150		
Heptachlor	0.0171		0.00600	ug/L	0.0120		142	50-150		
Heptachlor epoxide	0.0154		0.00600	ug/L	0.0120		128	50-150		
Methoxychlor	<0.00600	J1, U	0.00600	ug/L	0.0120			50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.192*	*ug/L*	*0.120*		*160*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.204*	*ug/L*	*0.120*		*170*	*60-140*		
Matrix Spike (BFH4198-MS1)		**Source: 22H3034-03**			Prepared: 8/31/2022 Analyzed: 9/10/2022					
4,4'-DDD	0.143		0.00600	ug/L	0.120	<0.00600	119	60-140		
4,4'-DDE	0.104		0.00600	ug/L	0.120	<0.00600	86.6	60-140		
4,4'-DDT	0.102		0.00600	ug/L	0.120	<0.00600	84.7	60-140		
Aldrin	0.119		0.00600	ug/L	0.120	<0.00600	98.9	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.189	J1	0.00600	ug/L	0.120	<0.00600	158	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.171	J1	0.00600	ug/L	0.120	<0.00600	142	60-140		
Chlordane (tech.)	0.558		0.00600	ug/L	0.480	<0.00600	116	60-140		
cis-Chlordane (alpha-Chlordane)	0.128		0.00600	ug/L	0.120	<0.00600	107	60-140		
delta-BHC	0.160		0.00600	ug/L	0.120	<0.00600	133	60-140		
Dieldrin	0.151		0.00600	ug/L	0.120	<0.00600	126	60-140		
Endosulfan I	0.137		0.00600	ug/L	0.120	<0.00600	114	60-140		
Endosulfan II	0.169	J1	0.00600	ug/L	0.120	<0.00600	141	60-140		
Endosulfan sulfate	0.176	J1	0.00600	ug/L	0.120	<0.00600	147	60-140		
Endrin	0.158		0.00600	ug/L	0.120	<0.00600	132	60-140		
Endrin aldehyde	0.151		0.00600	ug/L	0.120	<0.00600	126	60-140		
Endrin ketone	0.181	J1	0.00600	ug/L	0.120	<0.00600	151	60-140		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH4198 - SW-3511 (Continued)										
Matrix Spike (BFH4198-MS1)			**Source: 22H3034-03**		Prepared: 8/31/2022 Analyzed: 9/10/2022					
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.192	J1	0.00600	ug/L	0.120	<0.00600	160	60-140		
gamma-Chlordane	0.134		0.00600	ug/L	0.120	<0.00600	112	60-140		
Heptachlor	0.138		0.00600	ug/L	0.120	<0.00600	115	60-140		
Heptachlor epoxide	0.158		0.00600	ug/L	0.120	<0.00600	132	60-140		
Methoxychlor	0.0753		0.00600	ug/L	0.120	<0.00600	62.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.210*	*ug/L*	*0.120*		*175*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.149*	*ug/L*	*0.120*		*124*	*60-140*		
Matrix Spike Dup (BFH4198-MSD1)			**Source: 22H3034-03**		Prepared: 8/31/2022 Analyzed: 9/10/2022					
4,4'-DDD	0.135		0.00600	ug/L	0.120	<0.00600	113	60-140	5.33	40
4,4'-DDE	0.0961		0.00600	ug/L	0.120	<0.00600	80.1	60-140	7.86	40
4,4'-DDT	0.0973		0.00600	ug/L	0.120	<0.00600	81.1	60-140	4.39	40
Aldrin	0.109		0.00600	ug/L	0.120	<0.00600	90.9	60-140	8.45	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.171	J1	0.00600	ug/L	0.120	<0.00600	143	60-140	9.94	40
beta-BHC (beta-Hexachlorocyclohexane)	0.158		0.00600	ug/L	0.120	<0.00600	131	60-140	7.82	40
Chlordane (tech.)	0.484		0.00600	ug/L	0.480	<0.00600	101	60-140	14.3	40
cis-Chlordane (alpha-Chlordane)	0.114		0.00600	ug/L	0.120	<0.00600	95.1	60-140	11.5	40
delta-BHC	0.116		0.00600	ug/L	0.120	<0.00600	96.6	60-140	32.0	40
Dieldrin	0.135		0.00600	ug/L	0.120	<0.00600	113	60-140	10.9	40
Endosulfan I	0.113		0.00600	ug/L	0.120	<0.00600	93.8	60-140	19.5	40
Endosulfan II	0.152		0.00600	ug/L	0.120	<0.00600	127	60-140	10.6	40
Endosulfan sulfate	0.163		0.00600	ug/L	0.120	<0.00600	136	60-140	7.97	40
Endrin	0.145		0.00600	ug/L	0.120	<0.00600	121	60-140	8.72	40
Endrin aldehyde	0.128		0.00600	ug/L	0.120	<0.00600	107	60-140	16.1	40
Endrin ketone	0.165		0.00600	ug/L	0.120	<0.00600	138	60-140	9.17	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.169	J1	0.00600	ug/L	0.120	<0.00600	141	60-140	12.5	40
gamma-Chlordane	0.119		0.00600	ug/L	0.120	<0.00600	99.5	60-140	11.8	40
Heptachlor	0.118		0.00600	ug/L	0.120	<0.00600	98.1	60-140	15.7	40
Heptachlor epoxide	0.133		0.00600	ug/L	0.120	<0.00600	110	60-140	17.7	40
Methoxychlor	0.0921		0.00600	ug/L	0.120	<0.00600	76.7	60-140	20.1	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.200*	*ug/L*	*0.120*		*167*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.139*	*ug/L*	*0.120*		*116*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH4254 - SW-3570										
Blank (BFH4254-BLK1)					Prepared: 8/31/2022 Analyzed: 9/20/2022					
PCBs, Total	<2.00	U	2.00	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.364*	*ug/kg wet*	*0.600*		*60.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.345*	*ug/kg wet*	*0.600*		*57.5*	*60-140*		
LCS (BFH4254-BS1)					Prepared: 8/31/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	7.25		2.00	ug/kg wet	6.00		121	60-140		
Aroclor-1260 (PCB-1260)	4.92		2.00	ug/kg wet	6.00		82.0	60-140		
PCBs, Total	5.20		2.00	ug/kg wet	6.00		86.7	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.412*	*ug/kg wet*	*0.600*		*68.7*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.252*	*ug/kg wet*	*0.600*		*42.0*	*60-140*		
LCS Dup (BFH4254-BSD1)					Prepared: 8/31/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	4.88		2.00	ug/kg wet	6.00		81.3	60-140	39.1	40
Aroclor-1260 (PCB-1260)	4.78		2.00	ug/kg wet	6.00		79.7	60-140	2.81	40
PCBs, Total	4.80		2.00	ug/kg wet	6.00		79.9	60-140	8.11	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.429*	*ug/kg wet*	*0.600*		*71.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.289*	*ug/kg wet*	*0.600*		*48.2*	*60-140*		
MRL Check (BFH4254-MRL1)					Prepared: 8/31/2022 Analyzed: 9/20/2022					
Aroclor-1016 (PCB-1016)	2.81		2.00	ug/kg wet	1.20		234			
Aroclor-1221 (PCB-1221)	<2.00	U	2.00	ug/kg wet						
Aroclor-1232 (PCB-1232)	<2.00	U	2.00	ug/kg wet						
Aroclor-1242 (PCB-1242)	<2.00	U	2.00	ug/kg wet						
Aroclor-1248 (PCB-1248)	<2.00	U	2.00	ug/kg wet						
Aroclor-1254 (PCB-1254)	<2.00	U	2.00	ug/kg wet						
Aroclor-1260 (PCB-1260)	1.03	J	2.00	ug/kg wet	1.20		85.6			
PCBs, Total	1.25	J	2.00	ug/kg wet	1.20		104			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.405*	*ug/kg wet*	*0.600*		*67.5*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.231*	*ug/kg wet*	*0.600*		*38.5*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH4254 - SW-3570 (Continued)										
Matrix Spike (BFH4254-MS1)		**Source: 22G0514-18**		Prepared: 8/31/2022 Analyzed: 9/20/2022						
Aroclor-1016 (PCB-1016)	11.5		3.59	ug/kg dry	10.8	<3.59	107	60-140		
Aroclor-1260 (PCB-1260)	8.32		3.59	ug/kg dry	10.8	<3.59	77.2	60-140		
PCBs, Total	8.70		3.59	ug/kg dry	10.8	<3.59	80.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.947*	*ug/kg dry*	*1.08*		*87.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.358*	*ug/kg dry*	*1.08*		*33.3*	*60-140*		
Matrix Spike Dup (BFH4254-MSD1)		**Source: 22G0514-18**		Prepared: 8/31/2022 Analyzed: 9/20/2022						
Aroclor-1016 (PCB-1016)	11.9		3.59	ug/kg dry	10.8	<3.59	110	60-140	3.03	40
Aroclor-1260 (PCB-1260)	9.55		3.59	ug/kg dry	10.8	<3.59	88.7	60-140	13.8	40
PCBs, Total	9.83		3.59	ug/kg dry	10.8	<3.59	91.3	60-140	12.1	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*1.09*	*ug/kg dry*	*1.08*		*101*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.639*	*ug/kg dry*	*1.08*		*59.4*	*60-140*		
Batch: BFI0003 - SW-3570										
Blank (BFI0003-BLK1)				Prepared: 9/1/2022 Analyzed: 9/16/2022						
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			*7.48*	*ug/kg wet*	*6.00*		*125*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.68*	*ug/kg wet*	*6.00*		*128*	*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: BFI0003 - SW-3570 (Continued)										
TOX LCS (BFI0003-BS1)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
Toxaphene (Chlorinated Camphene)	65.8		15.0	ug/kg wet	60.0		110	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*7.39*	*ug/kg wet*	*6.00*		*123*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.32*	*ug/kg wet*	*6.00*		*122*	*60-140*		
LCS (BFI0003-BS2)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
4,4'-DDD	5.29		1.00	ug/kg wet	6.00		88.1	60-140		
4,4'-DDE	5.68		1.00	ug/kg wet	6.00		94.6	60-140		
4,4'-DDT	6.43		1.00	ug/kg wet	6.00		107	60-140		
Aldrin	5.52		1.00	ug/kg wet	6.00		92.1	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	6.13		1.00	ug/kg wet	6.00		102	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	6.66		1.00	ug/kg wet	6.00		111	60-140		
Chlordane (tech.)	22.9		1.00	ug/kg wet	24.0		95.2	60-140		
cis-Chlordane (alpha-Chlordane)	5.53		1.00	ug/kg wet	6.00		92.2	60-140		
delta-BHC	6.18		1.00	ug/kg wet	6.00		103	60-140		
Dieldrin	5.27		1.00	ug/kg wet	6.00		87.9	60-140		
Endosulfan I	4.98		1.00	ug/kg wet	6.00		83.0	60-140		
Endosulfan II	4.97		1.00	ug/kg wet	6.00		82.8	60-140		
Endosulfan sulfate	5.31		1.00	ug/kg wet	6.00		88.6	60-140		
Endrin	5.51		1.00	ug/kg wet	6.00		91.8	60-140		
Endrin aldehyde	4.85		1.00	ug/kg wet	6.00		80.8	60-140		
Endrin ketone	6.30		1.00	ug/kg wet	6.00		105	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.56		1.00	ug/kg wet	6.00		109	60-140		
gamma-Chlordane	6.16		1.00	ug/kg wet	6.00		103	60-140		
Heptachlor	5.79		1.00	ug/kg wet	6.00		96.6	60-140		
Heptachlor epoxide	5.76		1.00	ug/kg wet	6.00		96.0	60-140		
Methoxychlor	5.87		1.00	ug/kg wet	6.00		97.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*7.13*	*ug/kg wet*	*6.00*		*119*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.56*	*ug/kg wet*	*6.00*		*126*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFI0003 - SW-3570 (Continued)										
TOX LCSD (BFI0003-BSD1)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
Toxaphene (Chlorinated Camphene)	65.8		15.0	ug/kg wet	60.0		110	60-140	0.0310	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*8.03*	*ug/kg wet*	*6.00*		*134*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.52*	*ug/kg wet*	*6.00*		*125*	*60-140*		
LCS Dup (BFI0003-BSD2)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
4,4'-DDD	6.26		1.00	ug/kg wet	6.00		104	60-140	16.8	40
4,4'-DDE	7.29		1.00	ug/kg wet	6.00		121	60-140	24.9	40
4,4'-DDT	6.53		1.00	ug/kg wet	6.00		109	60-140	1.48	40
Aldrin	6.11		1.00	ug/kg wet	6.00		102	60-140	10.1	40
alpha-BHC (alpha-Hexachlorocyclohexane)	6.00		1.00	ug/kg wet	6.00		100	60-140	2.07	40
beta-BHC (beta-Hexachlorocyclohexane)	6.69		1.00	ug/kg wet	6.00		111	60-140	0.351	40
Chlordane (tech.)	25.0		1.00	ug/kg wet	24.0		104	60-140	9.12	40
cis-Chlordane (alpha-Chlordane)	6.15		1.00	ug/kg wet	6.00		103	60-140	10.6	40
delta-BHC	6.21		1.00	ug/kg wet	6.00		103	60-140	0.358	40
Dieldrin	6.19		1.00	ug/kg wet	6.00		103	60-140	15.9	40
Endosulfan I	5.76		1.00	ug/kg wet	6.00		96.0	60-140	14.5	40
Endosulfan II	5.68		1.00	ug/kg wet	6.00		94.7	60-140	13.4	40
Endosulfan sulfate	6.03		1.00	ug/kg wet	6.00		101	60-140	12.7	40
Endrin	6.21		1.00	ug/kg wet	6.00		104	60-140	12.0	40
Endrin aldehyde	4.97		1.00	ug/kg wet	6.00		82.9	60-140	2.57	40
Endrin ketone	6.12		1.00	ug/kg wet	6.00		102	60-140	3.03	40
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	6.35		1.00	ug/kg wet	6.00		106	60-140	3.21	40
gamma-Chlordane	6.73		1.00	ug/kg wet	6.00		112	60-140	8.79	40
Heptachlor	5.79		1.00	ug/kg wet	6.00		96.4	60-140	0.166	40
Heptachlor epoxide	6.36		1.00	ug/kg wet	6.00		106	60-140	9.87	40
Methoxychlor	6.29		1.00	ug/kg wet	6.00		105	60-140	7.02	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*7.52*	*ug/kg wet*	*6.00*		*125*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*8.96*	*ug/kg wet*	*6.00*		*149*	*60-140*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFI0003 - SW-3570 (Continued)										
MRL TOX (BFI0003-MRL1)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
Toxaphene (Chlorinated Camphene)	38.0	J1	15.0	ug/kg wet	15.0		253	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*7.56*	*ug/kg wet*	*6.00*		*126*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*7.59*	*ug/kg wet*	*6.00*		*126*	*60-140*		
MRL Check (BFI0003-MRL2)					Prepared: 9/1/2022 Analyzed: 9/16/2022					
4,4'-DDD	0.489	J	1.00	ug/kg wet	0.400		122			
4,4'-DDE	0.521	J	1.00	ug/kg wet	0.400		130			
4,4'-DDT	0.490	J	1.00	ug/kg wet	0.400		123			
Aldrin	0.464	J	1.00	ug/kg wet	0.400		116			
alpha-BHC (alpha-Hexachlorocyclohexane)	0.522	J	1.00	ug/kg wet	0.400		131			
beta-BHC (beta-Hexachlorocyclohexane)	0.165	J	1.00	ug/kg wet	0.400		41.2			
Chlordane (tech.)	2.94	J1	1.00	ug/kg wet	1.60		184	50-150		
cis-Chlordane (alpha-Chlordane)	0.425	J	1.00	ug/kg wet	0.400		106			
delta-BHC	0.449	J	1.00	ug/kg wet	0.400		112			
Dieldrin	0.457	J	1.00	ug/kg wet	0.400		114			
Endosulfan I	0.416	J	1.00	ug/kg wet	0.400		104			
Endosulfan II	0.431	J	1.00	ug/kg wet	0.400		108			
Endosulfan sulfate	<1.00	J1, U	1.00	ug/kg wet	0.400					
Endrin	0.405	J	1.00	ug/kg wet	0.400		101			
Endrin aldehyde	0.402	J	1.00	ug/kg wet	0.400		100			
Endrin ketone	0.382	J	1.00	ug/kg wet	0.400		95.6			
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.537	J	1.00	ug/kg wet	0.400		134			
gamma-Chlordane	1.44		1.00	ug/kg wet	0.400		359			
Heptachlor	0.556	J	1.00	ug/kg wet	0.400		139			
Heptachlor epoxide	0.489	J	1.00	ug/kg wet	0.400		122			
Methoxychlor	0.433	J	1.00	ug/kg wet	0.400		108			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*8.30*	*ug/kg wet*	*6.00*		*138*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*12.6*	*ug/kg wet*	*6.00*		*211*	*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: BFI0003 - SW-3570 (Continued)										
Matrix Spike (BFI0003-MS1)		**Source: 22G0514-19**		Prepared: 9/1/2022 Analyzed: 9/16/2022						
4,4'-DDD	10.5		2.05	ug/kg dry	12.3	<2.05	85.0	60-140		
4,4'-DDE	11.9		2.05	ug/kg dry	12.3	<2.05	96.8	60-140		
4,4'-DDT	12.1		2.05	ug/kg dry	12.3	<2.05	98.2	60-140		
Aldrin	11.8		2.05	ug/kg dry	12.3	<2.05	95.8	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	14.4		2.05	ug/kg dry	12.3	<2.05	116	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	14.1		2.05	ug/kg dry	12.3	<2.05	115	60-140		
Chlordane (tech.)	50.3		2.05	ug/kg dry	49.3	<2.05	102	60-140		
cis-Chlordane (alpha-Chlordane)	11.9		2.05	ug/kg dry	12.3	<2.05	96.5	60-140		
delta-BHC	14.6		2.05	ug/kg dry	12.3	<2.05	118	60-140		
Dieldrin	11.0		2.05	ug/kg dry	12.3	<2.05	89.7	60-140		
Endosulfan I	10.2		2.05	ug/kg dry	12.3	<2.05	82.5	60-140		
Endosulfan II	9.83		2.05	ug/kg dry	12.3	<2.05	79.8	60-140		
Endosulfan sulfate	11.4		2.05	ug/kg dry	12.3	<2.05	92.6	60-140		
Endrin	11.0		2.05	ug/kg dry	12.3	<2.05	88.9	60-140		
Endrin aldehyde	10.1		2.05	ug/kg dry	12.3	<2.05	81.9	60-140		
Endrin ketone	12.8		2.05	ug/kg dry	12.3	<2.05	104	60-140		
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	13.6		2.05	ug/kg dry	12.3	<2.05	111	60-140		
gamma-Chlordane	12.3		2.05	ug/kg dry	12.3	<2.05	99.6	60-140		
Heptachlor	13.8		2.05	ug/kg dry	12.3	<2.05	112	60-140		
Heptachlor epoxide	11.1		2.05	ug/kg dry	12.3	<2.05	90.5	60-140		
Methoxychlor	13.1		2.05	ug/kg dry	12.3	<2.05	106	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*19.5*	*ug/kg dry*	*12.3*		*158*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*14.3*	*ug/kg dry*	*12.3*		*116*	*60-140*		
Matrix Spike Dup (BFI0003-MSD1)		**Source: 22G0514-19**		Prepared: 9/1/2022 Analyzed: 9/16/2022						
4,4'-DDD	10.5		2.05	ug/kg dry	12.3	<2.05	85.1	60-140	0.0471	40
4,4'-DDE	12.0		2.05	ug/kg dry	12.3	<2.05	97.0	60-140	0.222	40
4,4'-DDT	12.6		2.05	ug/kg dry	12.3	<2.05	103	60-140	4.44	40
Aldrin	12.9		2.05	ug/kg dry	12.3	<2.05	105	60-140	9.20	40
alpha-BHC (alpha-Hexachlorocyclohexane)	13.8		2.05	ug/kg dry	12.3	<2.05	112	60-140	3.97	40
beta-BHC (beta-Hexachlorocyclohexane)	12.0		2.05	ug/kg dry	12.3	<2.05	97.1	60-140	16.7	40
Chlordane (tech.)	50.9		2.05	ug/kg dry	49.3	<2.05	103	60-140	1.13	40
cis-Chlordane (alpha-Chlordane)	11.4		2.05	ug/kg dry	12.3	<2.05	92.5	60-140	4.21	40
delta-BHC	13.1		2.05	ug/kg dry	12.3	<2.05	107	60-140	10.4	40
Dieldrin	10.4		2.05	ug/kg dry	12.3	<2.05	84.5	60-140	5.89	40
Endosulfan I	10.1		2.05	ug/kg dry	12.3	<2.05	82.0	60-140	0.620	40
Endosulfan II	9.71		2.05	ug/kg dry	12.3	<2.05	78.8	60-140	1.30	40
Endosulfan sulfate	11.6		2.05	ug/kg dry	12.3	<2.05	94.1	60-140	1.58	40
Endrin	11.1		2.05	ug/kg dry	12.3	<2.05	90.1	60-140	1.27	40
Endrin aldehyde	10.1		2.05	ug/kg dry	12.3	<2.05	81.7	60-140	0.312	40
Endrin ketone	12.7		2.05	ug/kg dry	12.3	<2.05	103	60-140	1.16	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: BFI0003 - SW-3570 (Continued)										
Matrix Spike Dup (BFI0003-MSD1)			**Source: 22G0514-19**		Prepared: 9/1/2022 Analyzed: 9/16/2022					
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	12.7		2.05	ug/kg dry	12.3	<2.05	103	60-140	7.01	40
gamma-Chlordane	12.2		2.05	ug/kg dry	12.3	<2.05	99.3	60-140	0.246	40
Heptachlor	17.3		2.05	ug/kg dry	12.3	<2.05	140	60-140	22.1	40
Heptachlor epoxide	11.0		2.05	ug/kg dry	12.3	<2.05	89.3	60-140	1.34	40
Methoxychlor	13.1		2.05	ug/kg dry	12.3	<2.05	107	60-140	0.305	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*14.0*	*ug/kg dry*	*12.3*		*113*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*14.4*	*ug/kg dry*	*12.3*		*117*	*60-140*		
Batch: BFI0166 - SW-3570										
Blank (BFI0166-BLK1)					Prepared: 9/1/2022 Analyzed: 10/1/2022					
PCBs, Total	<2.00	U	2.00	ug/kg wet						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.410*	*ug/kg wet*	*0.600*		*68.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.403*	*ug/kg wet*	*0.600*		*67.2*	*60-140*		
LCS (BFI0166-BS1)					Prepared: 9/1/2022 Analyzed: 10/1/2022					
Aroclor-1016 (PCB-1016)	4.03		2.00	ug/kg wet	6.00		67.1	60-140		
Aroclor-1260 (PCB-1260)	4.82		2.00	ug/kg wet	6.00		80.3	60-140		
PCBs, Total	4.67		2.00	ug/kg wet	6.00		77.8	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.374*	*ug/kg wet*	*0.600*		*62.3*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.435*	*ug/kg wet*	*0.600*		*72.6*	*60-140*		
LCS Dup (BFI0166-BSD1)					Prepared: 9/1/2022 Analyzed: 10/1/2022					
Aroclor-1016 (PCB-1016)	5.30		2.00	ug/kg wet	6.00		88.4	60-140	27.4	40
Aroclor-1260 (PCB-1260)	5.30		2.00	ug/kg wet	6.00		88.3	60-140	9.56	40
PCBs, Total	5.30		2.00	ug/kg wet	6.00		88.3	60-140	12.7	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.451*	*ug/kg wet*	*0.600*		*75.2*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.464*	*ug/kg wet*	*0.600*		*77.4*	*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: BFI0166 - SW-3570 (Continued)										
MRL Check (BFI0166-MRL1)					Prepared: 9/1/2022 Analyzed: 10/1/2022					
Aroclor-1016 (PCB-1016)	1.05	J	2.00	ug/kg wet	1.20		87.4			
Aroclor-1260 (PCB-1260)	0.942	J	2.00	ug/kg wet	1.20		78.5			
PCBs, Total	0.964	J	2.00	ug/kg wet	1.20		80.3			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.378*	*ug/kg wet*	*0.600*		*63.1*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.424*	*ug/kg wet*	*0.600*		*70.7*	*60-140*		
Matrix Spike (BFI0166-MS1)		**Source: 22G0514-20**			Prepared: 9/1/2022 Analyzed: 10/1/2022					
Aroclor-1016 (PCB-1016)	8.67		3.86	ug/kg dry	11.6	<3.86	74.9	60-140		
Aroclor-1260 (PCB-1260)	9.26		3.86	ug/kg dry	11.6	<3.86	80.0	60-140		
PCBs, Total	9.15		3.86	ug/kg dry	11.6	<3.86	79.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*1.15*	*ug/kg dry*	*1.16*		*99.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.552*	*ug/kg dry*	*1.16*		*47.7*	*60-140*		
Matrix Spike Dup (BFI0166-MSD1)		**Source: 22G0514-20**			Prepared: 9/1/2022 Analyzed: 10/1/2022					
Aroclor-1016 (PCB-1016)	8.96		3.86	ug/kg dry	11.6	<3.86	77.4	60-140	3.22	40
Aroclor-1260 (PCB-1260)	9.42		3.86	ug/kg dry	11.6	<3.86	81.3	60-140	1.69	40
PCBs, Total	9.33		3.86	ug/kg dry	11.6	<3.86	80.6	60-140	1.97	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*1.15*	*ug/kg dry*	*1.16*		*99.3*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.871*	*ug/kg dry*	*1.16*		*75.2*	*60-140*		

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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: BFI0904 - SW-7471										
MDL Check (BFI0904-MRL1)					Prepared: 9/7/2022 Analyzed: 9/8/2022					
Mercury	0.0112	J	0.0176	mg/kg wet	0.00882		127			
Matrix Spike (BFI0904-MS1)		**Source: 22G0514-15**			Prepared: 9/7/2022 Analyzed: 9/8/2022					
Mercury	0.256		0.0185	mg/kg dry	0.231	0.0146	105	80-120		
Matrix Spike (BFI0904-MS2)		**Source: 22H2692-24**			Prepared: 9/7/2022 Analyzed: 9/8/2022					
Mercury	0.292		0.0222	mg/kg dry	0.278	0.0193	98.4	80-120		
Matrix Spike Dup (BFI0904-MSD1)		**Source: 22G0514-15**			Prepared: 9/7/2022 Analyzed: 9/8/2022					
Mercury	0.231		0.0174	mg/kg dry	0.217	0.0146	99.7	80-120	10.2	20
Matrix Spike Dup (BFI0904-MSD2)		**Source: 22H2692-24**			Prepared: 9/7/2022 Analyzed: 9/8/2022					
Mercury	0.321		0.0232	mg/kg dry	0.291	0.0193	104	80-120	9.18	20
Batch: BFI1134 - Cr VI										
Blank (BFI1134-BLK1)					Prepared & Analyzed: 9/8/2022					
Chromium (VI)	<4.73	U	4.73	mg/kg wet						
Duplicate (BFI1134-DUP1)		**Source: 22H2692-29**			Prepared & Analyzed: 9/8/2022					
Chromium (VI)	<7.93	U	7.93	mg/kg dry		<7.93				20
Duplicate (BFI1134-DUP2)		**Source: 22H2692-28**			Prepared & Analyzed: 9/8/2022					
Chromium (VI)	<6.83	U	6.83	mg/kg dry		<6.83				20
MRL Check (BFI1134-MRL1)					Prepared & Analyzed: 9/8/2022					
Chromium (VI)	4.26	J	5.04	mg/kg wet	5.04		84.6	50-150		

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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: BFI1134 - Cr VI (Continued)										
SMS (BFI1134-MS1)		**Source: 22H2692-29**			Prepared & Analyzed: 9/8/2022					
Chromium (VI)	<7.45	J1, U	7.45	mg/kg dry	14.9	<7.45		75-125		
IMS (BFI1134-MS2)		**Source: 22H2692-29**			Prepared & Analyzed: 9/8/2022					
Chromium (VI)	<1970	J1, U	1970	mg/kg dry	497	<1970		75-125		
Post Spike (BFI1134-PS1)		**Source: 22H2692-29**			Prepared & Analyzed: 9/8/2022					
Chromium (VI)	10.5	J1		ug/L	250	10.4	0.0724	85-115		
Batch: BFI1464 - EPA 245.1										
Blank (BFI1464-BLK1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L						
LCS (BFI1464-BS1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.88		0.200	ug/L	5.00		97.7	85-115		
Duplicate (BFI1464-DUP1)		**Source: 22G0514-01**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
Duplicate (BFI1464-DUP2)		**Source: 22G0514-07**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
MDL Check (BFI1464-MRL1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L	0.100					
Matrix Spike (BFI1464-MS1)		**Source: 22G0514-01**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.98		0.200	ug/L	5.00	<0.200	99.5	70-130		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
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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: BFI1464 - EPA 245.1 (Continued)										
Matrix Spike (BFI1464-MS2)		**Source: 22G0514-07**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.87		0.200	ug/L	5.00	<0.200	97.4	70-130		
Batch: BFI2361 - Cr VI										
Blank (BFI2361-BLK1)					Prepared & Analyzed: 9/16/2022					
Chromium (VI)	<4.90	U	4.90	mg/kg wet						
Duplicate (BFI2361-DUP1)		**Source: 22G3176-56**			Prepared & Analyzed: 9/16/2022					
Chromium (VI)	<7.34	U	7.34	mg/kg dry		<7.34				20
MRL Check (BFI2361-MRL1)					Prepared & Analyzed: 9/16/2022					
Chromium (VI)	4.91	J	4.92	mg/kg wet	4.92		99.8	50-150		
Matrix Spike (BFI2361-MS1)		**Source: 22G3176-56**			Prepared & Analyzed: 9/16/2022					
Chromium (VI)	<7.78	J1, U	7.78	mg/kg dry	15.6	<7.78		75-125		
Matrix Spike (BFI2361-MS2)		**Source: 22G3176-56**			Prepared & Analyzed: 9/16/2022					
Chromium (VI)	<1860	J1, U	1860	mg/kg dry	478	<1860		75-125		
Post Spike (BFI2361-PS1)		**Source: 22G3176-56**			Prepared & Analyzed: 9/16/2022					
Chromium (VI)	9.69	J1		ug/L	250	8.54	0.461	85-115		
Batch: BFI2521 - EPA 200.8										
Blank (BFI2521-BLK1)					Prepared: 9/19/2022 Analyzed: 9/20/2022					
Selenium	<5.00	U	5.00	ug/L						

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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: BFI2521 - EPA 200.8 (Continued)										
LCS (BFI2521-BS1)					Prepared: 9/19/2022 Analyzed: 9/20/2022					
Selenium	199		5.00	ug/L	200		99.5	85-115		
Duplicate (BFI2521-DUP1)		**Source: 22G0514-01**			Prepared: 9/19/2022 Analyzed: 9/20/2022					
Selenium	<5.00	U	5.00	ug/L		<5.00				20
Duplicate (BFI2521-DUP3)		**Source: 22H2692-04**			Prepared: 9/19/2022 Analyzed: 9/22/2022					
Selenium	<25.0	U	25.0	ug/L		<25.0				20
MRL Check (BFI2521-MRL1)					Prepared: 9/19/2022 Analyzed: 9/20/2022					
Selenium	0.607	J	5.00	ug/L	0.330		184			
Matrix Spike (BFI2521-MS1)		**Source: 22G0514-01**			Prepared: 9/19/2022 Analyzed: 9/20/2022					
Selenium	191		5.00	ug/L	200	<5.00	95.3	75-125		
Matrix Spike (BFI2521-MS3)		**Source: 22H2692-04**			Prepared: 9/19/2022 Analyzed: 9/22/2022					
Selenium	193		25.0	ug/L	200	<25.0	96.5	75-125		
Batch: BFI3440 - EPA 200.8 Solid										
Blank (BFI3440-BLK1)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	<0.0951	U	0.0951	mg/kg wet						
Arsenic	<0.0474	U	0.0474	mg/kg wet						
Cadmium	<0.0951	U	0.0951	mg/kg wet						
Chromium	<0.285	U	0.285	mg/kg wet						
Copper	0.0329	J	0.0951	mg/kg wet						
Lead	<0.0474	U	0.0474	mg/kg wet						
Nickel	<0.0951	U	0.0951	mg/kg wet						
Selenium	<0.474	U	0.474	mg/kg wet						
Silver	<0.0474	U	0.0474	mg/kg wet						
Zinc	<0.190	U	0.190	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: BFI3440 - EPA 200.8 Solid (Continued)										
Blank (BFI3440-BLK2)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	<0.0190	U	0.0190	mg/kg wet						
Thallium	<0.0474	U	0.0474	mg/kg wet						
LCS (BFI3440-BS1)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	9.71		0.0936	mg/kg wet	9.35		104	85-115		
Arsenic	4.68		0.0467	mg/kg wet	4.67		100	85-115		
Cadmium	9.54		0.0936	mg/kg wet	9.35		102	85-115		
Chromium	29.2		0.280	mg/kg wet	28.0		104	85-115		
Copper	9.54		0.0936	mg/kg wet	9.35		102	85-115		
Lead	4.60		0.0467	mg/kg wet	4.67		98.5	85-115		
Nickel	9.49		0.0936	mg/kg wet	9.35		102	85-115		
Selenium	18.6		0.467	mg/kg wet	18.7		99.5	85-115		
Silver	4.69		0.0467	mg/kg wet	4.67		100	85-115		
Zinc	19.0		0.187	mg/kg wet	18.7		102	85-115		
LCS (BFI3440-BS2)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	1.86		0.0187	mg/kg wet	1.87		99.4	85-115		
Thallium	4.73		0.0467	mg/kg wet	4.67		101	85-115		
Duplicate (BFI3440-DUP1)		**Source: 22G0514-15**			Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	<0.0596	U	0.0596	mg/kg dry		<0.0596				20
Arsenic	4.94		0.0297	mg/kg dry		5.61			12.6	20
Cadmium	0.0346	J	0.0596	mg/kg dry		0.0383			9.95	20
Chromium	7.52		0.179	mg/kg dry		8.21			8.80	20
Copper	4.86		0.0596	mg/kg dry		5.58			13.7	20
Lead	8.31		0.149	mg/kg dry		9.12			9.27	20
Nickel	8.97		0.0596	mg/kg dry		9.57			6.50	20
Selenium	1.69		0.297	mg/kg dry		1.82			7.34	20
Silver	0.0187	J	0.0297	mg/kg dry		0.0211			12.1	20
Zinc	30.9		0.595	mg/kg dry		33.0			6.75	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: BFI3440 - EPA 200.8 Solid (Continued)										
Duplicate (BFI3440-DUP2)			**Source: 22I2507-10**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	<0.0869	U	0.0869	mg/kg dry		<0.0869				20
Arsenic	3.50		0.0434	mg/kg dry		3.65			4.22	20
Cadmium	0.103		0.0869	mg/kg dry		0.107			3.88	20
Chromium	9.14		0.260	mg/kg dry		8.95			2.04	20
Copper	9.62		0.0869	mg/kg dry		9.55			0.727	20
Lead	8.53		0.0434	mg/kg dry		8.65			1.33	20
Nickel	11.2		0.0869	mg/kg dry		10.9			2.02	20
Selenium	1.89		0.434	mg/kg dry		1.93			2.04	20
Zinc	32.7		0.173	mg/kg dry		34.5			5.37	20
Duplicate (BFI3440-DUP3)			**Source: 22G0514-15**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	0.419		0.0119	mg/kg dry		0.490			15.7	20
Thallium	0.0767		0.0297	mg/kg dry		0.0829			7.76	20
Duplicate (BFI3440-DUP4)			**Source: 22I2507-10**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	0.681		0.0173	mg/kg dry		0.672			1.26	20
Silver	0.0302	J	0.0434	mg/kg dry		0.0319			5.40	20
Thallium	0.0797		0.0434	mg/kg dry		0.0766			4.03	20
MDL Check (BFI3440-MRL1)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	0.0638	J	0.0967	mg/kg wet	0.0483		132			
Arsenic	0.00174	J	0.0482	mg/kg wet	0.00483		36.0			
Cadmium	0.00627	J	0.0967	mg/kg wet	0.00483		130			
Chromium	0.0244	J	0.290	mg/kg wet	0.0145		169			
Copper	0.0650	J	0.0967	mg/kg wet	0.00965		673			
Lead	0.00685	J	0.0482	mg/kg wet	0.00483		142			
Nickel	0.0122	J	0.0967	mg/kg wet	0.00483		252			
Selenium	0.0769	J	0.482	mg/kg wet	0.0965		79.7			
Silver	0.00270	J	0.0482	mg/kg wet	0.00241		112			
Zinc	0.241		0.193	mg/kg wet	0.0965		250			

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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: BFI3440 - EPA 200.8 Solid (Continued)										
MDL Check (BFI3440-MRL2)					Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	0.00212	J	0.0193	mg/kg wet	0.000965		220			
Thallium	0.00347	J	0.0482	mg/kg wet	0.00241		144			
Matrix Spike (BFI3440-MS1)			**Source: 22G0514-15**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	0.751	J1	0.0603	mg/kg dry	6.01	<0.0603	12.5	75-125		
Arsenic	9.69	J1	0.150	mg/kg dry	3.01	5.61	136	75-125		
Cadmium	6.04		0.0603	mg/kg dry	6.01	0.0383	99.8	75-125		
Chromium	23.4		0.180	mg/kg dry	18.0	8.21	84.2	75-125		
Copper	11.0		0.0603	mg/kg dry	6.01	5.58	89.8	75-125		
Lead	12.2		0.150	mg/kg dry	3.01	9.12	103	75-125		
Nickel	17.0		0.301	mg/kg dry	6.01	9.57	124	75-125		
Selenium	10.5	J1	0.301	mg/kg dry	12.0	1.82	72.4	75-125		
Silver	2.94		0.0301	mg/kg dry	3.01	0.0211	97.0	75-125		
Zinc	44.7		0.601	mg/kg dry	12.0	33.0	96.8	75-125		
Matrix Spike (BFI3440-MS2)			**Source: 22I2507-10**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Arsenic	6.83		0.0416	mg/kg dry	4.16	3.65	76.5	75-125		
Chromium	30.0		0.250	mg/kg dry	25.0	8.95	84.1	75-125		
Copper	15.8	J1	0.0834	mg/kg dry	8.33	9.55	74.7	75-125		
Lead	12.9		0.208	mg/kg dry	4.16	8.65	101	75-125		
Nickel	19.3		0.417	mg/kg dry	8.33	10.9	100	75-125		
Selenium	11.8	J1	0.416	mg/kg dry	16.7	1.93	59.1	75-125		
Zinc	49.6		0.832	mg/kg dry	16.7	34.5	90.6	75-125		
Matrix Spike (BFI3440-MS3)			**Source: 22G0514-15**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Beryllium	1.58		0.0120	mg/kg dry	1.20	0.490	90.3	75-125		
Thallium	2.49		0.0301	mg/kg dry	3.01	0.0829	79.9	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: BFI3440 - EPA 200.8 Solid (Continued)										
Matrix Spike (BFI3440-MS4)			**Source: 22I2507-10**		Prepared: 9/26/2022 Analyzed: 10/5/2022					
Antimony	1.41	J1	0.0834	mg/kg dry	8.33	<0.0834	16.9	75-125		
Beryllium	2.17		0.0166	mg/kg dry	1.67	0.672	89.9	75-125		
Cadmium	8.08		0.0834	mg/kg dry	8.33	0.107	95.8	75-125		
Silver	3.88		0.0416	mg/kg dry	4.16	0.0319	92.5	75-125		
Thallium	3.52		0.0416	mg/kg dry	4.16	0.0766	82.7	75-125		
Batch: SFI0224 - BFI2521										
Interference Check A (SFI0224-IFA1)					Prepared & Analyzed: 9/20/2022					
Selenium	0.952			ug/L				70-130		
Interference Check B (SFI0224-IFB1)					Prepared & Analyzed: 9/20/2022					
Selenium	193			ug/L	200		96.4	70-130		
Batch: SFI0235 - BFI2521										
Interference Check A (SFI0235-IFA1)					Prepared & Analyzed: 9/22/2022					
Selenium	0.995			ug/L				70-130		
Interference Check B (SFI0235-IFB1)					Prepared & Analyzed: 9/22/2022					
Selenium	197			ug/L	200		98.4	70-130		
Batch: SFJ0044 - BFI1593										
Interference Check A (SFJ0044-IFA1)					Prepared & Analyzed: 10/5/2022					
Antimony	0.291			ug/L				70-130		
Arsenic	0.0940			ug/L				70-130		
Cadmium	0.295			ug/L				70-130		
Chromium	3.46			ug/L				70-130		
Copper	1.45			ug/L				70-130		
Lead	0.137			ug/L				70-130		
Nickel	1.02			ug/L				70-130		
Selenium	0.0710			ug/L				70-130		
Silver	0.0140			ug/L				70-130		
Zinc	3.95			ug/L				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: SFJ0044 - BFI1593 (Continued)										
Interference Check B (SFJ0044-IFB1)					Prepared & Analyzed: 10/5/2022					
Antimony	100			ug/L	100		100	70-130		
Arsenic	51.4			ug/L	50.0		103	70-130		
Cadmium	97.5			ug/L	100		97.5	70-130		
Chromium	303			ug/L	300		101	70-130		
Copper	92.9			ug/L	100		92.9	70-130		
Lead	46.6			ug/L	50.0		93.1	70-130		
Nickel	93.2			ug/L	100		93.2	70-130		
Selenium	199			ug/L	200		99.6	70-130		
Silver	47.6			ug/L	50.0		95.2	70-130		
Zinc	184			ug/L	200		92.2	70-130		
Batch: SFJ0060 - BFI1593										
Interference Check A (SFJ0060-IFA1)					Prepared & Analyzed: 10/5/2022					
Antimony	0.287			ug/L				70-130		
Beryllium	0.00700			ug/L				70-130		
Cadmium	0.204			ug/L				70-130		
Silver	0.0130			ug/L				70-130		
Thallium	0.00600			ug/L				70-130		
Interference Check B (SFJ0060-IFB1)					Prepared & Analyzed: 10/5/2022					
Antimony	104			ug/L	100		104	70-130		
Beryllium	19.6			ug/L	20.0		98.1	70-130		
Cadmium	98.6			ug/L	100		98.6	70-130		
Silver	47.9			ug/L	50.0		95.9	70-130		
Thallium	47.9			ug/L	50.0		95.9	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: BFH3340 - Cr VI										
Matrix Spike (BFH3340-MS1)			**Source: 22H2692-05**		Prepared & Analyzed: 8/24/2022					
Chromium (VI)	235		3.00	ug/L	250	21.9	85.2	70-130		
Matrix Spike Dup (BFH3340-MSD1)			**Source: 22H2692-05**		Prepared & Analyzed: 8/24/2022					
Chromium (VI)	238		3.00	ug/L	250	21.9	86.4	70-130	1.27	20
Batch: BFH3536 - EPA 200.8 Dissolved										
Blank (BFH3536-BLK1)					Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	<1.00	U	1.00	ug/L						
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						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Blank (BFH3536-BLK2)					Prepared: 8/25/2022 Analyzed: 9/6/2022					
Beryllium	<0.200	U	0.200	ug/L						
Copper	<1.00	U	1.00	ug/L						
Zinc	<2.00	U	2.00	ug/L						
LCS (BFH3536-BS1)					Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	106		1.00	ug/L	100		106	85-115		
Arsenic	49.8		0.500	ug/L	50.0		99.5	85-115		
Cadmium	104		1.00	ug/L	100		104	85-115		
Chromium	296		3.00	ug/L	300		98.7	85-115		
Lead	48.3		0.500	ug/L	50.0		96.7	85-115		
Nickel	98.7		1.00	ug/L	100		98.7	85-115		
Silver	52.7		0.500	ug/L	50.0		105	85-115		
Thallium	50.8		0.500	ug/L	50.0		102	85-115		

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11555 Clay Road	Project Number:	**Reported:**
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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: BFH3536 - EPA 200.8 Dissolved (Continued)										
LCS (BFH3536-BS2)					Prepared: 8/25/2022 Analyzed: 9/6/2022					
Beryllium	18.0		0.200	ug/L	20.0		89.9	85-115		
Copper	107		1.00	ug/L	100		107	85-115		
Zinc	203		2.00	ug/L	200		102	85-115		
Duplicate (BFH3536-DUP1)		**Source: 22H2692-03**			Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Arsenic	2.26	J	2.50	ug/L		2.30			1.88	20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	1.01	J	15.0	ug/L		0.991			1.90	20
Lead	<2.50	U	2.50	ug/L		0.505			200	20
Nickel	1.34	J	5.00	ug/L		1.31			1.74	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BFH3536-DUP2)		**Source: 22F4021-92**			Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Arsenic	2.41	J	2.50	ug/L		2.48			3.11	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	1.07	J	5.00	ug/L		1.02			5.56	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BFH3536-DUP3)		**Source: 22H2692-03**			Prepared: 8/25/2022 Analyzed: 9/6/2022					
Beryllium	0.0570	J	1.00	ug/L		<1.00			200	20
Copper	2.57	J	5.00	ug/L		1.97			26.5	20
Zinc	1.40	J	10.0	ug/L		1.66			16.7	20

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Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH3536 - EPA 200.8 Dissolved (Continued)										
Duplicate (BFH3536-DUP4)			**Source: 22F4021-92**		Prepared: 8/25/2022 Analyzed: 9/6/2022					
Copper	2.64	J	5.00	ug/L		3.19			18.7	20
Zinc	2.06	J	10.0	ug/L		2.06			0.0970	20
Duplicate (BFH3536-DUP5)			**Source: 22F4021-92**		Prepared: 8/25/2022 Analyzed: 9/7/2022					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
MDL Check (BFH3536-MRL1)					Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	0.361	J	1.00	ug/L	0.200		180			
Arsenic	0.208	J	0.500	ug/L	0.100		208			
Cadmium	0.0860	J	1.00	ug/L	0.0500		172			
Chromium	0.159	J	3.00	ug/L	0.0800		199			
Lead	0.171	J	0.500	ug/L	0.100		171			
Nickel	0.183	J	1.00	ug/L	0.0500		366			
Silver	0.0600	J	0.500	ug/L	0.0300		200			
Thallium	0.0490	J	0.500	ug/L	0.0300		163			
MDL Check (BFH3536-MRL2)					Prepared: 8/25/2022 Analyzed: 9/6/2022					
Beryllium	0.0270	J	0.200	ug/L	0.0100		270			
Copper	1.07		1.00	ug/L	0.200		536			
Zinc	0.150	J	2.00	ug/L	0.200		75.0			
Matrix Spike (BFH3536-MS1)			**Source: 22H2692-03**		Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	100		5.00	ug/L	100	<5.00	100	75-125		
Arsenic	49.6		2.50	ug/L	50.0	2.30	94.6	75-125		
Cadmium	87.4		5.00	ug/L	100	<5.00	87.4	75-125		
Chromium	325		15.0	ug/L	300	0.991	108	75-125		
Lead	41.0		2.50	ug/L	50.0	0.505	81.0	75-125		
Nickel	93.5		5.00	ug/L	100	1.31	92.2	75-125		
Silver	42.2		2.50	ug/L	50.0	<2.50	84.4	75-125		
Thallium	40.1		2.50	ug/L	50.0	<2.50	80.2	75-125		

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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: BFH3536 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BFH3536-MS2)		**Source: 22F4021-92**			Prepared: 8/25/2022 Analyzed: 9/2/2022					
Antimony	95.1		5.00	ug/L	100	<5.00	95.1	75-125		
Arsenic	48.7		2.50	ug/L	50.0	2.48	92.4	75-125		
Cadmium	80.9		5.00	ug/L	100	<5.00	80.9	75-125		
Chromium	309		15.0	ug/L	300	<15.0	103	75-125		
Lead	37.2	J1	2.50	ug/L	50.0	<2.50	74.3	75-125		
Nickel	87.7		5.00	ug/L	100	1.02	86.7	75-125		
Silver	38.5		2.50	ug/L	50.0	<2.50	76.9	75-125		
Thallium	37.1	J1	2.50	ug/L	50.0	<2.50	74.2	75-125		
Matrix Spike (BFH3536-MS3)		**Source: 22H2692-03**			Prepared: 8/25/2022 Analyzed: 9/6/2022					
Beryllium	21.4		1.00	ug/L	20.0	<1.00	107	75-125		
Copper	96.8		5.00	ug/L	100	1.97	94.8	75-125		
Zinc	167		10.0	ug/L	200	1.66	82.7	75-125		
Matrix Spike (BFH3536-MS4)		**Source: 22F4021-92**			Prepared: 8/25/2022 Analyzed: 9/6/2022					
Copper	94.0		5.00	ug/L	100	3.19	90.8	75-125		
Zinc	164		10.0	ug/L	200	2.06	80.7	75-125		
Matrix Spike (BFH3536-MS5)		**Source: 22F4021-92**			Prepared: 8/25/2022 Analyzed: 9/7/2022					
Beryllium	17.6		1.00	ug/L	20.0	<1.00	88.2	75-125		
Batch: BFH3695 - Cr VI										
Matrix Spike (BFH3695-MS1)		**Source: 22H1902-01RE1**			Prepared & Analyzed: 8/26/2022					
Chromium (VI)	235		3.00	ug/L	250	21.4	85.3	70-130		
Matrix Spike Dup (BFH3695-MSD1)		**Source: 22H1902-01RE1**			Prepared & Analyzed: 8/26/2022					
Chromium (VI)	235		3.00	ug/L	250	21.4	85.5	70-130	0.187	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: BFI0638 - Cr VI										
BFH2669-LBK1 (BFI0638-LBK1)					Prepared & Analyzed: 9/6/2022					
Chromium (VI)	72.3		3.00	ug/L						
BFH3979-LBK2 (BFI0638-LBK2)					Prepared & Analyzed: 9/6/2022					
Chromium (VI)	40.1		3.00	ug/L						
Matrix Spike (BFI0638-MS1)		**Source: 22H1897-01**			Prepared & Analyzed: 9/6/2022					
Chromium (VI)	339		3.00	ug/L	250	193	58.4	70-130		
Matrix Spike Dup (BFI0638-MSD1)		**Source: 22H1897-01**			Prepared & Analyzed: 9/6/2022					
Chromium (VI)	341		3.00	ug/L	250	193	59.4	70-130	0.720	20
Batch: BFI0662 - EPA 200.8 Dissolved										
Blank (BFI0662-BLK1)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	<1.00	U	1.00	ug/L						
Arsenic	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	0.147	J	3.00	ug/L						
Copper	<1.00	U	1.00	ug/L						
Nickel	0.0580	J	1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Zinc	0.452	J	2.00	ug/L						
Blank (BFI0662-BLK2)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Lead	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						

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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: BFI0662 - EPA 200.8 Dissolved (Continued)										
Blank (BFI0662-BLK4)					Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	<0.200	U	0.200	ug/L						
LCS (BFI0662-BS1)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	115		1.00	ug/L	100		115	85-115		
Arsenic	55.1		0.500	ug/L	50.0		110	85-115		
Cadmium	105		1.00	ug/L	100		105	85-115		
Chromium	330		3.00	ug/L	300		110	85-115		
Copper	107		1.00	ug/L	100		107	85-115		
Nickel	106		1.00	ug/L	100		106	85-115		
Silver	53.1		0.500	ug/L	50.0		106	85-115		
Zinc	216		2.00	ug/L	200		108	85-115		
LCS (BFI0662-BS2)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Lead	55.1		0.500	ug/L	50.0		110	85-115		
Thallium	55.9		0.500	ug/L	50.0		112	85-115		
LCS (BFI0662-BS4)					Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	22.7		0.200	ug/L	20.0		114	85-115		
Duplicate (BFI0662-DUP1)		**Source: 22G0514-02**			Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Arsenic	1.99	J	2.50	ug/L		1.91			4.51	20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	0.641	J	15.0	ug/L		0.570			11.7	20
Copper	5.74		5.00	ug/L		6.03			5.05	20
Nickel	0.462	J	5.00	ug/L		0.436			5.79	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Zinc	<10.0	U	10.0	ug/L		<10.0				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: BFI0662 - EPA 200.8 Dissolved (Continued)										
Duplicate (BFI0662-DUP2)			**Source: 22G0514-06**		Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	0.583	J	15.0	ug/L		0.653			11.3	20
Copper	<5.00	U	5.00	ug/L		<5.00				20
Lead	<2.50	U	2.50	ug/L		<2.50				20
Nickel	0.533	J	5.00	ug/L		0.534			0.187	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Zinc	4.19	J	10.0	ug/L		4.38			4.62	20
Duplicate (BFI0662-DUP3)			**Source: 22G0514-02**		Prepared: 9/6/2022 Analyzed: 10/3/2022					
Lead	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Duplicate (BFI0662-DUP5)			**Source: 22G0514-06**		Prepared: 9/6/2022 Analyzed: 10/3/2022					
Arsenic	1.97	J	2.50	ug/L		1.92			2.52	20
Duplicate (BFI0662-DUP6)			**Source: 22G0514-02**		Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
Duplicate (BFI0662-DUP7)			**Source: 22G0514-06**		Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
MDL Check (BFI0662-MRL1)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	0.418	J	1.00	ug/L	0.200		209			
Arsenic	0.170	J	0.500	ug/L	0.100		170			
Cadmium	0.104	J	1.00	ug/L	0.0500		208			
Chromium	0.196	J	3.00	ug/L	0.0800		245			
Copper	0.493	J	1.00	ug/L	0.200		246			
Nickel	0.131	J	1.00	ug/L	0.0500		262			
Silver	0.0600	J	0.500	ug/L	0.0300		200			
Zinc	1.17	J	2.00	ug/L	0.200		584			

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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: BFI0662 - EPA 200.8 Dissolved (Continued)										
MDL Check (BFI0662-MRL2)					Prepared: 9/6/2022 Analyzed: 10/3/2022					
Lead	0.199	J	0.500	ug/L	0.100		199			
Thallium	0.0600	J	0.500	ug/L	0.0300		200			
MDL Check (BFI0662-MRL4)					Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	0.0270	J	0.200	ug/L	0.0100		270			
Matrix Spike (BFI0662-MS1)		**Source: 22G0514-02**			Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	107		5.00	ug/L	100	<5.00	107	75-125		
Arsenic	56.7		2.50	ug/L	50.0	1.91	110	75-125		
Cadmium	96.1		5.00	ug/L	100	<5.00	96.1	75-125		
Chromium	331		15.0	ug/L	300	0.570	110	75-125		
Copper	99.6		5.00	ug/L	100	6.03	93.6	75-125		
Nickel	96.8		5.00	ug/L	100	0.436	96.3	75-125		
Silver	47.1		2.50	ug/L	50.0	<2.50	94.2	75-125		
Zinc	197		10.0	ug/L	200	<10.0	98.4	75-125		
Matrix Spike (BFI0662-MS2)		**Source: 22G0514-06**			Prepared: 9/6/2022 Analyzed: 10/3/2022					
Antimony	109		5.00	ug/L	100	<5.00	109	75-125		
Cadmium	104		5.00	ug/L	100	<5.00	104	75-125		
Chromium	351		15.0	ug/L	300	0.653	117	75-125		
Copper	105		5.00	ug/L	100	<5.00	105	75-125		
Lead	51.7		2.50	ug/L	50.0	<2.50	103	75-125		
Nickel	106		5.00	ug/L	100	0.534	105	75-125		
Silver	52.9		2.50	ug/L	50.0	<2.50	106	75-125		
Thallium	53.1		2.50	ug/L	50.0	<2.50	106	75-125		
Zinc	213		10.0	ug/L	200	4.38	104	75-125		
Matrix Spike (BFI0662-MS3)		**Source: 22G0514-02**			Prepared: 9/6/2022 Analyzed: 10/3/2022					
Lead	48.3		2.50	ug/L	50.0	<2.50	96.5	75-125		
Thallium	47.6		2.50	ug/L	50.0	<2.50	95.2	75-125		

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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: BFI0662 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BFI0662-MS5)			**Source: 22G0514-06**		Prepared: 9/6/2022 Analyzed: 10/3/2022					
Arsenic	62.4		2.50	ug/L	50.0	1.92	121	75-125		
Matrix Spike (BFI0662-MS6)			**Source: 22G0514-02**		Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	20.6		1.00	ug/L	20.0	<1.00	103	75-125		
Matrix Spike (BFI0662-MS7)			**Source: 22G0514-06**		Prepared: 9/6/2022 Analyzed: 10/4/2022					
Beryllium	17.9		1.00	ug/L	20.0	<1.00	89.4	75-125		
Batch: BFI0740 - Cr VI										
Matrix Spike (BFI0740-MS1)			**Source: 22H3776-05RE1**		Prepared & Analyzed: 9/7/2022					
Chromium (VI)	266		3.00	ug/L	250	12.0	102	70-130		
Matrix Spike Dup (BFI0740-MSD1)			**Source: 22H3776-05RE1**		Prepared & Analyzed: 9/7/2022					
Chromium (VI)	275		3.00	ug/L	250	12.0	105	70-130	3.34	20
Batch: BFI3774 - EPA 200.8 Dissolved										
Blank (BFI3774-BLK1)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	<1.00	U	1.00	ug/L						
Arsenic	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Copper	0.643	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						
Zinc	<2.00	U	2.00	ug/L						

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11555 Clay Road	Project Number:	**Reported:**
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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: BFI3774 - EPA 200.8 Dissolved (Continued)										
Blank (BFI3774-BLK2)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Beryllium	<0.200	U	0.200	ug/L						
LCS (BFI3774-BS1)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	105		1.00	ug/L	100		105	85-115		
Arsenic	50.9		0.500	ug/L	50.0		102	85-115		
Cadmium	102		1.00	ug/L	100		102	85-115		
Chromium	306		3.00	ug/L	300		102	85-115		
Copper	102		1.00	ug/L	100		102	85-115		
Lead	50.7		0.500	ug/L	50.0		101	85-115		
Nickel	102		1.00	ug/L	100		102	85-115		
Silver	49.6		0.500	ug/L	50.0		99.2	85-115		
Thallium	50.7		0.500	ug/L	50.0		101	85-115		
Zinc	204		2.00	ug/L	200		102	85-115		
LCS (BFI3774-BS2)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Beryllium	18.5		0.200	ug/L	20.0		92.3	85-115		
Duplicate (BFI3774-DUP1)		**Source: 22G0514-04**			Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Arsenic	2.02	J	2.50	ug/L		1.96			3.01	20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	0.648	J	15.0	ug/L		0.659			1.68	20
Copper	<5.00	U	5.00	ug/L		<5.00				20
Lead	<2.50	U	2.50	ug/L		<2.50				20
Nickel	0.436	J	5.00	ug/L		0.431			1.15	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Zinc	<10.0	U	10.0	ug/L		<10.0				20

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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: BFI3774 - EPA 200.8 Dissolved (Continued)										
Duplicate (BFI3774-DUP2)			**Source: 22I2507-01**		Prepared: 9/28/2022 Analyzed: 10/6/2022					
Lead	<0.500	U	0.500	ug/L		<0.500				20
Thallium	<0.500	U	0.500	ug/L		<0.500				20
Duplicate (BFI3774-DUP3)			**Source: 22G0514-04**		Prepared: 9/28/2022 Analyzed: 10/6/2022					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
Duplicate (BFI3774-DUP4)			**Source: 22I2507-01**		Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	<1.00	U	1.00	ug/L		<1.00				20
Arsenic	<0.500	U	0.500	ug/L		<0.500				20
Beryllium	0.0100	J	0.200	ug/L		0.0120			18.2	20
Cadmium	<1.00	U	1.00	ug/L		<1.00				20
Chromium	<3.00	U	3.00	ug/L		<3.00				20
Copper	1.02		1.00	ug/L		1.10			7.34	20
Nickel	0.0670	J	1.00	ug/L		0.0810			18.9	20
Silver	<0.500	U	0.500	ug/L		<0.500				20
Zinc	1.80	J	2.00	ug/L		1.58			12.6	20
BFI0697-LBK1 (BFI3774-LBK1)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	<1.00	U	1.00	ug/L						
Arsenic	1.27		0.500	ug/L						
Beryllium	0.145	J	0.200	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	3.55		3.00	ug/L						
Lead	1.55		0.500	ug/L						
Nickel	1.72		1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Zinc	1.95	J	2.00	ug/L						

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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: BFI3774 - EPA 200.8 Dissolved (Continued)										
BFI1492-LBK1 (BFI3774-LBK2)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	<1.00	U	1.00	ug/L						
Arsenic	0.913		0.500	ug/L						
Beryllium	0.0610	J	0.200	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	1.92	J	3.00	ug/L						
Lead	0.747		0.500	ug/L						
Nickel	1.10		1.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Zinc	1.77	J	2.00	ug/L						
BFI0697-LBK1 (BFI3774-LBK3)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Copper	1.85		1.00	ug/L						
BFI1492-LBK1 (BFI3774-LBK4)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Copper	1.10		1.00	ug/L						
MDL Check (BFI3774-MRL1)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	0.461	J	1.00	ug/L	0.200		230			
Arsenic	0.161	J	0.500	ug/L	0.100		161			
Cadmium	0.0950	J	1.00	ug/L	0.0500		190			
Chromium	0.171	J	3.00	ug/L	0.0800		214			
Copper	0.566	J	1.00	ug/L	0.200		283			
Lead	0.176	J	0.500	ug/L	0.100		176			
Nickel	0.0950	J	1.00	ug/L	0.0500		190			
Silver	0.0520	J	0.500	ug/L	0.0300		173			
Thallium	0.0600	J	0.500	ug/L	0.0300		200			
Zinc	0.768	J	2.00	ug/L	0.200		384			

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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: BFI3774 - EPA 200.8 Dissolved (Continued)										
MDL Check (BFI3774-MRL2)					Prepared: 9/28/2022 Analyzed: 10/6/2022					
Beryllium	0.0240	J	0.200	ug/L	0.0100		240			
Matrix Spike (BFI3774-MS1)		**Source: 22G0514-04**			Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	97.5		5.00	ug/L	100	<5.00	97.5	75-125		
Arsenic	49.9		2.50	ug/L	50.0	1.96	95.8	75-125		
Cadmium	81.7		5.00	ug/L	100	<5.00	81.7	75-125		
Chromium	276		15.0	ug/L	300	0.659	91.6	75-125		
Copper	81.1		5.00	ug/L	100	<5.00	81.1	75-125		
Lead	41.0		2.50	ug/L	50.0	<2.50	81.9	75-125		
Nickel	80.8		5.00	ug/L	100	0.431	80.4	75-125		
Silver	35.7	J1	2.50	ug/L	50.0	<2.50	71.5	75-125		
Thallium	39.4		2.50	ug/L	50.0	<2.50	78.8	75-125		
Zinc	163		10.0	ug/L	200	<10.0	81.6	75-125		
Matrix Spike (BFI3774-MS2)		**Source: 22I2507-01**			Prepared: 9/28/2022 Analyzed: 10/6/2022					
Lead	46.0		0.500	ug/L	50.0	<0.500	92.0	75-125		
Thallium	45.3		0.500	ug/L	50.0	<0.500	90.6	75-125		
Matrix Spike (BFI3774-MS3)		**Source: 22G0514-04**			Prepared: 9/28/2022 Analyzed: 10/6/2022					
Beryllium	18.5		1.00	ug/L	20.0	<1.00	92.5	75-125		
Matrix Spike (BFI3774-MS4)		**Source: 22I2507-01**			Prepared: 9/28/2022 Analyzed: 10/6/2022					
Antimony	98.7		1.00	ug/L	100	<1.00	98.7	75-125		
Arsenic	50.1		0.500	ug/L	50.0	<0.500	100	75-125		
Beryllium	20.6		0.200	ug/L	20.0	0.0120	103	75-125		
Cadmium	99.5		1.00	ug/L	100	<1.00	99.5	75-125		
Chromium	297		3.00	ug/L	300	<3.00	99.1	75-125		
Copper	98.3		1.00	ug/L	100	1.10	97.2	75-125		
Nickel	96.9		1.00	ug/L	100	0.0810	96.8	75-125		
Silver	49.4		0.500	ug/L	50.0	<0.500	98.9	75-125		
Zinc	198		2.00	ug/L	200	1.58	98.0	75-125		

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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SFI0030 - BFH1717										
Interference Check A (SFI0030-IFA1)					Prepared & Analyzed: 9/2/2022					
Antimony	0.136			ug/L				70-130		
Arsenic	0.304			ug/L				70-130		
Cadmium	0.417			ug/L				70-130		
Chromium	0.521			ug/L				70-130		
Lead	0.426			ug/L				70-130		
Nickel	0.932			ug/L				70-130		
Silver	0.0230			ug/L				70-130		
Thallium	0.00500			ug/L				70-130		
Interference Check B (SFI0030-IFB1)					Prepared & Analyzed: 9/2/2022					
Antimony	110			ug/L	100		110	70-130		
Arsenic	50.0			ug/L	50.0		99.9	70-130		
Cadmium	99.7			ug/L	100		99.7	70-130		
Chromium	304			ug/L	300		101	70-130		
Lead	46.6			ug/L	50.0		93.3	70-130		
Nickel	92.7			ug/L	100		92.7	70-130		
Silver	49.2			ug/L	50.0		98.4	70-130		
Thallium	47.7			ug/L	50.0		95.4	70-130		
Batch: SFI0041 - BFH1717										
Interference Check A (SFI0041-IFA1)					Prepared & Analyzed: 9/6/2022					
Beryllium	0.0100			ug/L				70-130		
Copper	0.518			ug/L				70-130		
Zinc	0.614			ug/L				70-130		
Interference Check B (SFI0041-IFB1)					Prepared & Analyzed: 9/6/2022					
Beryllium	18.1			ug/L	20.0		90.4	70-130		
Copper	100			ug/L	100		100	70-130		
Zinc	187			ug/L	200		93.6	70-130		

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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: SFI0063 - BFH3536										
Interference Check A (SFI0063-IFA1)					Prepared & Analyzed: 9/7/2022					
Antimony	0.214			ug/L				70-130		
Arsenic	0.305			ug/L				70-130		
Beryllium	0.00400			ug/L				70-130		
Cadmium	0.412			ug/L				70-130		
Chromium	0.723			ug/L				70-130		
Copper	0.476			ug/L				70-130		
Lead	0.433			ug/L				70-130		
Nickel	1.04			ug/L				70-130		
Silver	0.0980			ug/L				70-130		
Thallium	0.0430			ug/L				70-130		
Zinc	1.82			ug/L				70-130		
Interference Check B (SFI0063-IFB1)					Prepared & Analyzed: 9/7/2022					
Antimony	113			ug/L	100		113	70-130		
Arsenic	55.7			ug/L	50.0		111	70-130		
Beryllium	20.4			ug/L	20.0		102	70-130		
Cadmium	105			ug/L	100		105	70-130		
Chromium	335			ug/L	300		112	70-130		
Copper	104			ug/L	100		104	70-130		
Lead	51.0			ug/L	50.0		102	70-130		
Nickel	105			ug/L	100		105	70-130		
Silver	50.7			ug/L	50.0		101	70-130		
Thallium	51.3			ug/L	50.0		103	70-130		
Zinc	204			ug/L	200		102	70-130		
Batch: SFJ0012 - BFI2337										
Interference Check A (SFJ0012-IFA1)					Prepared & Analyzed: 10/3/2022					
Antimony	0.226			ug/L				70-130		
Arsenic	0.359			ug/L				70-130		
Beryllium	0.00200			ug/L				70-130		
Cadmium	0.280			ug/L				70-130		
Chromium	0.513			ug/L				70-130		
Copper	0.880			ug/L				70-130		
Lead	0.441			ug/L				70-130		
Nickel	1.01			ug/L				70-130		
Silver	0.0240			ug/L				70-130		
Zinc	0.905			ug/L				70-130		

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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: SFJ0012 - BFI2337 (Continued)										
Interference Check B (SFJ0012-IFB1)					Prepared & Analyzed: 10/3/2022					
Antimony	117			ug/L	100		117	70-130		
Arsenic	55.6			ug/L	50.0		111	70-130		
Beryllium	18.8			ug/L	20.0		94.1	70-130		
Cadmium	105			ug/L	100		105	70-130		
Chromium	325			ug/L	300		108	70-130		
Copper	101			ug/L	100		101	70-130		
Lead	51.9			ug/L	50.0		104	70-130		
Nickel	101			ug/L	100		101	70-130		
Silver	51.5			ug/L	50.0		103	70-130		
Zinc	202			ug/L	200		101	70-130		
Batch: SFJ0021 - BFI1593										
Interference Check A (SFJ0021-IFA1)					Prepared & Analyzed: 10/3/2022					
Antimony	0.275			ug/L				70-130		
Cadmium	0.275			ug/L				70-130		
Chromium	0.547			ug/L				70-130		
Copper	0.944			ug/L				70-130		
Lead	0.456			ug/L				70-130		
Nickel	1.06			ug/L				70-130		
Silver	0.0260			ug/L				70-130		
Thallium	0.00800			ug/L				70-130		
Zinc	1.17			ug/L				70-130		
Interference Check B (SFJ0021-IFB1)					Prepared & Analyzed: 10/3/2022					
Antimony	120			ug/L	100		120	70-130		
Cadmium	107			ug/L	100		107	70-130		
Chromium	316			ug/L	300		105	70-130		
Copper	99.7			ug/L	100		99.7	70-130		
Lead	51.5			ug/L	50.0		103	70-130		
Nickel	100			ug/L	100		100	70-130		
Silver	53.5			ug/L	50.0		107	70-130		
Thallium	51.9			ug/L	50.0		104	70-130		
Zinc	202			ug/L	200		101	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: SFJ0027 - BFI1593										
Interference Check A (SFJ0027-IFA1)					Prepared & Analyzed: 10/3/2022					
Arsenic	0.313			ug/L				70-130		
Interference Check B (SFJ0027-IFB1)					Prepared & Analyzed: 10/3/2022					
Arsenic	53.9			ug/L	50.0		108	70-130		
Batch: SFJ0029 - BFI1593										
Interference Check A (SFJ0029-IFA1)					Prepared & Analyzed: 10/4/2022					
Beryllium	0.00300			ug/L				70-130		
Interference Check B (SFJ0029-IFB1)					Prepared & Analyzed: 10/4/2022					
Beryllium	18.8			ug/L	20.0		94.2	70-130		
Batch: SFJ0038 - BFI1593										
Interference Check A (SFJ0038-IFA1)					Prepared & Analyzed: 10/4/2022					
Beryllium	0.0100			ug/L				70-130		
Interference Check B (SFJ0038-IFB1)					Prepared & Analyzed: 10/4/2022					
Beryllium	18.5			ug/L	20.0		92.7	70-130		
Batch: SFJ0066 - BFI1593										
Interference Check A (SFJ0066-IFA1)					Prepared & Analyzed: 10/6/2022					
Antimony	0.352			ug/L				70-130		
Arsenic	0.0970			ug/L				70-130		
Cadmium	0.248			ug/L				70-130		
Chromium	3.30			ug/L				70-130		
Copper	0.700			ug/L				70-130		
Lead	0.0730			ug/L				70-130		
Nickel	0.684			ug/L				70-130		
Silver	0.0110			ug/L				70-130		
Thallium	0.00600			ug/L				70-130		
Zinc	0.977			ug/L				70-130		

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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: SFJ0066 - BFI1593 (Continued)										
Interference Check B (SFJ0066-IFB1)					Prepared & Analyzed: 10/6/2022					
Antimony	109			ug/L	100		109	70-130		
Arsenic	51.1			ug/L	50.0		102	70-130		
Cadmium	97.3			ug/L	100		97.3	70-130		
Chromium	305			ug/L	300		102	70-130		
Copper	95.6			ug/L	100		95.6	70-130		
Lead	47.7			ug/L	50.0		95.4	70-130		
Nickel	96.1			ug/L	100		96.1	70-130		
Silver	48.6			ug/L	50.0		97.3	70-130		
Thallium	47.8			ug/L	50.0		95.6	70-130		
Zinc	188			ug/L	200		93.9	70-130		
Batch: SFJ0068 - BFJ0164										
Interference Check A (SFJ0068-IFA1)					Prepared & Analyzed: 10/6/2022					
Antimony	0.406			ug/L				70-130		
Arsenic	0.0880			ug/L				70-130		
Beryllium	0.00900			ug/L				70-130		
Cadmium	0.327			ug/L				70-130		
Chromium	3.33			ug/L				70-130		
Copper	0.732			ug/L				70-130		
Lead	0.0750			ug/L				70-130		
Nickel	0.682			ug/L				70-130		
Silver	0.0130			ug/L				70-130		
Thallium	0.00700			ug/L				70-130		
Zinc	1.13			ug/L				70-130		
Interference Check B (SFJ0068-IFB1)					Prepared & Analyzed: 10/6/2022					
Antimony	111			ug/L	100		111	70-130		
Arsenic	52.4			ug/L	50.0		105	70-130		
Beryllium	17.9			ug/L	20.0		89.5	70-130		
Cadmium	98.2			ug/L	100		98.2	70-130		
Chromium	308			ug/L	300		103	70-130		
Copper	93.5			ug/L	100		93.5	70-130		
Lead	47.4			ug/L	50.0		94.7	70-130		
Nickel	95.7			ug/L	100		95.7	70-130		
Silver	48.1			ug/L	50.0		96.1	70-130		
Thallium	46.5			ug/L	50.0		92.9	70-130		
Zinc	186			ug/L	200		93.2	70-130		

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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: SFJ0076 - BFI1593										
Interference Check A (SFJ0076-IFA1)					Prepared & Analyzed: 10/6/2022					
Copper	0.744			ug/L				70-130		
Interference Check B (SFJ0076-IFB1)					Prepared & Analyzed: 10/6/2022					
Copper	93.8			ug/L	100		93.8	70-130		

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Quality Control
(Continued)

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFH2402 - CN-9014										
Blank (BFH2402-BLK1)					Prepared: 9/1/2022 Analyzed: 9/2/2022					
Total Cyanide	<0.0538	U	0.0538	mg/kg wet						
QCS (BFH2402-BS1)					Prepared: 9/1/2022 Analyzed: 9/2/2022					
Total Cyanide	0.952		0.0515	mg/kg wet	1.03		92.4	90-110		
MRL Check (BFH2402-MRL1)					Prepared: 9/1/2022 Analyzed: 9/2/2022					
Total Cyanide	0.0849		0.0485	mg/kg wet	0.0971		87.4	50-150		
Matrix Spike (BFH2402-MS1)		**Source: 22G3176-56**			Prepared: 9/1/2022 Analyzed: 9/2/2022					
Total Cyanide	1.34		0.0722	mg/kg dry	1.44	<0.0722	93.0	80-120		
Matrix Spike Dup (BFH2402-MSD1)		**Source: 22G3176-56**			Prepared: 9/1/2022 Analyzed: 9/2/2022					
Total Cyanide	1.34		0.0766	mg/kg dry	1.53	<0.0766	87.5	80-120	0.246	20
Batch: BFH3228 - Percent Solids										
Blank (BFH3228-BLK1)					Prepared: 8/24/2022 Analyzed: 8/25/2022					
% Solids	<0.100	U	0.100	%						
Duplicate (BFH3228-DUP1)		**Source: 22G0514-21**			Prepared: 8/24/2022 Analyzed: 8/25/2022					
% Solids	68.5		0.100	%		68.1			0.629	10
Duplicate (BFH3228-DUP2)		**Source: 22H3913-07**			Prepared: 8/24/2022 Analyzed: 8/25/2022					
% Solids	0.814		0.100	%		0.806			0.956	20
Reference (BFH3228-SRM1)					Prepared: 8/24/2022 Analyzed: 8/25/2022					
% Solids	0.361		0.100	%	0.350		103	78.9-118		

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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: BFH3717 - pH										
LCS (BFH3717-BS1)					Prepared & Analyzed: 8/26/2022					
pH	6.88			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BFH3717-DUP1)		**Source: 22G0514-15**			Prepared & Analyzed: 8/26/2022					
pH	9.30		0.100	pH Units @ 25 °C		9.27			0.323	200
Batch: BFH3925 - CN-9014										
Blank (BFH3925-BLK1)					Prepared & Analyzed: 8/29/2022					
Total Cyanide	<0.0455	U	0.0455	mg/kg wet						
QCS (BFH3925-BS1)					Prepared & Analyzed: 8/29/2022					
Total Cyanide	1.15		0.0532	mg/kg wet	1.06		108	90-110		
MRL Check (BFH3925-MRL1)					Prepared & Analyzed: 8/29/2022					
Total Cyanide	0.0764		0.0495	mg/kg wet	0.0990		77.2	50-150		
Matrix Spike (BFH3925-MS1)		**Source: 22H2692-19**			Prepared & Analyzed: 8/29/2022					
Total Cyanide	1.97		0.101	mg/kg dry	2.03	<0.101	97.3	80-120		
Matrix Spike Dup (BFH3925-MSD1)		**Source: 22H2692-19**			Prepared & Analyzed: 8/29/2022					
Total Cyanide	2.00		0.100	mg/kg dry	2.01	<0.100	99.8	80-120	1.49	20
Batch: BFH4047 - TSS										
Blank (BFH4047-BLK1)					Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						

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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: BFH4047 - TSS (Continued)										
LCS (BFH4047-BS1)					Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	99.1		1.00	mg/L	100		99.1	85-115		
Duplicate (BFH4047-DUP1)		**Source: 22H4435-02**			Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	4.63		1.00	mg/L		4.42			4.65	30
Duplicate (BFH4047-DUP2)		**Source: 22H4604-01**			Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	2.32		1.00	mg/L		1.89			20.0	30
Batch: BFH4048 - TSS										
Blank (BFH4048-BLK1)					Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BFH4048-BS1)					Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	97.8		1.00	mg/L	100		97.8	85-115		
Duplicate (BFH4048-DUP1)		**Source: 22H0236-01**			Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	1.68		1.00	mg/L		1.68			0.00	30
Duplicate (BFH4048-DUP2)		**Source: 22H4567-02**			Prepared: 8/30/2022 Analyzed: 8/31/2022					
Residue-nonfilterable (TSS)	1.47		1.00	mg/L		1.47			0.00	30
Batch: BFH4099 - NH3-N SEAL-350.1										
MRL Check (BFH4099-MRL1)					Prepared & Analyzed: 8/31/2022					
Ammonia as N	0.0271			mg/L	0.0500		54.2	50-150		

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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: BFH4099 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike (BFH4099-MS1)			**Source: 22H0108-04**		Prepared & Analyzed: 8/31/2022					
Ammonia as N	11.9		2.50	mg/L	0.400	11.5	104	90-110		
Matrix Spike (BFH4099-MS2)			**Source: 22H3776-07**		Prepared & Analyzed: 8/31/2022					
Ammonia as N	5.36		0.500	mg/L	0.400	4.93	107	90-110		
Matrix Spike Dup (BFH4099-MSD1)			**Source: 22H0108-04**		Prepared & Analyzed: 8/31/2022					
Ammonia as N	11.9		2.50	mg/L	0.400	11.5	104	90-110	0.0268	20
Matrix Spike Dup (BFH4099-MSD2)			**Source: 22H3776-07**		Prepared & Analyzed: 8/31/2022					
Ammonia as N	5.33		0.500	mg/L	0.400	4.93	99.5	90-110	0.586	20
Batch: BFH4130 - Percent Solids										
Blank (BFH4130-BLK1)					Prepared: 8/31/2022 Analyzed: 9/1/2022					
% Solids	<0.100	U	0.100	%						
Duplicate (BFH4130-DUP1)			**Source: 22H4444-08**		Prepared: 8/31/2022 Analyzed: 9/1/2022					
% Solids	0.573		0.100	%		0.567			0.911	20
Duplicate (BFH4130-DUP2)			**Source: 22H4626-03**		Prepared: 8/31/2022 Analyzed: 9/1/2022					
% Solids	1.36		0.100	%		1.36			0.359	20
Reference (BFH4130-SRM1)					Prepared: 8/31/2022 Analyzed: 9/1/2022					
% Solids	0.356		0.100	%	0.350		102	78.9-118		
Batch: BFH4180 - NH3-N SEAL-350.1										
Matrix Spike (BFH4180-MS1)			**Source: 22H4449-06**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	12.4		1.00	mg/L	0.400	12.0	104	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: BFH4180 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike (BFH4180-MS2)			**Source: 22H4454-02**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	0.952		0.0500	mg/L	0.400	0.565	96.8	90-110		
Matrix Spike Dup (BFH4180-MSD1)			**Source: 22H4449-06**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	12.4		1.00	mg/L	0.400	12.0	99.4	90-110	0.147	20
Matrix Spike Dup (BFH4180-MSD2)			**Source: 22H4454-02**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	0.966		0.0500	mg/L	0.400	0.565	100	90-110	1.43	20
Batch: BFH4228 - pH										
LCS (BFH4228-BS1)					Prepared & Analyzed: 8/31/2022					
pH	6.88			pH Units @ 25 °C	6.86		100	98.6-101.4		
Duplicate (BFH4228-DUP1)			**Source: 22G0514-18**		Prepared & Analyzed: 8/31/2022					
pH	8.91		0.100	pH Units @ 25 °C		8.93			0.224	200
Batch: BFI0154 - NH3-N SEAL-350.1										
Matrix Spike (BFI0154-MS1)			**Source: 22H0069-01**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	0.488	J1	0.0500	mg/L	0.400	0.0337	114	90-110		
Matrix Spike (BFI0154-MS2)			**Source: 22H4505-05**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	1.89	J1	0.100	mg/L	0.400	1.43	116	90-110		
Matrix Spike Dup (BFI0154-MSD1)			**Source: 22H0069-01**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	0.488	J1	0.0500	mg/L	0.400	0.0337	114	90-110	0.0205	20

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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: BFI0154 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike Dup (BFI0154-MSD2)			**Source: 22H4505-05**		Prepared & Analyzed: 9/1/2022					
Ammonia as N	1.95	J1	0.100	mg/L	0.400	1.43	130	90-110	2.93	20
Batch: BFI0408 - NH3-N T										
Blank (BFI0408-BLK1)					Prepared: 9/2/2022 Analyzed: 9/6/2022					
Ammonia as N	<20.0	U	20.0	mg/kg wet						
LCS (BFI0408-BS1)					Prepared: 9/2/2022 Analyzed: 9/6/2022					
Ammonia as N	192		20.0	mg/kg wet	200		96.0	85-115		
Duplicate (BFI0408-DUP1)			**Source: 22F2581-26**		Prepared: 9/2/2022 Analyzed: 9/6/2022					
Ammonia as N	168	J1	40.6	mg/kg dry		208			21.1	20
MRL Check (BFI0408-MRL1)					Prepared: 9/2/2022 Analyzed: 9/6/2022					
Ammonia as N	19.6	J	20.0	mg/kg wet	20.0		98.0	50-150		
Matrix Spike (BFI0408-MS1)			**Source: 22F2581-26**		Prepared: 9/2/2022 Analyzed: 9/6/2022					
Ammonia as N	533	J1	40.6	mg/kg dry	406	208	80.1	85-115		

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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: BFI1055 - SW-3511										
Blank (BFI1055-BLK1)					Prepared: 9/8/2022 Analyzed: 9/21/2022					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*10.0*	*ug/L*	*10.0*		*100*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*18.4*	*ug/L*	*20.0*		*92.1*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.1*	*ug/L*	*20.0*		*100*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.1*	*ug/L*	*10.0*		*101*	*52-162*		
Surrogate: Phenol-d5-surr			*20.2*	*ug/L*	*20.0*		*101*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.70*	*ug/L*	*10.0*		*87.0*	*51.9-147*		
Blank (BFI1055-BLK2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
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						
2,4,6-Trichlorophenol	<1.12	U	1.12	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						
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)fluoranthene	<0.562	U	0.562	ug/L						
Benzo(g,h,i)perylene	<0.562	U	0.562	ug/L						
Benzo(k)fluoranthene	<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	0.550	J	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						
Indeno(1,2,3-cd) pyrene	<0.562	U	0.562	ug/L						

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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: BFI1055 - SW-3511 (Continued)										
Blank (BFI1055-BLK2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
Naphthalene	<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	1.56		1.12	ug/L						
Pyrene	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*8.87*	*ug/L*	*10.0*		*88.7*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.8*	*ug/L*	*20.0*		*98.8*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.3*	*ug/L*	*20.0*		*86.6*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.13*	*ug/L*	*10.0*		*91.3*	*52-162*		
Surrogate: Phenol-d5-surr			*21.2*	*ug/L*	*20.0*		*106*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.34*	*ug/L*	*10.0*		*93.4*	*51.9-147*		
Blank (BFI1055-BLK3)					Prepared: 9/8/2022 Analyzed: 9/28/2022					
Surrogate: 2-Fluorobiphenyl-surr			*9.23*	*ug/L*	*10.0*		*92.3*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.5*	*ug/L*	*20.0*		*108*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.5*	*ug/L*	*20.0*		*82.4*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.41*	*ug/L*	*10.0*		*94.1*	*52-162*		
Surrogate: Phenol-d5-surr			*21.2*	*ug/L*	*20.0*		*106*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*11.2*	*ug/L*	*10.0*		*112*	*51.9-147*		
BENZ LCS (BFI1055-BS1)					Prepared: 9/8/2022 Analyzed: 9/21/2022					
3,3'-Dichlorobenzidine	7.62		0.562	ug/L	10.0		76.2	22.3-156		
Surrogate: 2-Fluorobiphenyl-surr			*11.6*	*ug/L*	*10.0*		*116*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*23.5*	*ug/L*	*20.0*		*117*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.5*	*ug/L*	*20.0*		*102*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.2*	*ug/L*	*10.0*		*112*	*52-162*		
Surrogate: Phenol-d5-surr			*21.4*	*ug/L*	*20.0*		*107*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.53*	*ug/L*	*10.0*		*95.3*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
LCS (BFI1055-BS2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
1,2,4-Trichlorobenzene	8.58		0.562	ug/L	10.0		85.8	60-140		
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.80		0.562	ug/L	10.0		88.0	60-140		
1,2-Diphenylhydrazine	12.5		0.562	ug/L	10.0		125	60-140		
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.72		0.562	ug/L	10.0		87.2	60-140		
1,4-Dichlorobenzene (p-Dichlorobenzene)	8.88		0.562	ug/L	10.0		88.8	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.17		0.562	ug/L	10.0		91.7	60-140		
2,4,6-Trichlorophenol	22.0		1.12	ug/L	20.0		110	60-140		
2,4-Dichlorophenol	23.4		0.562	ug/L	20.0		117	60-140		
2,4-Dimethylphenol	22.6		1.12	ug/L	20.0		113	35.9-153		
2,4-Dinitrophenol	55.2		4.50	ug/L	50.0		110	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)	10.1		0.562	ug/L	10.0		101	60-140		
2-Chloronaphthalene	10.4		0.562	ug/L	10.0		104	60-140		
2-Chlorophenol	17.9		1.12	ug/L	20.0		89.4	60-140		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	16.7		1.12	ug/L	20.0		83.6	60-140		
2-Nitrophenol	20.3		1.12	ug/L	20.0		101	60-140		
4-Bromophenyl phenyl ether (BDE-3)	11.3		0.562	ug/L	10.0		113	60-140		
Acenaphthene	9.37		0.562	ug/L	10.0		93.7	60-140		
Acenaphthylene	11.0		0.562	ug/L	10.0		110	60-140		
Anthracene	9.46		0.562	ug/L	10.0		94.6	60-140		
Benzo(a)anthracene	9.67		0.562	ug/L	10.0		96.7	60-140		
Benzo(a)pyrene	10.9		0.562	ug/L	10.0		109	60-140		
Benzo(b)fluoranthene	10.8		0.562	ug/L	10.0		108	60-140		
Benzo(g,h,i)perylene	9.31		0.562	ug/L	10.0		93.1	60-140		
Benzo(k)fluoranthene	10.9		0.562	ug/L	10.0		109	60-140		
Chrysene	9.66		0.562	ug/L	10.0		96.6	60-140		
Dibenzo(a,h)anthracene	9.27		0.562	ug/L	10.0		92.7	60-140		
Diethyl phthalate	11.2		0.562	ug/L	10.0		112	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	10.2		0.562	ug/L	10.0		102	60-140		
Indeno(1,2,3-cd) pyrene	9.24		0.562	ug/L	10.0		92.4	60-140		
Naphthalene	9.54		0.562	ug/L	10.0		95.4	60-140		
Pentachlorophenol	18.7		1.12	ug/L	20.0		93.4	36.8-149		
Phenanthrene	9.38		0.562	ug/L	10.0		93.8	60-140		
Phenol, Total	19.2		1.12	ug/L	20.0		96.2	60-140		
Pyrene	9.35		0.562	ug/L	10.0		93.5	60-140		
Surrogate: 2-Fluorobiphenyl-surr			*9.21*	*ug/L*	*10.0*		*92.1*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.1*	*ug/L*	*20.0*		*106*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*22.1*	*ug/L*	*20.0*		*111*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.6*	*ug/L*	*10.0*		*106*	*52-162*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
LCS (BFI1055-BS2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
Surrogate: Phenol-d5-surr			*21.3*	*ug/L*	*20.0*		*106*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.77*	*ug/L*	*10.0*		*87.7*	*51.9-147*		
LCS (BFI1055-BS3)					Prepared: 9/8/2022 Analyzed: 9/28/2022					
Surrogate: 2-Fluorobiphenyl-surr			*9.60*	*ug/L*	*10.0*		*96.0*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*22.8*	*ug/L*	*20.0*		*114*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.9*	*ug/L*	*20.0*		*89.3*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.3*	*ug/L*	*10.0*		*103*	*52-162*		
Surrogate: Phenol-d5-surr			*22.3*	*ug/L*	*20.0*		*111*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.97*	*ug/L*	*10.0*		*89.7*	*51.9-147*		
BENZ LCSD (BFI1055-BSD1)					Prepared: 9/8/2022 Analyzed: 9/21/2022					
3,3'-Dichlorobenzidine	7.21		0.562	ug/L	10.0		72.1	22.3-156	5.55	40
Surrogate: 2-Fluorobiphenyl-surr			*9.98*	*ug/L*	*10.0*		*99.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.2*	*ug/L*	*20.0*		*95.9*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*19.3*	*ug/L*	*20.0*		*96.6*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.1*	*ug/L*	*10.0*		*101*	*52-162*		
Surrogate: Phenol-d5-surr			*18.4*	*ug/L*	*20.0*		*92.1*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.30*	*ug/L*	*10.0*		*83.0*	*51.9-147*		
LCS Dup (BFI1055-BSD2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
1,2,4-Trichlorobenzene	8.75		0.562	ug/L	10.0		87.5	60-140	2.05	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	9.21		0.562	ug/L	10.0		92.1	60-140	4.60	40
1,2-Diphenylhydrazine	11.1		0.562	ug/L	10.0		111	60-140	11.8	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	8.03		0.562	ug/L	10.0		80.3	60-140	8.18	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	7.78		0.562	ug/L	10.0		77.8	60-140	13.2	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.1		0.562	ug/L	10.0		101	60-140	9.78	40
2,4,6-Trichlorophenol	17.9		1.12	ug/L	20.0		89.5	60-140	20.7	40
2,4-Dichlorophenol	19.5		0.562	ug/L	20.0		97.4	60-140	18.1	40
2,4-Dimethylphenol	21.2		1.12	ug/L	20.0		106	35.9-153	6.47	40
2,4-Dinitrophenol	46.6		4.50	ug/L	50.0		93.2	60-140	17.0	40
2,4-Dinitrotoluene (2,4-DNT)	8.04		0.562	ug/L	10.0		80.4	60-140	21.9	40
2,6-Dinitrotoluene (2,6-DNT)	8.19		0.562	ug/L	10.0		81.9	60-140	20.7	40
2-Chloronaphthalene	8.62		0.562	ug/L	10.0		86.2	60-140	18.3	40
2-Chlorophenol	18.5		1.12	ug/L	20.0		92.7	60-140	3.58	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	14.3		1.12	ug/L	20.0		71.5	60-140	15.6	40
2-Nitrophenol	21.3		1.12	ug/L	20.0		106	60-140	4.76	40
4-Bromophenyl phenyl ether (BDE-3)	8.50		0.562	ug/L	10.0		85.0	60-140	28.4	40
Acenaphthene	8.32		0.562	ug/L	10.0		83.2	60-140	11.9	40
Acenaphthylene	9.55		0.562	ug/L	10.0		95.5	60-140	14.5	40
Anthracene	8.07		0.562	ug/L	10.0		80.7	60-140	15.8	40

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
LCS Dup (BFI1055-BSD2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
Benzo(a)anthracene	8.48		0.562	ug/L	10.0		84.8	60-140	13.0	40
Benzo(a)pyrene	9.52		0.562	ug/L	10.0		95.2	60-140	13.9	40
Benzo(b)fluoranthene	9.52		0.562	ug/L	10.0		95.2	60-140	12.2	40
Benzo(g,h,i)perylene	8.20		0.562	ug/L	10.0		82.0	60-140	12.7	40
Benzo(k)fluoranthene	9.62		0.562	ug/L	10.0		96.2	60-140	12.4	40
Chrysene	8.58		0.562	ug/L	10.0		85.8	60-140	11.8	40
Dibenzo(a,h)anthracene	7.76		0.562	ug/L	10.0		77.6	60-140	17.7	40
Diethyl phthalate	9.11		0.562	ug/L	10.0		91.1	60-140	20.7	40
Fluoranthene	8.35		0.562	ug/L	10.0		83.5	60-140	13.8	40
Fluorene	8.70		0.562	ug/L	10.0		87.0	60-140	17.2	40
Hexachlorobenzene	9.17		0.562	ug/L	10.0		91.7	60-140	10.2	40
Indeno(1,2,3-cd) pyrene	7.94		0.562	ug/L	10.0		79.4	60-140	15.2	40
Naphthalene	8.59		0.562	ug/L	10.0		85.9	60-140	10.6	40
Pentachlorophenol	14.7		1.12	ug/L	20.0		73.5	36.8-149	23.9	40
Phenanthrene	8.30		0.562	ug/L	10.0		83.0	60-140	12.3	40
Phenol, Total	18.4		1.12	ug/L	20.0		91.9	60-140	4.55	40
Pyrene	8.13		0.562	ug/L	10.0		81.3	60-140	14.0	40
Surrogate: 2-Fluorobiphenyl-surr			*8.58*	*ug/L*	*10.0*		*85.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.8*	*ug/L*	*20.0*		*99.2*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.4*	*ug/L*	*20.0*		*82.1*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.8*	*ug/L*	*10.0*		*108*	*52-162*		
Surrogate: Phenol-d5-surr			*18.9*	*ug/L*	*20.0*		*94.3*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*7.22*	*ug/L*	*10.0*		*72.2*	*51.9-147*		
LCS Dup (BFI1055-BSD3)					Prepared: 9/8/2022 Analyzed: 9/28/2022					
Surrogate: 2-Fluorobiphenyl-surr			*8.61*	*ug/L*	*10.0*		*86.1*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.6*	*ug/L*	*20.0*		*103*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.2*	*ug/L*	*20.0*		*81.2*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.10*	*ug/L*	*10.0*		*91.0*	*52-162*		
Surrogate: Phenol-d5-surr			*20.4*	*ug/L*	*20.0*		*102*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.20*	*ug/L*	*10.0*		*82.0*	*51.9-147*		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
BFI0697-BLK1 (BFI1055-LBK1)					Prepared: 9/8/2022 Analyzed: 9/22/2022					
3,3'-Dichlorobenzidine	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*10.9*	*ug/L*	*10.0*		*109*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.6*	*ug/L*	*20.0*		*98.1*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.0*	*ug/L*	*20.0*		*100*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.2*	*ug/L*	*10.0*		*112*	*52-162*		
Surrogate: Phenol-d5-surr			*19.0*	*ug/L*	*20.0*		*94.9*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.67*	*ug/L*	*10.0*		*66.7*	*51.9-147*		
BFI0697-BLK1 (BFI1055-LBK2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
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						
2,4,6-Trichlorophenol	<1.12	U	1.12	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						
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)fluoranthene	<0.562	U	0.562	ug/L						
Benzo(g,h,i)perylene	<0.562	U	0.562	ug/L						
Benzo(k)fluoranthene	<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	<0.562	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						
Indeno(1,2,3-cd) pyrene	<0.562	U	0.562	ug/L						

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
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Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
BFI0697-BLK1 (BFI1055-LBK2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
Naphthalene	<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	1.55		1.12	ug/L						
Pyrene	<0.562	U	0.562	ug/L						
Surrogate: 2-Fluorobiphenyl-surr			*10.3*	*ug/L*	*10.0*		*103*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.5*	*ug/L*	*20.0*		*122*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.2*	*ug/L*	*20.0*		*101*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*13.9*	*ug/L*	*10.0*		*139*	*52-162*		
Surrogate: Phenol-d5-surr			*24.7*	*ug/L*	*20.0*		*123*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*7.10*	*ug/L*	*10.0*		*71.0*	*51.9-147*		
BFI0697-BLK1 (BFI1055-LBK3)					Prepared: 9/8/2022 Analyzed: 9/28/2022					
Surrogate: 2-Fluorobiphenyl-surr			*10.5*	*ug/L*	*10.0*		*105*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*25.4*	*ug/L*	*20.0*		*127*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*18.5*	*ug/L*	*20.0*		*92.3*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*11.3*	*ug/L*	*10.0*		*113*	*52-162*		
Surrogate: Phenol-d5-surr			*26.3*	*ug/L*	*20.0*		*131*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.44*	*ug/L*	*10.0*		*64.4*	*51.9-147*		
BENZ MDL Check (BFI1055-MRL1)					Prepared: 9/8/2022 Analyzed: 9/21/2022					
3,3'-Dichlorobenzidine	0.284	J	0.562	ug/L	0.500		56.8			
Surrogate: 2-Fluorobiphenyl-surr			*9.32*	*ug/L*	*10.0*		*93.2*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*19.3*	*ug/L*	*20.0*		*96.6*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*20.5*	*ug/L*	*20.0*		*103*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.86*	*ug/L*	*10.0*		*98.6*	*52-162*		
Surrogate: Phenol-d5-surr			*19.4*	*ug/L*	*20.0*		*96.9*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*7.86*	*ug/L*	*10.0*		*78.6*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
MDL Check (BFI1055-MRL2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
1,2,4-Trichlorobenzene	0.459	J	0.562	ug/L	0.500		91.7			
1,2-Dichlorobenzene (o-Dichlorobenzene)	0.457	J	0.562	ug/L	0.500		91.4			
1,2-Diphenylhydrazine	1.48		0.562	ug/L	0.500		295			
1,3-Dichlorobenzene (m-Dichlorobenzene)	0.415	J	0.562	ug/L	0.500		83.1			
1,4-Dichlorobenzene (p-Dichlorobenzene)	0.455	J	0.562	ug/L	0.500		91.1			
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	0.611		0.562	ug/L	0.500		122			
2,4,6-Trichlorophenol	1.23		1.12	ug/L	1.00		123			
2,4-Dichlorophenol	1.21		0.562	ug/L	1.00		121			
2,4-Dimethylphenol	1.29		1.12	ug/L	1.00		129			
2,4-Dinitrophenol	4.73		4.50	ug/L	2.50		189			
2,4-Dinitrotoluene (2,4-DNT)	0.466	J	0.562	ug/L	0.500		93.2			
2,6-Dinitrotoluene (2,6-DNT)	0.535	J	0.562	ug/L	0.500		107			
2-Chloronaphthalene	0.537	J	0.562	ug/L	0.500		107			
2-Chlorophenol	0.837	J	1.12	ug/L	1.00		83.7			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	1.15		1.12	ug/L	1.00		115			
2-Nitrophenol	1.11	J	1.12	ug/L	1.00		111			
4-Bromophenyl phenyl ether (BDE-3)	0.490	J	0.562	ug/L	0.500		98.1			
Acenaphthene	0.483	J	0.562	ug/L	0.500		96.5			
Acenaphthylene	0.525	J	0.562	ug/L	0.500		105			
Anthracene	0.452	J	0.562	ug/L	0.500		90.4			
Benzo(a)anthracene	0.467	J	0.562	ug/L	0.500		93.4			
Benzo(a)pyrene	0.504	J	0.562	ug/L	0.500		101			
Benzo(b)fluoranthene	0.450	J	0.562	ug/L	0.500		90.1			
Benzo(g,h,i)perylene	0.425	J	0.562	ug/L	0.500		85.0			
Benzo(k)fluoranthene	0.509	J	0.562	ug/L	0.500		102			
Chrysene	0.484	J	0.562	ug/L	0.500		96.9			
Dibenzo(a,h)anthracene	0.381	J	0.562	ug/L	0.500		76.2			
Diethyl phthalate	1.16		0.562	ug/L	0.500		232			
Fluoranthene	0.463	J	0.562	ug/L	0.500		92.6			
Fluorene	0.445	J	0.562	ug/L	0.500		89.1			
Hexachlorobenzene	0.470	J	0.562	ug/L	0.500		93.9			
Indeno(1,2,3-cd) pyrene	0.396	J	0.562	ug/L	0.500		79.1			
Naphthalene	0.505	J	0.562	ug/L	0.500		101			
Pentachlorophenol	0.707	J	1.12	ug/L	1.00		70.7			
Phenanthrene	0.452	J	0.562	ug/L	0.500		90.5			
Phenol, Total	2.12		1.12	ug/L	1.00		212			
Pyrene	0.481	J	0.562	ug/L	0.500		96.3			
Surrogate: 2-Fluorobiphenyl-surr			*8.86*	*ug/L*	*10.0*		*88.6*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.9*	*ug/L*	*20.0*		*110*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*18.5*	*ug/L*	*20.0*		*92.6*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.3*	*ug/L*	*10.0*		*103*	*52-162*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
MDL Check (BFI1055-MRL2)					Prepared: 9/8/2022 Analyzed: 9/27/2022					
Surrogate: Phenol-d5-surr			*23.8*	*ug/L*	*20.0*		*119*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*9.20*	*ug/L*	*10.0*		*92.0*	*51.9-147*		
MDL Check (BFI1055-MRL3)					Prepared: 9/8/2022 Analyzed: 9/28/2022					
Surrogate: 2-Fluorobiphenyl-surr			*9.61*	*ug/L*	*10.0*		*96.1*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*24.0*	*ug/L*	*20.0*		*120*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.0*	*ug/L*	*20.0*		*80.2*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.2*	*ug/L*	*10.0*		*102*	*52-162*		
Surrogate: Phenol-d5-surr			*22.8*	*ug/L*	*20.0*		*114*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*8.81*	*ug/L*	*10.0*		*88.1*	*51.9-147*		
22G0514-10 MS (BFI1055-MS1)		**Source: 22G0514-10RE1**			Prepared: 9/8/2022 Analyzed: 9/27/2022					
1,2,4-Trichlorobenzene	7.81		0.562	ug/L	10.0	<0.562	78.1	35.3-142		
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.40		0.562	ug/L	10.0	<0.562	84.0	31.4-142		
1,2-Diphenylhydrazine	11.9		0.562	ug/L	10.0	<0.562	119	48.9-156		
1,3-Dichlorobenzene (m-Dichlorobenzene)	7.03		0.562	ug/L	10.0	<0.562	70.3	30.5-135		
1,4-Dichlorobenzene (p-Dichlorobenzene)	7.46		0.562	ug/L	10.0	<0.562	74.6	37.2-133		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	9.87		0.562	ug/L	10.0	<0.562	98.7	41.7-151		
2,4,6-Trichlorophenol	18.1		1.12	ug/L	20.0	<1.12	90.6	34.7-143		
2,4-Dichlorophenol	19.6		0.562	ug/L	20.0	<0.562	98.1	42.7-158		
2,4-Dimethylphenol	20.9		1.12	ug/L	20.0	<1.12	105	38.4-170		
2,4-Dinitrophenol	48.7		4.50	ug/L	50.0	<4.50	97.4	60-140		
2,4-Dinitrotoluene (2,4-DNT)	8.35		0.562	ug/L	10.0	<0.562	83.5	50.3-144		
2,6-Dinitrotoluene (2,6-DNT)	8.46		0.562	ug/L	10.0	<0.562	84.6	43.7-157		
2-Chloronaphthalene	8.73		0.562	ug/L	10.0	<0.562	87.3	27.4-158		
2-Chlorophenol	17.8		1.12	ug/L	20.0	<1.12	88.8	49.2-150		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	15.1		1.12	ug/L	20.0	<1.12	75.6	41.9-153		
2-Nitrophenol	20.5		1.12	ug/L	20.0	<1.12	102	51.9-150		
4-Bromophenyl phenyl ether (BDE-3)	8.98		0.562	ug/L	10.0	<0.562	89.8	45.2-146		
Acenaphthene	8.40		0.562	ug/L	10.0	<0.562	84.0	47.3-149		
Acenaphthylene	10.2		0.562	ug/L	10.0	<0.562	102	56.5-173		
Anthracene	8.71		0.562	ug/L	10.0	<0.562	87.1	49.7-160		
Benzo(a)anthracene	8.03		0.562	ug/L	10.0	<0.562	80.3	41.7-151		
Benzo(a)pyrene	8.46		0.562	ug/L	10.0	<0.562	84.6	45.4-133		
Benzo(b)fluoranthene	8.30		0.562	ug/L	10.0	<0.562	83.0	36.9-152		
Benzo(g,h,i)perylene	6.96		0.562	ug/L	10.0	<0.562	69.6	37.9-152		
Benzo(k)fluoranthene	7.97		0.562	ug/L	10.0	<0.562	79.7	31.6-158		
Chrysene	7.73		0.562	ug/L	10.0	<0.562	77.3	51-147		
Dibenzo(a,h)anthracene	6.10		0.562	ug/L	10.0	<0.562	61.0	27.5-156		
Diethyl phthalate	8.89		0.562	ug/L	10.0	<0.562	88.9	53.4-146		
Fluoranthene	8.41		0.562	ug/L	10.0	<0.562	84.1	45.3-156		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
22G0514-10 MS (BFI1055-MS1)		**Source: 22G0514-10RE1**		Prepared: 9/8/2022 Analyzed: 9/27/2022						
Fluorene	8.64		0.562	ug/L	10.0	<0.562	86.4	56.3-145		
Hexachlorobenzene	7.81		0.562	ug/L	10.0	<0.562	78.1	56.1-137		
Indeno(1,2,3-cd) pyrene	6.46		0.562	ug/L	10.0	<0.562	64.6	33.4-153		
Naphthalene	8.70		0.562	ug/L	10.0	<0.562	87.0	45.1-153		
Pentachlorophenol	14.8		1.12	ug/L	20.0	<1.12	74.0	42.2-151		
Phenanthrene	8.41		0.562	ug/L	10.0	<0.562	84.1	45.3-165		
Phenol, Total	19.3		1.12	ug/L	20.0	1.40	89.3	39.8-164		
Pyrene	8.25		0.562	ug/L	10.0	<0.562	82.5	46.3-149		
Surrogate: 2-Fluorobiphenyl-surr			*8.43*	*ug/L*	*10.0*		*84.3*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.4*	*ug/L*	*20.0*		*102*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*17.3*	*ug/L*	*20.0*		*86.5*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.4*	*ug/L*	*10.0*		*104*	*52-162*		
Surrogate: Phenol-d5-surr			*19.9*	*ug/L*	*20.0*		*99.5*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.32*	*ug/L*	*10.0*		*63.2*	*51.9-147*		
Matrix Spike (BFI1055-MS2)		**Source: 22G0514-10RE2**		Prepared: 9/8/2022 Analyzed: 9/28/2022						
Surrogate: 2-Fluorobiphenyl-surr			*8.60*	*ug/L*	*10.0*		*86.0*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.3*	*ug/L*	*20.0*		*106*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.2*	*ug/L*	*20.0*		*81.0*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.37*	*ug/L*	*10.0*		*93.7*	*52-162*		
Surrogate: Phenol-d5-surr			*20.5*	*ug/L*	*20.0*		*102*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.82*	*ug/L*	*10.0*		*68.2*	*51.9-147*		
22G0514-10 MSD (BFI1055-MSD1)		**Source: 22G0514-10RE1**		Prepared: 9/8/2022 Analyzed: 9/27/2022						
1,2,4-Trichlorobenzene	8.13		0.562	ug/L	10.0	<0.562	81.3	35.3-142	4.03	40
1,2-Dichlorobenzene (o-Dichlorobenzene)	8.68		0.562	ug/L	10.0	<0.562	86.8	31.4-142	3.27	40
1,2-Diphenylhydrazine	11.4		0.562	ug/L	10.0	<0.562	114	48.9-156	4.04	40
1,3-Dichlorobenzene (m-Dichlorobenzene)	7.37		0.562	ug/L	10.0	<0.562	73.7	30.5-135	4.66	40
1,4-Dichlorobenzene (p-Dichlorobenzene)	7.41		0.562	ug/L	10.0	<0.562	74.1	37.2-133	0.680	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	10.1		0.562	ug/L	10.0	<0.562	101	41.7-151	2.20	40
2,4,6-Trichlorophenol	18.1		1.12	ug/L	20.0	<1.12	90.3	34.7-143	0.267	40
2,4-Dichlorophenol	18.9		0.562	ug/L	20.0	<0.562	94.3	42.7-158	3.99	40
2,4-Dimethylphenol	20.7		1.12	ug/L	20.0	<1.12	104	38.4-170	0.999	40
2,4-Dinitrophenol	46.3		4.50	ug/L	50.0	<4.50	92.6	60-140	4.97	40
2,4-Dinitrotoluene (2,4-DNT)	8.29		0.562	ug/L	10.0	<0.562	82.9	50.3-144	0.622	40
2,6-Dinitrotoluene (2,6-DNT)	8.17		0.562	ug/L	10.0	<0.562	81.7	43.7-157	3.55	40
2-Chloronaphthalene	8.34		0.562	ug/L	10.0	<0.562	83.4	27.4-158	4.55	40
2-Chlorophenol	18.2		1.12	ug/L	20.0	<1.12	90.9	49.2-150	2.34	40
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	14.6		1.12	ug/L	20.0	<1.12	73.1	41.9-153	3.39	40
2-Nitrophenol	20.8		1.12	ug/L	20.0	<1.12	104	51.9-150	1.51	40
4-Bromophenyl phenyl ether (BDE-3)	8.72		0.562	ug/L	10.0	<0.562	87.2	45.2-146	2.97	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1055 - SW-3511 (Continued)										
22G0514-10 MSD (BFI1055-MSD1)		**Source: 22G0514-10RE1**		Prepared: 9/8/2022 Analyzed: 9/27/2022						
Acenaphthene	8.28		0.562	ug/L	10.0	<0.562	82.8	47.3-149	1.42	40
Acenaphthylene	9.99		0.562	ug/L	10.0	<0.562	99.9	56.5-173	2.36	40
Anthracene	8.47		0.562	ug/L	10.0	<0.562	84.7	49.7-160	2.70	40
Benzo(a)anthracene	7.80		0.562	ug/L	10.0	<0.562	78.0	41.7-151	2.93	40
Benzo(a)pyrene	8.19		0.562	ug/L	10.0	<0.562	81.9	45.4-133	3.26	40
Benzo(b)fluoranthene	8.35		0.562	ug/L	10.0	<0.562	83.5	36.9-152	0.645	40
Benzo(g,h,i)perylene	6.68		0.562	ug/L	10.0	<0.562	66.8	37.9-152	4.01	40
Benzo(k)fluoranthene	7.98		0.562	ug/L	10.0	<0.562	79.8	31.6-158	0.131	40
Chrysene	7.56		0.562	ug/L	10.0	<0.562	75.6	51-147	2.21	40
Dibenzo(a,h)anthracene	5.84		0.562	ug/L	10.0	<0.562	58.4	27.5-156	4.22	40
Diethyl phthalate	9.10		0.562	ug/L	10.0	<0.562	91.0	53.4-146	2.32	40
Fluoranthene	8.17		0.562	ug/L	10.0	<0.562	81.7	45.3-156	2.90	40
Fluorene	8.53		0.562	ug/L	10.0	<0.562	85.3	56.3-145	1.35	40
Hexachlorobenzene	8.92		0.562	ug/L	10.0	<0.562	89.2	56.1-137	13.3	40
Indeno(1,2,3-cd) pyrene	6.23		0.562	ug/L	10.0	<0.562	62.3	33.4-153	3.60	40
Naphthalene	8.49		0.562	ug/L	10.0	<0.562	84.9	45.1-153	2.44	40
Pentachlorophenol	14.9		1.12	ug/L	20.0	<1.12	74.6	42.2-151	0.807	40
Phenanthrene	8.25		0.562	ug/L	10.0	<0.562	82.5	45.3-165	1.95	40
Phenol, Total	19.0		1.12	ug/L	20.0	1.40	87.8	39.8-164	1.58	40
Pyrene	8.06		0.562	ug/L	10.0	<0.562	80.6	46.3-149	2.29	40
Surrogate: 2-Fluorobiphenyl-surr			*8.28*	*ug/L*	*10.0*		*82.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*20.4*	*ug/L*	*20.0*		*102*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.6*	*ug/L*	*20.0*		*83.0*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*10.6*	*ug/L*	*10.0*		*106*	*52-162*		
Surrogate: Phenol-d5-surr			*19.3*	*ug/L*	*20.0*		*96.3*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.20*	*ug/L*	*10.0*		*62.0*	*51.9-147*		
Matrix Spike Dup (BFI1055-MSD2)		**Source: 22G0514-10RE2**		Prepared: 9/8/2022 Analyzed: 9/28/2022						
Surrogate: 2-Fluorobiphenyl-surr			*8.28*	*ug/L*	*10.0*		*82.8*	*54.6-148*		
Surrogate: 2-Fluorophenol-surr			*21.2*	*ug/L*	*20.0*		*106*	*55-152*		
Surrogate: 2,4,6-Tribromophenol-surr			*16.7*	*ug/L*	*20.0*		*83.4*	*52.4-136*		
Surrogate: Nitrobenzene-d5-surr			*9.12*	*ug/L*	*10.0*		*91.2*	*52-162*		
Surrogate: Phenol-d5-surr			*20.5*	*ug/L*	*20.0*		*102*	*58.7-152*		
Surrogate: p-Terphenyl-d14-surr			*6.95*	*ug/L*	*10.0*		*69.5*	*51.9-147*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFI1052 - SW-3511										
Blank (BFI1052-BLK1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
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			*0.128*	*ug/L*	*0.120*		*107*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.137*	*ug/L*	*0.120*		*114*	*60-140*		
TOX LCS (BFI1052-BS1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Toxaphene (Chlorinated Camphene)	1.62		0.300	ug/L	1.20		135	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.125*	*ug/L*	*0.120*		*104*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.151*	*ug/L*	*0.120*		*126*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1052 - SW-3511 (Continued)										
LCS (BFI1052-BS2)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	0.115		0.00600	ug/L	0.120		95.9	60-140		
4,4'-DDE	0.0961		0.00600	ug/L	0.120		80.0	60-140		
4,4'-DDT	0.110		0.00600	ug/L	0.120		91.3	60-140		
Aldrin	0.0997		0.00600	ug/L	0.120		83.1	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.118		0.00600	ug/L	0.120		97.9	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.114		0.00600	ug/L	0.120		95.2	60-140		
Chlordane (tech.)	0.412		0.00600	ug/L	0.480		85.9	60-140		
cis-Chlordane (alpha-Chlordane)	0.104		0.00600	ug/L	0.120		86.7	60-140		
delta-BHC	0.112		0.00600	ug/L	0.120		93.4	60-140		
Dieldrin	0.104		0.00600	ug/L	0.120		86.6	60-140		
Endosulfan I	0.107		0.00600	ug/L	0.120		88.8	60-140		
Endosulfan II	0.110		0.00600	ug/L	0.120		92.0	60-140		
Endosulfan sulfate	0.120		0.00600	ug/L	0.120		99.9	60-140		
Endrin	0.105		0.00600	ug/L	0.120		87.5	60-140		
Endrin aldehyde	0.110		0.00600	ug/L	0.120		91.9	60-140		
Endrin ketone	0.117		0.00600	ug/L	0.120		97.7	60-140		
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	0.115		0.00600	ug/L	0.120		96.0	60-140		
gamma-Chlordane	0.0941		0.00600	ug/L	0.120		78.4	60-140		
Heptachlor	0.111		0.00600	ug/L	0.120		92.6	60-140		
Heptachlor epoxide	0.103		0.00600	ug/L	0.120		85.8	60-140		
Methoxychlor	0.115		0.00600	ug/L	0.120		96.0	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.131*	*ug/L*	*0.120*		*109*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.142*	*ug/L*	*0.120*		*118*	*60-140*		
TOX LCSD (BFI1052-BSD1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Toxaphene (Chlorinated Camphene)	1.73	J1	0.300	ug/L	1.20		144	60-140	6.85	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.141*	*ug/L*	*0.120*		*118*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.157*	*ug/L*	*0.120*		*131*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1052 - SW-3511 (Continued)										
LCS Dup (BFI1052-BSD2)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	0.126		0.00600	ug/L	0.120		105	60-140	8.95	40
4,4'-DDE	0.104		0.00600	ug/L	0.120		87.0	60-140	8.36	40
4,4'-DDT	0.113		0.00600	ug/L	0.120		93.8	60-140	2.68	40
Aldrin	0.0982		0.00600	ug/L	0.120		81.8	60-140	1.53	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.121		0.00600	ug/L	0.120		101	60-140	3.12	40
beta-BHC (beta-Hexachlorocyclohexane)	0.112		0.00600	ug/L	0.120		93.6	60-140	1.69	40
Chlordane (tech.)	0.420		0.00600	ug/L	0.480		87.5	60-140	1.91	40
cis-Chlordane (alpha-Chlordane)	0.104		0.00600	ug/L	0.120		86.7	60-140	0.0807	40
delta-BHC	0.118		0.00600	ug/L	0.120		98.5	60-140	5.26	40
Dieldrin	0.108		0.00600	ug/L	0.120		89.8	60-140	3.60	40
Endosulfan I	0.105		0.00600	ug/L	0.120		87.7	60-140	1.29	40
Endosulfan II	0.113		0.00600	ug/L	0.120		94.1	60-140	2.23	40
Endosulfan sulfate	0.127		0.00600	ug/L	0.120		105	60-140	5.45	40
Endrin	0.110		0.00600	ug/L	0.120		92.0	60-140	5.04	40
Endrin aldehyde	0.106		0.00600	ug/L	0.120		88.0	60-140	4.34	40
Endrin ketone	0.127		0.00600	ug/L	0.120		106	60-140	8.24	40
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	0.120		0.00600	ug/L	0.120		99.6	60-140	3.71	40
gamma-Chlordane	0.0970		0.00600	ug/L	0.120		80.8	60-140	2.96	40
Heptachlor	0.116		0.00600	ug/L	0.120		96.6	60-140	4.21	40
Heptachlor epoxide	0.103		0.00600	ug/L	0.120		86.1	60-140	0.262	40
Methoxychlor	0.124		0.00600	ug/L	0.120		103	60-140	6.98	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.127*	*ug/L*	*0.120*		*106*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.138*	*ug/L*	*0.120*		*115*	*60-140*		
22I0697-LBK1 (BFI1052-LBK1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	<0.00600	CQa, U	0.00600	ug/L						
4,4'-DDE	<0.00600	CQa, U	0.00600	ug/L						
4,4'-DDT	<0.00600	CQa, U	0.00600	ug/L						
Aldrin	<0.00600	CQa, U	0.00600	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00600	CQa, U	0.00600	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00600	CQa, U	0.00600	ug/L						
Chlordane (tech.)	<0.00600	CQa, U	0.00600	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00600	CQa, U	0.00600	ug/L						
delta-BHC	<0.00600	CQa, U	0.00600	ug/L						
Dieldrin	<0.00600	CQa, U	0.00600	ug/L						
Endosulfan I	<0.00600	CQa, U	0.00600	ug/L						
Endosulfan II	<0.00600	CQa, U	0.00600	ug/L						
Endosulfan sulfate	<0.00600	CQa, U	0.00600	ug/L						
Endrin	<0.00600	CQa, U	0.00600	ug/L						
Endrin aldehyde	<0.00600	CQa, U	0.00600	ug/L						
Endrin ketone	<0.00600	CQa, U	0.00600	ug/L						

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
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: BFI1052 - SW-3511 (Continued)										
22I0697-LBK1 (BFI1052-LBK1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00600	CQa, U	0.00600	ug/L						
gamma-Chlordane	<0.00600	CQa, U	0.00600	ug/L						
Heptachlor	<0.00600	CQa, U	0.00600	ug/L						
Heptachlor epoxide	<0.00600	CQa, U	0.00600	ug/L						
Methoxychlor	<0.00600	CQa, U	0.00600	ug/L						
Toxaphene (Chlorinated Camphene)	<0.300	CQa, U	0.300	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*CQa, S*	*0.405*	*ug/L*	*0.120*		*338*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*CQa*	*0.134*	*ug/L*	*0.120*		*112*	*60-140*		
TOX MRL (BFI1052-MRL1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Toxaphene (Chlorinated Camphene)	1.05	J1	0.300	ug/L	0.300		350	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.169*	*ug/L*	*0.120*		*141*	*60-140*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.173*	*ug/L*	*0.120*		*144*	*60-140*		
MRL Check (BFI1052-MRL2)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	0.00937		0.00600	ug/L	0.0120		78.1	50-150		
4,4'-DDE	0.00931		0.00600	ug/L	0.0120		77.6	50-150		
4,4'-DDT	0.00809		0.00600	ug/L	0.0120		67.4	50-150		
Aldrin	0.00748		0.00600	ug/L	0.0120		62.3	50-150		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.00979		0.00600	ug/L	0.0120		81.6	50-150		
beta-BHC (beta-Hexachlorocyclohexane)	0.00912		0.00600	ug/L	0.0120		76.0	50-150		
Chlordane (tech.)	0.0322		0.00600	ug/L	0.0480		67.1	50-150		
cis-Chlordane (alpha-Chlordane)	0.00843		0.00600	ug/L	0.0120		70.2	50-150		
delta-BHC	0.00755		0.00600	ug/L	0.0120		62.9	50-150		
Dieldrin	0.00925		0.00600	ug/L	0.0120		77.0	50-150		
Endosulfan I	0.00830		0.00600	ug/L	0.0120		69.2	50-150		
Endosulfan II	0.00893		0.00600	ug/L	0.0120		74.4	50-150		
Endosulfan sulfate	0.0104		0.00600	ug/L	0.0120		86.6	50-150		
Endrin	0.00935		0.00600	ug/L	0.0120		78.0	50-150		
Endrin aldehyde	0.00874		0.00600	ug/L	0.0120		72.8	50-150		
Endrin ketone	0.0100		0.00600	ug/L	0.0120		83.5	50-150		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.00982		0.00600	ug/L	0.0120		81.8	50-150		
gamma-Chlordane	0.00657		0.00600	ug/L	0.0120		54.8	50-150		
Heptachlor	0.00905		0.00600	ug/L	0.0120		75.4	50-150		
Heptachlor epoxide	0.00817		0.00600	ug/L	0.0120		68.1	50-150		
Methoxychlor	0.00911		0.00600	ug/L	0.0120		75.9	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.138*	*ug/L*	*0.120*		*115*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.138*	*ug/L*	*0.120*		*115*	*60-140*		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1052 - SW-3511 (Continued)										
Matrix Spike (BFI1052-MS1)			**Source: 22G0514-09**		Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	0.140		0.00600	ug/L	0.120	<0.00600	117	60-140		
4,4'-DDE	0.108		0.00600	ug/L	0.120	<0.00600	89.9	60-140		
4,4'-DDT	0.0979		0.00600	ug/L	0.120	<0.00600	81.6	60-140		
Aldrin	0.107		0.00600	ug/L	0.120	<0.00600	89.5	60-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.157		0.00600	ug/L	0.120	<0.00600	131	60-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.143		0.00600	ug/L	0.120	<0.00600	119	60-140		
Chlordane (tech.)	0.492		0.00600	ug/L	0.480	<0.00600	102	60-140		
cis-Chlordane (alpha-Chlordane)	0.121		0.00600	ug/L	0.120	<0.00600	101	60-140		
delta-BHC	0.139		0.00600	ug/L	0.120	<0.00600	116	60-140		
Dieldrin	0.127		0.00600	ug/L	0.120	<0.00600	106	60-140		
Endosulfan I	0.131		0.00600	ug/L	0.120	<0.00600	109	60-140		
Endosulfan II	0.141		0.00600	ug/L	0.120	<0.00600	117	60-140		
Endosulfan sulfate	0.149		0.00600	ug/L	0.120	<0.00600	124	60-140		
Endrin	0.133		0.00600	ug/L	0.120	<0.00600	111	60-140		
Endrin aldehyde	0.125		0.00600	ug/L	0.120	<0.00600	104	60-140		
Endrin ketone	0.149		0.00600	ug/L	0.120	<0.00600	124	60-140		
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	0.147		0.00600	ug/L	0.120	<0.00600	122	60-140		
gamma-Chlordane	0.117		0.00600	ug/L	0.120	<0.00600	97.8	60-140		
Heptachlor	0.127		0.00600	ug/L	0.120	<0.00600	106	60-140		
Heptachlor epoxide	0.126		0.00600	ug/L	0.120	<0.00600	105	60-140		
Methoxychlor	0.0990		0.00600	ug/L	0.120	<0.00600	82.5	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.150*	*ug/L*	*0.120*		*125*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.138*	*ug/L*	*0.120*		*115*	*60-140*		
Matrix Spike Dup (BFI1052-MSD1)			**Source: 22G0514-09**		Prepared: 9/8/2022 Analyzed: 10/6/2022					
4,4'-DDD	0.132		0.00600	ug/L	0.120	<0.00600	110	60-140	5.99	40
4,4'-DDE	0.110		0.00600	ug/L	0.120	<0.00600	91.5	60-140	1.70	40
4,4'-DDT	0.0919		0.00600	ug/L	0.120	<0.00600	76.6	60-140	6.38	40
Aldrin	0.115		0.00600	ug/L	0.120	<0.00600	95.6	60-140	6.58	40
alpha-BHC (alpha-Hexachlorocyclohexane)	0.158		0.00600	ug/L	0.120	<0.00600	132	60-140	0.596	40
beta-BHC (beta-Hexachlorocyclohexane)	0.143		0.00600	ug/L	0.120	<0.00600	119	60-140	0.0966	40
Chlordane (tech.)	0.513		0.00600	ug/L	0.480	<0.00600	107	60-140	4.19	40
cis-Chlordane (alpha-Chlordane)	0.122		0.00600	ug/L	0.120	<0.00600	101	60-140	0.901	40
delta-BHC	0.142		0.00600	ug/L	0.120	<0.00600	119	60-140	2.47	40
Dieldrin	0.134		0.00600	ug/L	0.120	<0.00600	112	60-140	5.57	40
Endosulfan I	0.133		0.00600	ug/L	0.120	<0.00600	111	60-140	1.73	40
Endosulfan II	0.142		0.00600	ug/L	0.120	<0.00600	118	60-140	1.09	40
Endosulfan sulfate	0.144		0.00600	ug/L	0.120	<0.00600	120	60-140	3.21	40
Endrin	0.132		0.00600	ug/L	0.120	<0.00600	110	60-140	0.574	40
Endrin aldehyde	0.129		0.00600	ug/L	0.120	<0.00600	108	60-140	3.09	40
Endrin ketone	0.154		0.00600	ug/L	0.120	<0.00600	128	60-140	3.09	40

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

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: BFI1052 - SW-3511 (Continued)										
Matrix Spike Dup (BFI1052-MSD1)			**Source: 22G0514-09**		Prepared: 9/8/2022 Analyzed: 10/6/2022					
gamma-BHC (Lindane, gamma-Hexachlorocyclohexan E)	0.147		0.00600	ug/L	0.120	<0.00600	122	60-140	0.184	40
gamma-Chlordane	0.127		0.00600	ug/L	0.120	<0.00600	106	60-140	7.99	40
Heptachlor	0.133		0.00600	ug/L	0.120	<0.00600	111	60-140	4.74	40
Heptachlor epoxide	0.130		0.00600	ug/L	0.120	<0.00600	109	60-140	3.13	40
Methoxychlor	0.0863		0.00600	ug/L	0.120	<0.00600	71.9	60-140	13.7	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.153*	*ug/L*	*0.120*		*128*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.135*	*ug/L*	*0.120*		*113*	*60-140*		
Batch: BFI1099 - SW-3511										
Blank (BFI1099-BLK1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
PCBs, Total	<0.120	U	0.120	ug/L						
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0982*	*ug/L*	*0.120*		*81.8*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.112*	*ug/L*	*0.120*		*93.2*	*60-140*		
LCS (BFI1099-BS1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Aroclor-1016 (PCB-1016)	1.18		0.120	ug/L	1.20		98.3	60-140		
Aroclor-1260 (PCB-1260)	1.18		0.120	ug/L	1.20		98.7	60-140		
PCBs, Total	1.18		0.120	ug/L	1.20		98.5	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.103*	*ug/L*	*0.120*		*85.6*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.106*	*ug/L*	*0.120*		*88.1*	*60-140*		
LCS Dup (BFI1099-BSD1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Aroclor-1016 (PCB-1016)	0.961		0.120	ug/L	1.20		80.1	60-140	20.5	40
Aroclor-1260 (PCB-1260)	1.04		0.120	ug/L	1.20		86.3	60-140	13.4	40
PCBs, Total	0.998		0.120	ug/L	1.20		83.2	60-140	16.8	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.100*	*ug/L*	*0.120*		*83.4*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.0929*	*ug/L*	*0.120*		*77.4*	*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: BFI1099 - SW-3511 (Continued)										
BFI0697-LBK1 (BFI1099-LBK1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
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*		*0.0719*	*ug/L*	*0.120*		*59.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.00805*	*ug/L*	*0.120*		*6.71*	*60-140*		
MRL Check (BFI1099-MRL1)					Prepared: 9/8/2022 Analyzed: 10/6/2022					
Aroclor-1016 (PCB-1016)	0.207		0.120	ug/L	0.240		86.1	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)	0.203		0.120	ug/L	0.240		84.8	50-150		
PCBs, Total	0.205		0.120	ug/L	0.240		85.4	50-150		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.0804*	*ug/L*	*0.120*		*67.0*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.107*	*ug/L*	*0.120*		*89.0*	*60-140*		
Matrix Spike (BFI1099-MS1)		**Source: 22G0514-11**			Prepared: 9/8/2022 Analyzed: 10/6/2022					
Aroclor-1016 (PCB-1016)	0.954		0.120	ug/L	1.20	<0.120	79.5	60-140		
Aroclor-1260 (PCB-1260)	0.874		0.120	ug/L	1.20	<0.120	72.9	60-140		
PCBs, Total	0.914		0.120	ug/L	1.20	<0.120	76.2	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.101*	*ug/L*	*0.120*		*83.9*	*60-140*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0599*	*ug/L*	*0.120*		*49.9*	*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: BFI1099 - SW-3511 (Continued)										
Matrix Spike Dup (BFI1099-MSD1)			**Source: 22G0514-11**		Prepared: 9/8/2022 Analyzed: 10/6/2022					
Aroclor-1016 (PCB-1016)	1.14		0.120	ug/L	1.20	<0.120	95.4	60-140	18.1	40
Aroclor-1260 (PCB-1260)	0.936		0.120	ug/L	1.20	<0.120	78.0	60-140	6.87	40
PCBs, Total	1.04		0.120	ug/L	1.20	<0.120	86.7	60-140	12.9	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr			*0.129*	*ug/L*	*0.120*		*107*	*60-140*		
Surrogate: Decachlorobiphenyl-surr			*0.0733*	*ug/L*	*0.120*		*61.1*	*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: BFI1720 - Cr VI										
BFI0697-LBK1 (BFI1720-LBK1)					Prepared & Analyzed: 9/13/2022					
Chromium (VI)	<0.00300	U	0.00300	mg/L						
Matrix Spike (BFI1720-MS1)			**Source: 22G0514-10**		Prepared & Analyzed: 9/13/2022					
Chromium (VI)	0.251		0.00300	mg/L	0.250	0.00228	99.5	70-130		
Matrix Spike Dup (BFI1720-MSD1)			**Source: 22G0514-10**		Prepared & Analyzed: 9/13/2022					
Chromium (VI)	0.253		0.00300	mg/L	0.250	0.00228	100	70-130	0.722	20
Batch: BFI2337 - EPA 200.8 Dissolved										
Blank (BFI2337-BLK1)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	<1.00	U	1.00	ug/L						
Arsenic	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Copper	0.289	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						
Zinc	0.230	J	2.00	ug/L						
Blank (BFI2337-BLK2)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	<0.200	U	0.200	ug/L						
LCS (BFI2337-BS1)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	106		1.00	ug/L	100		106	85-115		
Arsenic	53.2		0.500	ug/L	50.0		106	85-115		
Cadmium	109		1.00	ug/L	100		109	85-115		
Chromium	330		3.00	ug/L	300		110	85-115		
Copper	107		1.00	ug/L	100		107	85-115		
Lead	49.5		0.500	ug/L	50.0		98.9	85-115		
Nickel	110		1.00	ug/L	100		110	85-115		
Silver	54.6		0.500	ug/L	50.0		109	85-115		
Thallium	48.6		0.500	ug/L	50.0		97.3	85-115		
Zinc	220		2.00	ug/L	200		110	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: BFI2337 - EPA 200.8 Dissolved (Continued)										
LCS (BFI2337-BS2)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	19.5		0.200	ug/L	20.0		97.6	85-115		
Duplicate (BFI2337-DUP1)		**Source: 22H3181-01**			Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	<1.00	U	1.00	ug/L		<1.00				20
Arsenic	<0.500	U	0.500	ug/L		<0.500				20
Cadmium	<1.00	U	1.00	ug/L		<1.00				20
Chromium	0.0880	J	3.00	ug/L		0.0940			6.59	20
Copper	0.670	J	1.00	ug/L		0.647			3.49	20
Lead	0.224	J	0.500	ug/L		0.237			5.64	20
Nickel	0.835	J	1.00	ug/L		0.893			6.71	20
Silver	<0.500	U	0.500	ug/L		<0.500				20
Thallium	<0.500	U	0.500	ug/L		<0.500				20
Zinc	3.36		2.00	ug/L		3.52			4.66	20
Duplicate (BFI2337-DUP2)		**Source: 22H3181-02**			Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	<5.00	U	5.00	ug/L		<5.00				20
Arsenic	2.92		2.50	ug/L		2.80			4.48	20
Cadmium	<5.00	U	5.00	ug/L		<5.00				20
Chromium	<15.0	U	15.0	ug/L		<15.0				20
Copper	2.58	J	5.00	ug/L		2.47			4.32	20
Lead	<2.50	U	2.50	ug/L		<2.50				20
Nickel	1.74	J	5.00	ug/L		1.72			1.73	20
Silver	<2.50	U	2.50	ug/L		<2.50				20
Thallium	<2.50	U	2.50	ug/L		<2.50				20
Zinc	4.91	J	10.0	ug/L		4.85			1.19	20
Duplicate (BFI2337-DUP3)		**Source: 22H3181-01**			Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	<0.200	U	0.200	ug/L		<0.200				20

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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: BFI2337 - EPA 200.8 Dissolved (Continued)										
Duplicate (BFI2337-DUP4)			**Source: 22H3181-02**		Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	<1.00	U	1.00	ug/L		<1.00				20
MDL Check (BFI2337-MRL1)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	0.395	J	1.00	ug/L	0.200		198			
Arsenic	0.165	J	0.500	ug/L	0.100		165			
Cadmium	0.0930	J	1.00	ug/L	0.0500		186			
Chromium	0.184	J	3.00	ug/L	0.0800		230			
Copper	0.768	J	1.00	ug/L	0.200		384			
Lead	0.171	J	0.500	ug/L	0.100		171			
Nickel	0.0950	J	1.00	ug/L	0.0500		190			
Silver	0.0660	J	0.500	ug/L	0.0300		220			
Thallium	0.0480	J	0.500	ug/L	0.0300		160			
Zinc	0.717	J	2.00	ug/L	0.200		358			
MDL Check (BFI2337-MRL2)					Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	0.0250	J	0.200	ug/L	0.0100		250			
Matrix Spike (BFI2337-MS1)			**Source: 22H3181-01**		Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	106		1.00	ug/L	100	<1.00	106	75-125		
Arsenic	51.0		0.500	ug/L	50.0	<0.500	102	75-125		
Cadmium	106		1.00	ug/L	100	<1.00	106	75-125		
Chromium	311		3.00	ug/L	300	0.0940	104	75-125		
Copper	110		1.00	ug/L	100	0.647	109	75-125		
Lead	48.6		0.500	ug/L	50.0	0.237	96.7	75-125		
Nickel	106		1.00	ug/L	100	0.893	105	75-125		
Silver	53.6		0.500	ug/L	50.0	<0.500	107	75-125		
Thallium	47.6		0.500	ug/L	50.0	<0.500	95.2	75-125		
Zinc	216		2.00	ug/L	200	3.52	106	75-125		

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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: BFI2337 - EPA 200.8 Dissolved (Continued)										
Matrix Spike (BFI2337-MS2)			**Source: 22H3181-02**		Prepared: 9/16/2022 Analyzed: 9/20/2022					
Antimony	105		5.00	ug/L	100	<5.00	105	75-125		
Arsenic	49.7		2.50	ug/L	50.0	2.80	93.9	75-125		
Cadmium	87.3		5.00	ug/L	100	<5.00	87.3	75-125		
Chromium	336		15.0	ug/L	300	<15.0	112	75-125		
Copper	99.0		5.00	ug/L	100	2.47	96.5	75-125		
Lead	42.6		2.50	ug/L	50.0	<2.50	85.2	75-125		
Nickel	96.8		5.00	ug/L	100	1.72	95.1	75-125		
Silver	42.9		2.50	ug/L	50.0	<2.50	85.8	75-125		
Thallium	42.3		2.50	ug/L	50.0	<2.50	84.5	75-125		
Zinc	170		10.0	ug/L	200	4.85	82.4	75-125		
Matrix Spike (BFI2337-MS3)			**Source: 22H3181-01**		Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	18.1		0.200	ug/L	20.0	<0.200	90.6	75-125		
Matrix Spike (BFI2337-MS4)			**Source: 22H3181-02**		Prepared: 9/16/2022 Analyzed: 9/20/2022					
Beryllium	22.7		1.00	ug/L	20.0	<1.00	113	75-125		
Batch: SFI0209 - BFI1781										
Interference Check A (SFI0209-IFA1)					Prepared & Analyzed: 9/20/2022					
Antimony	0.127			ug/L				70-130		
Arsenic	0.280			ug/L				70-130		
Beryllium	0.00400			ug/L				70-130		
Cadmium	0.603			ug/L				70-130		
Chromium	0.609			ug/L				70-130		
Copper	0.677			ug/L				70-130		
Lead	0.431			ug/L				70-130		
Nickel	1.00			ug/L				70-130		
Silver	0.0230			ug/L				70-130		
Thallium	0.00800			ug/L				70-130		
Zinc	0.614			ug/L				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: SFI0209 - BFI1781 (Continued)										
Interference Check B (SFI0209-IFB1)					Prepared & Analyzed: 9/20/2022					
Antimony	103			ug/L	100		103	70-130		
Arsenic	48.6			ug/L	50.0		97.2	70-130		
Beryllium	17.6			ug/L	20.0		87.9	70-130		
Cadmium	95.6			ug/L	100		95.6	70-130		
Chromium	324			ug/L	300		108	70-130		
Copper	95.5			ug/L	100		95.5	70-130		
Lead	48.7			ug/L	50.0		97.3	70-130		
Nickel	97.4			ug/L	100		97.4	70-130		
Silver	48.2			ug/L	50.0		96.4	70-130		
Thallium	48.8			ug/L	50.0		97.6	70-130		
Zinc	171			ug/L	200		85.6	70-130		
Batch: SFI0213 - BFH3621										
Interference Check A (SFI0213-IFA1)					Prepared & Analyzed: 9/20/2022					
Antimony	0.147			ug/L				70-130		
Arsenic	0.298			ug/L				70-130		
Cadmium	0.737			ug/L				70-130		
Chromium	0.553			ug/L				70-130		
Copper	0.662			ug/L				70-130		
Lead	0.422			ug/L				70-130		
Nickel	0.932			ug/L				70-130		
Silver	0.0240			ug/L				70-130		
Thallium	0.00700			ug/L				70-130		
Zinc	0.646			ug/L				70-130		
Interference Check B (SFI0213-IFB1)					Prepared & Analyzed: 9/20/2022					
Antimony	105			ug/L	100		105	70-130		
Arsenic	49.1			ug/L	50.0		98.2	70-130		
Cadmium	98.7			ug/L	100		98.7	70-130		
Chromium	320			ug/L	300		107	70-130		
Copper	97.6			ug/L	100		97.6	70-130		
Lead	48.4			ug/L	50.0		96.7	70-130		
Nickel	97.5			ug/L	100		97.5	70-130		
Silver	48.0			ug/L	50.0		96.1	70-130		
Thallium	49.5			ug/L	50.0		98.9	70-130		
Zinc	176			ug/L	200		87.9	70-130		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SFI0219 - BFH3621										
Interference Check A (SFI0219-IFA1)					Prepared & Analyzed: 9/20/2022					
Beryllium	0.00500			ug/L				70-130		
Lead	0.406			ug/L				70-130		
Thallium	0.0100			ug/L				70-130		
Interference Check B (SFI0219-IFB1)					Prepared & Analyzed: 9/20/2022					
Beryllium	17.8			ug/L	20.0		89.2	70-130		
Lead	48.2			ug/L	50.0		96.5	70-130		
Thallium	49.5			ug/L	50.0		98.9	70-130		
Batch: SFI0224 - BFI2521										
Interference Check A (SFI0224-IFA1)					Prepared & Analyzed: 9/20/2022					
Beryllium	0.00400			ug/L				70-130		
Lead	0.420			ug/L				70-130		
Thallium	0.00600			ug/L				70-130		
Interference Check B (SFI0224-IFB1)					Prepared & Analyzed: 9/20/2022					
Beryllium	17.6			ug/L	20.0		87.8	70-130		
Lead	49.9			ug/L	50.0		99.7	70-130		
Thallium	50.3			ug/L	50.0		101	70-130		
Batch: SFJ0006 - BFI2337										
Interference Check A (SFJ0006-IFA1)					Prepared & Analyzed: 10/3/2022					
Antimony	0.253			ug/L				70-130		
Arsenic	0.340			ug/L				70-130		
Cadmium	0.261			ug/L				70-130		
Chromium	0.538			ug/L				70-130		
Copper	0.910			ug/L				70-130		
Nickel	1.07			ug/L				70-130		
Silver	0.0230			ug/L				70-130		
Thallium	0.00900			ug/L				70-130		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SFJ0006 - BFI2337 (Continued)										
Interference Check B (SFJ0006-IFB1)					Prepared & Analyzed: 10/3/2022					
Antimony	118			ug/L	100		118	70-130		
Arsenic	54.6			ug/L	50.0		109	70-130		
Cadmium	108			ug/L	100		108	70-130		
Chromium	320			ug/L	300		107	70-130		
Copper	102			ug/L	100		102	70-130		
Nickel	102			ug/L	100		102	70-130		
Silver	53.0			ug/L	50.0		106	70-130		
Thallium	52.6			ug/L	50.0		105	70-130		
Batch: SFJ0012 - BFI2337										
Interference Check A (SFJ0012-IFA1)					Prepared & Analyzed: 10/3/2022					
Antimony	0.226			ug/L				70-130		
Arsenic	0.359			ug/L				70-130		
Beryllium	0.00200			ug/L				70-130		
Cadmium	0.280			ug/L				70-130		
Chromium	0.513			ug/L				70-130		
Copper	0.880			ug/L				70-130		
Lead	0.441			ug/L				70-130		
Nickel	1.01			ug/L				70-130		
Silver	0.0240			ug/L				70-130		
Zinc	0.905			ug/L				70-130		
Interference Check B (SFJ0012-IFB1)					Prepared & Analyzed: 10/3/2022					
Antimony	117			ug/L	100		117	70-130		
Arsenic	55.6			ug/L	50.0		111	70-130		
Beryllium	18.8			ug/L	20.0		94.1	70-130		
Cadmium	105			ug/L	100		105	70-130		
Chromium	325			ug/L	300		108	70-130		
Copper	101			ug/L	100		101	70-130		
Lead	51.9			ug/L	50.0		104	70-130		
Nickel	101			ug/L	100		101	70-130		
Silver	51.5			ug/L	50.0		103	70-130		
Zinc	202			ug/L	200		101	70-130		

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Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SFJ0021 - BFI1593										
Interference Check A (SFJ0021-IFA1)					Prepared & Analyzed: 10/3/2022					
Antimony	0.275			ug/L				70-130		
Cadmium	0.275			ug/L				70-130		
Chromium	0.547			ug/L				70-130		
Copper	0.944			ug/L				70-130		
Lead	0.456			ug/L				70-130		
Nickel	1.06			ug/L				70-130		
Silver	0.0260			ug/L				70-130		
Zinc	1.17			ug/L				70-130		
Interference Check B (SFJ0021-IFB1)					Prepared & Analyzed: 10/3/2022					
Antimony	120			ug/L	100		120	70-130		
Cadmium	107			ug/L	100		107	70-130		
Chromium	316			ug/L	300		105	70-130		
Copper	99.7			ug/L	100		99.7	70-130		
Lead	51.5			ug/L	50.0		103	70-130		
Nickel	100			ug/L	100		100	70-130		
Silver	53.5			ug/L	50.0		107	70-130		
Zinc	202			ug/L	200		101	70-130		
Batch: SFJ0066 - BFI1593										
Interference Check A (SFJ0066-IFA1)					Prepared & Analyzed: 10/6/2022					
Antimony	0.352			ug/L				70-130		
Arsenic	0.0970			ug/L				70-130		
Cadmium	0.248			ug/L				70-130		
Chromium	3.30			ug/L				70-130		
Copper	0.700			ug/L				70-130		
Lead	0.0730			ug/L				70-130		
Nickel	0.684			ug/L				70-130		
Silver	0.0110			ug/L				70-130		
Thallium	0.00600			ug/L				70-130		
Zinc	0.977			ug/L				70-130		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: SFJ0066 - BFI1593 (Continued)										
Interference Check B (SFJ0066-IFB1)					Prepared & Analyzed: 10/6/2022					
Antimony	109			ug/L	100		109	70-130		
Arsenic	51.1			ug/L	50.0		102	70-130		
Cadmium	97.3			ug/L	100		97.3	70-130		
Chromium	305			ug/L	300		102	70-130		
Copper	95.6			ug/L	100		95.6	70-130		
Lead	47.7			ug/L	50.0		95.4	70-130		
Nickel	96.1			ug/L	100		96.1	70-130		
Silver	48.6			ug/L	50.0		97.3	70-130		
Thallium	47.8			ug/L	50.0		95.6	70-130		
Zinc	188			ug/L	200		93.9	70-130		

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11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	10/17/2022 15:00

Quality Control
(Continued)

Elutriate Metals, Total

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BFI1464 - EPA 245.1										
Blank (BFI1464-BLK1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L						
LCS (BFI1464-BS1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.88		0.200	ug/L	5.00		97.7	85-115		
Duplicate (BFI1464-DUP1)		**Source: 22G0514-01**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
Duplicate (BFI1464-DUP2)		**Source: 22G0514-07**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L		<0.200				20
MDL Check (BFI1464-MRL1)					Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	<0.200	U	0.200	ug/L	0.100					
Matrix Spike (BFI1464-MS1)		**Source: 22G0514-01**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.98		0.200	ug/L	5.00	<0.200	99.5	70-130		
Matrix Spike (BFI1464-MS2)		**Source: 22G0514-07**			Prepared: 9/11/2022 Analyzed: 9/12/2022					
Mercury	4.87		0.200	ug/L	5.00	<0.200	97.4	70-130		
Batch: BFI2519 - EPA 200.8										
Blank (BFI2519-BLK1)					Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	<5.00	U	5.00	ug/L						
LCS (BFI2519-BS1)					Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	199		5.00	ug/L	200		99.5	85-115		

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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: BFI2519 - EPA 200.8 (Continued)										
Duplicate (BFI2519-DUP1)		**Source: 22H2692-05**			Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	2.27	J	25.0	ug/L		<25.0			200	20
Duplicate (BFI2519-DUP2)		**Source: 22H2692-06**			Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	<25.0	U	25.0	ug/L		<25.0				20
MDL Check (BFI2519-MRL1)					Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	0.575	J	5.00	ug/L	0.330		174			
Matrix Spike (BFI2519-MS1)		**Source: 22H2692-05**			Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	200		25.0	ug/L	200	<25.0	99.9	75-125		
Matrix Spike (BFI2519-MS2)		**Source: 22H2692-06**			Prepared: 9/19/2022 Analyzed: 10/3/2022					
Selenium	198		25.0	ug/L	200	<25.0	98.9	75-125		
Batch: SFI0224 - BFI2521										
Interference Check A (SFI0224-IFA1)					Prepared & Analyzed: 9/20/2022					
Selenium	0.952			ug/L				70-130		
Interference Check B (SFI0224-IFB1)					Prepared & Analyzed: 9/20/2022					
Selenium	193			ug/L	200		96.4	70-130		
Batch: SFJ0027 - BFI1593										
Interference Check A (SFJ0027-IFA1)					Prepared & Analyzed: 10/3/2022					
Selenium	1.20			ug/L				70-130		

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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: SFJ0027 - BFI1593 (Continued)										
Interference Check B (SFJ0027-IFB1)					Prepared & Analyzed: 10/3/2022					
Selenium	207			ug/L	200		104	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: BFI1167 - NH3-N SEAL-350.1										
MRL Check (BFI1167-MRL1)					Prepared & Analyzed: 9/9/2022					
Ammonia as N	0.0353			mg/L	0.0500		70.6	50-150		
Matrix Spike (BFI1167-MS1)		**Source: 22G0514-10**			Prepared & Analyzed: 9/9/2022					
Ammonia as N	2.31		0.250	mg/L	0.400	1.88	107	90-110		
Matrix Spike (BFI1167-MS2)		**Source: 22I0238-02**			Prepared & Analyzed: 9/9/2022					
Ammonia as N	0.508		0.0500	mg/L	0.400	0.0700	110	90-110		
Matrix Spike Dup (BFI1167-MSD1)		**Source: 22G0514-10**			Prepared & Analyzed: 9/9/2022					
Ammonia as N	2.34	J1	0.250	mg/L	0.400	1.88	113	90-110	1.05	20
Matrix Spike Dup (BFI1167-MSD2)		**Source: 22I0238-02**			Prepared & Analyzed: 9/9/2022					
Ammonia as N	0.505		0.0500	mg/L	0.400	0.0700	109	90-110	0.572	20
Batch: BFI1663 - TSS										
Blank (BFI1663-BLK1)					Prepared: 9/13/2022 Analyzed: 9/14/2022					
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BFI1663-BS1)					Prepared: 9/13/2022 Analyzed: 9/14/2022					
Residue-nonfilterable (TSS)	98.4		1.00	mg/L	100		98.4	85-115		
Duplicate (BFI1663-DUP1)		**Source: 22G0514-14**			Prepared: 9/13/2022 Analyzed: 9/14/2022					
Residue-nonfilterable (TSS)	7.37		1.00	mg/L		7.37			0.00	10
BFI0697-LBK1 (BFI1663-LBK1)					Prepared: 9/13/2022 Analyzed: 9/14/2022					
Residue-nonfilterable (TSS)	2.08		1.00	mg/L						

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Sample Condition Checklist

Work Order: 22G0514

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
B	Analyte was found in the associated method blank.
B1	Associated method blank is lower than the established quality control criteria.
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	Associated calibration blank QC is outside the established quality control criteria.
CQa	Internal Standard response less than 50% of ICAL response
CQb	The analyte was analyzed in the sample and the associated leach blank.
CQc	The analyte was detected in the associated leach blank
CQd	The analyte was detected in the associated leach blank.
CQe	The analyte was detected in the sample and the associated leach blank.
CQf	The analyte was found in the associated leach blank.
CQg	The analyte was found in the sample and the associated leach blank.
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.
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.
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.

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11555 Clay Road	Project Number:	**Reported:**
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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:

Taylor Engineering, Inc.
10199 Southside Blvd, Ste 310
Jacksonville, FL 32256
Phone: (904) 731-7040
Fax:

Work Order: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-15 ***Sediment Sampled: 08/17/2022 09:15***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/17/2023 09:15	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-16 ***Sediment Sampled: 08/18/2022 08:30***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/18/2023 08:30	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-17 ***Sediment Sampled: 08/19/2022 08:10***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/19/2023 08:10	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			
Sample ID: 22G0514-21 ***Sediment Sampled: 08/19/2022 13:20***			
Sub_Grain Size-Sieve+HydroASTM D422	10/14/2022	08/19/2023 13:20	
Analyte(s):			
Clay	Gravel		Sand
Silt			
Containers Supplied:			

Released By	Date	Received By	Date
	8/24/22	UPS	8/24/22

September 27, 2022

Ms. Monica Martin

Re: North Water District Laboratory Services, Inc. (NWDLS)
NWDLS Geosciences Lab Testing – Task Order #06
Project #22G0514

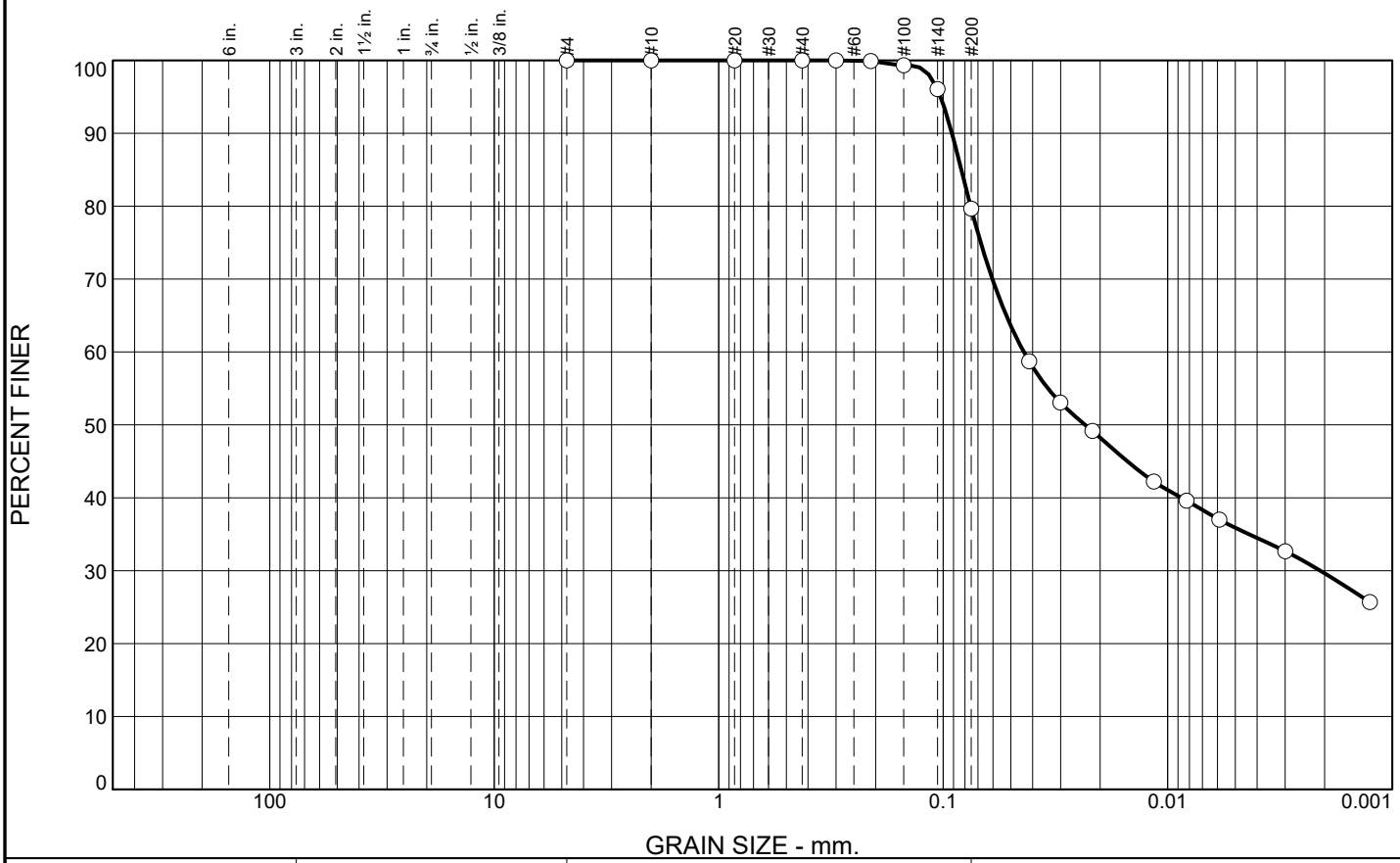
The Taylor Engineering Coastal & Marine Geosciences Laboratory is pleased to submit the following sediment data for NWDLS project #22G0514. Taylor Engineering received 17 samples for analysis in Jacksonville, Florida on August 25th, 2022. Laboratory testing included sieve and hydrometer analysis according 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 wwarren@taylorengineering.com.

Sincerely,

William Warren, P.G.
Project Geologist
Coastal & Marine Geosciences Lab Manager

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	20.3	43.8	35.9

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	99.9		
#100	99.3		
#140	96.1		
#200	79.7		
0.0414 mm.	58.7		
0.0301 mm.	53.1		
0.0217 mm.	49.2		
0.0115 mm.	42.2		
0.0082 mm.	39.6		
0.0059 mm.	37.0		
0.0030 mm.	32.7		
0.0013 mm.	25.7		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0914 D_{85}= 0.0830 D_{60}= 0.0438
D_{50}= 0.0233 D_{30}= 0.0021 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 15

Date: 9/26/2022

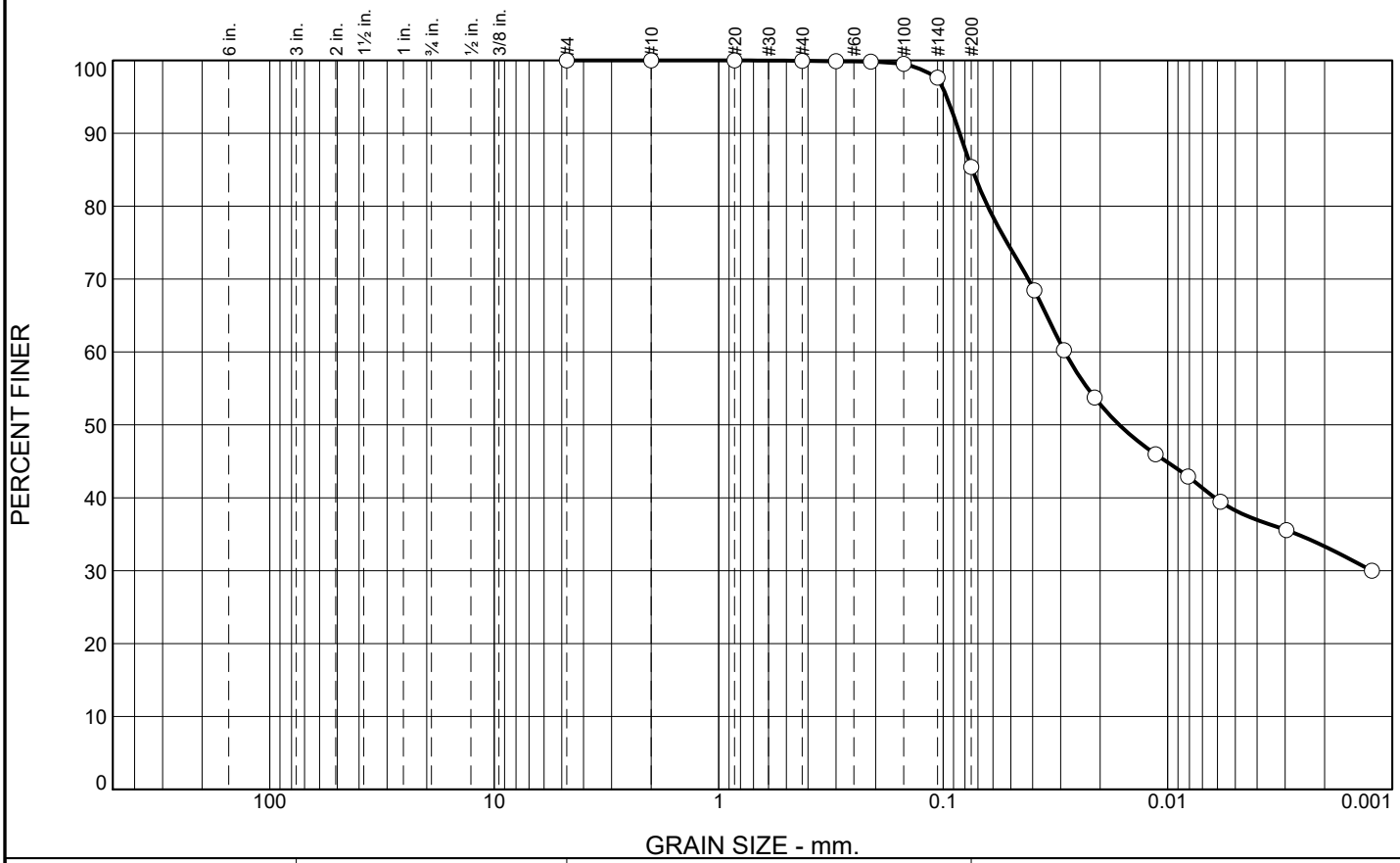
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	14.5	47.2	38.2

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	99.5		
#140	97.6		
#200	85.4		
0.0393 mm.	68.5		
0.0290 mm.	60.2		
0.0212 mm.	53.8		
0.0113 mm.	46.0		
0.0081 mm.	42.9		
0.0058 mm.	39.5		
0.0030 mm.	35.6		
0.0012 mm.	30.0		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0844 D_{85}= 0.0742 D_{60}= 0.0287
D_{50}= 0.0164 D_{30}= 0.0012 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 16

Date: 9/26/2022

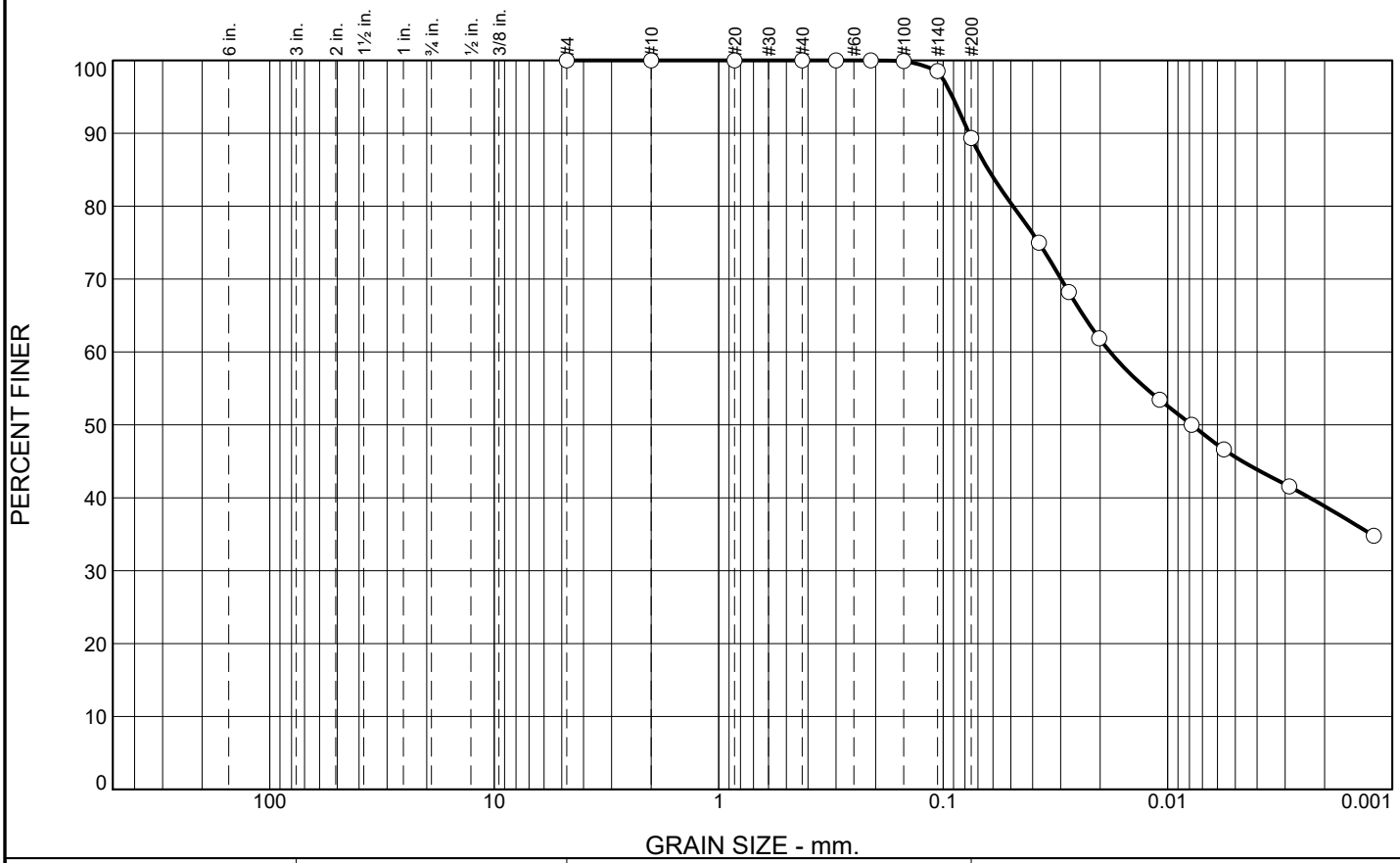
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.6	43.8	45.6

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	100.0		
#100	99.9		
#140	98.5		
#200	89.4		
0.0375 mm.	75.0		
0.0276 mm.	68.2		
0.0202 mm.	61.9		
0.0109 mm.	53.5		
0.0078 mm.	50.0		
0.0056 mm.	46.6		
0.0029 mm.	41.6		
0.0012 mm.	34.8		

* (no specification provided)

Soil Description

Lean clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0767 D_{85}= 0.0629 D_{60}= 0.0181
D_{50}= 0.0078 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 17

Date: 9/26/2022

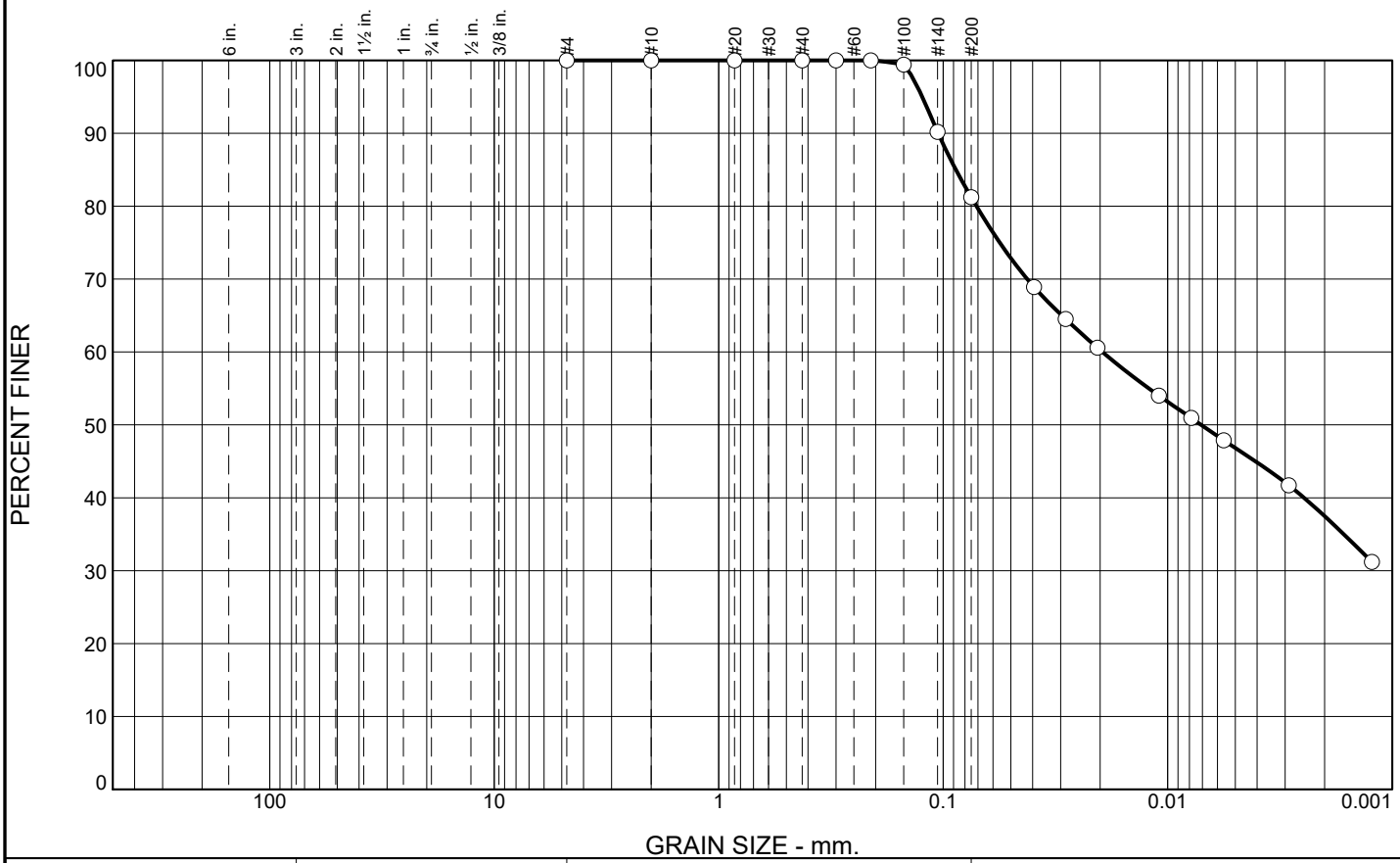
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	18.8	34.4	46.8

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	100.0		
#100	99.4		
#140	90.2		
#200	81.2		
0.0394 mm.	68.9		
0.0285 mm.	64.5		
0.0205 mm.	60.6		
0.0109 mm.	54.0		
0.0079 mm.	50.9		
0.0056 mm.	47.9		
0.0029 mm.	41.7		
0.0012 mm.	31.2		

* (no specification provided)

Soil Description

Lean clay, some silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1053 D_{85}= 0.0878 D_{60}= 0.0195
D_{50}= 0.0071 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 18

Date: 9/26/2022

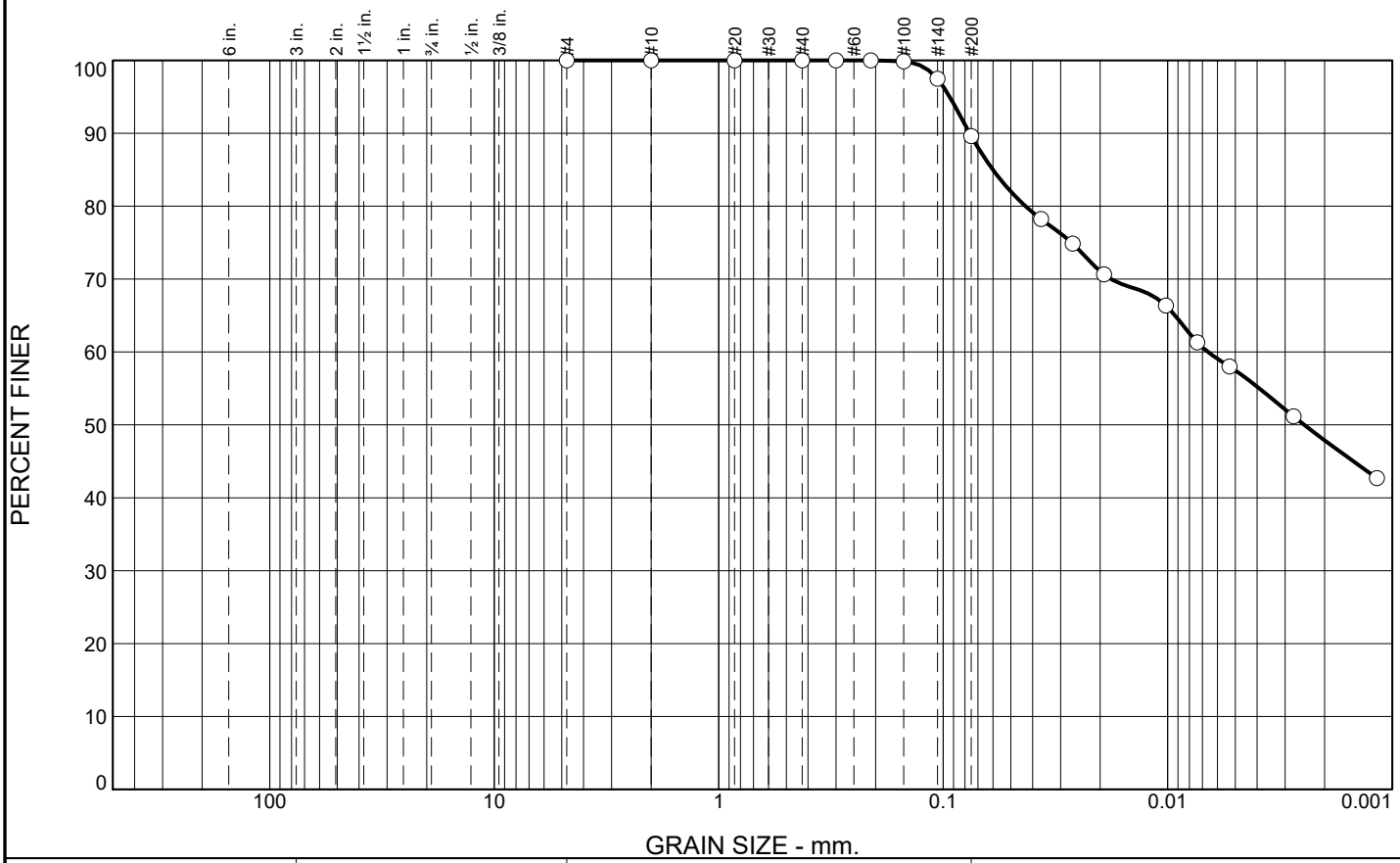
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.4	32.1	57.5

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	100.0		
#100	99.9		
#140	97.5		
#200	89.6		
0.0367 mm.	78.2		
0.0265 mm.	74.9		
0.0192 mm.	70.6		
0.0102 mm.	66.4		
0.0074 mm.	61.3		
0.0053 mm.	58.0		
0.0028 mm.	51.2		
0.0012 mm.	42.7		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0762 D_{85}= 0.0601 D_{60}= 0.0066
D_{50}= 0.0025 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 19

Date: 9/26/2022

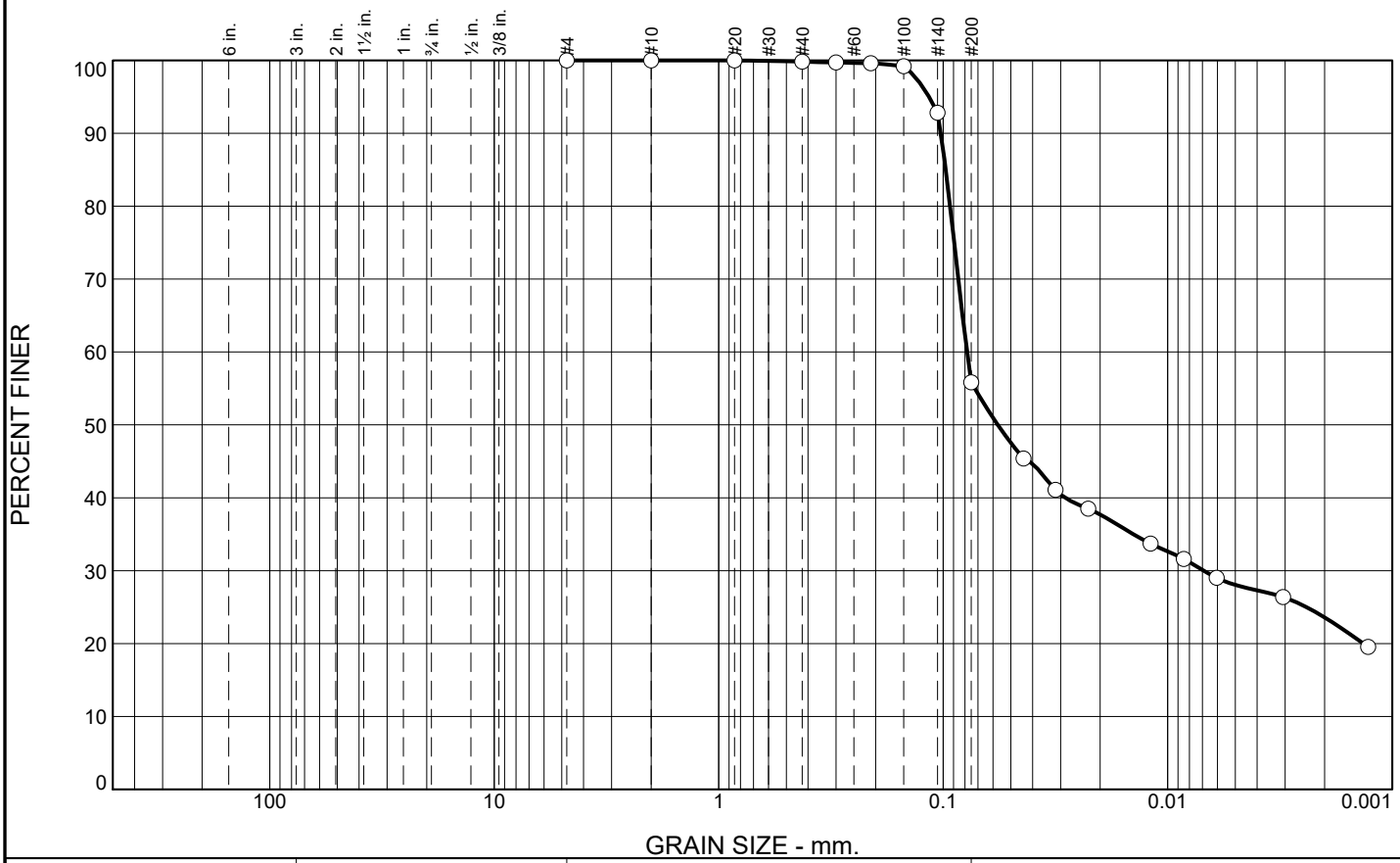
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	44.0	27.8	28.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.8		
#50	99.7		
#70	99.6		
#100	99.2		
#140	92.8		
#200	55.8		
0.0439 mm.	45.4		
0.0316 mm.	41.1		
0.0226 mm.	38.5		
0.0119 mm.	33.7		
0.0085 mm.	31.6		
0.0061 mm.	29.0		
0.0031 mm.	26.4		
0.0013 mm.	19.5		

* (no specification provided)

Soil Description

Lean clay, some fine-grained quartz sand, some silt, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1024 D_{85}= 0.0973 D_{60}= 0.0784
D_{50}= 0.0571 D_{30}= 0.0069 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 20

Date: 9/26/2022

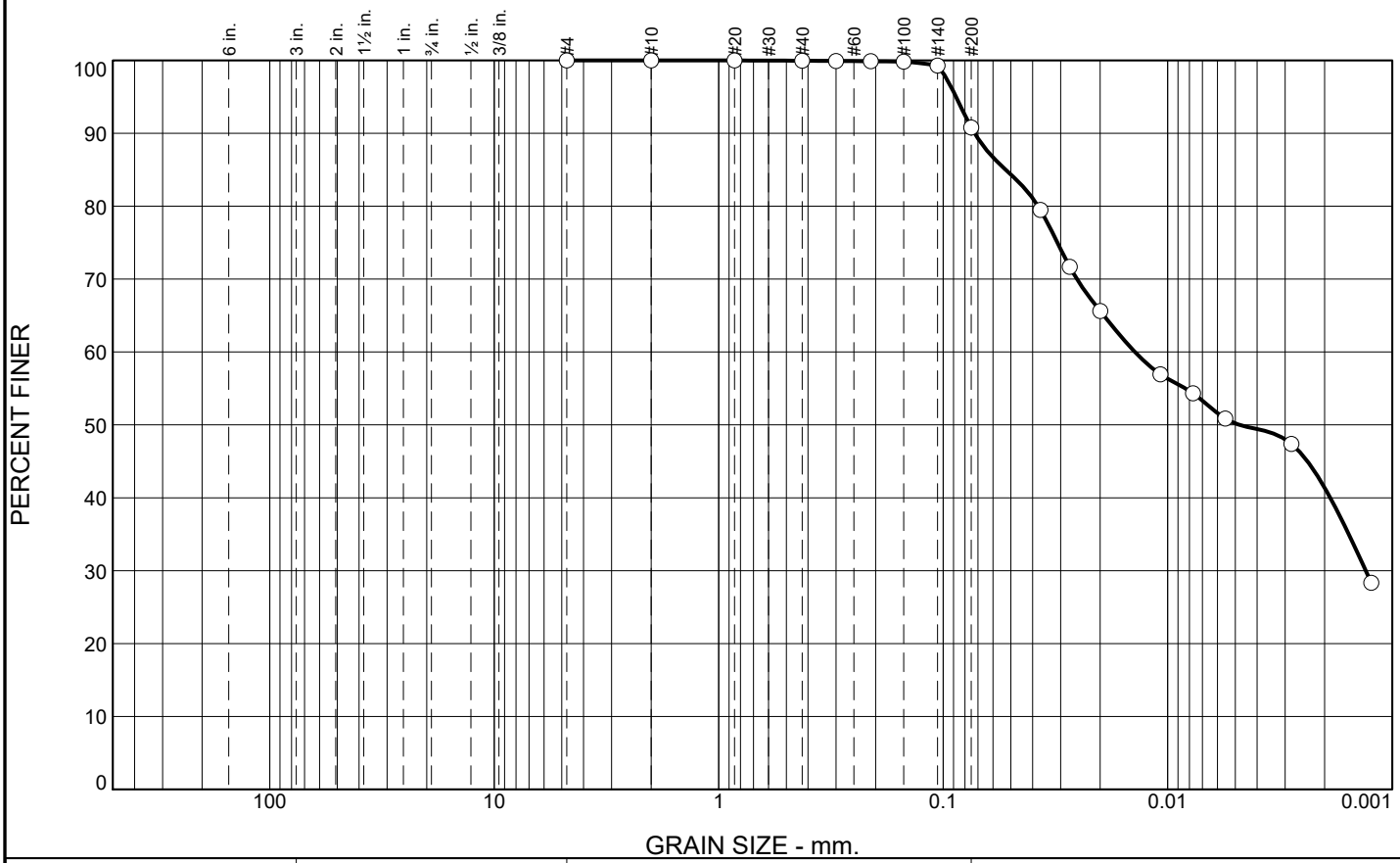
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.2	40.6	50.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#50	99.9		
#70	99.9		
#100	99.8		
#140	99.3		
#200	90.8		
0.0369 mm.	79.5		
0.0273 mm.	71.7		
0.0200 mm.	65.6		
0.0108 mm.	56.9		
0.0077 mm.	54.3		
0.0055 mm.	50.9		
0.0028 mm.	47.4		
0.0012 mm.	28.3		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0724 D_{85}= 0.0527 D_{60}= 0.0140
D_{50}= 0.0048 D_{30}= 0.0013 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 21

Date: 9/26/2022

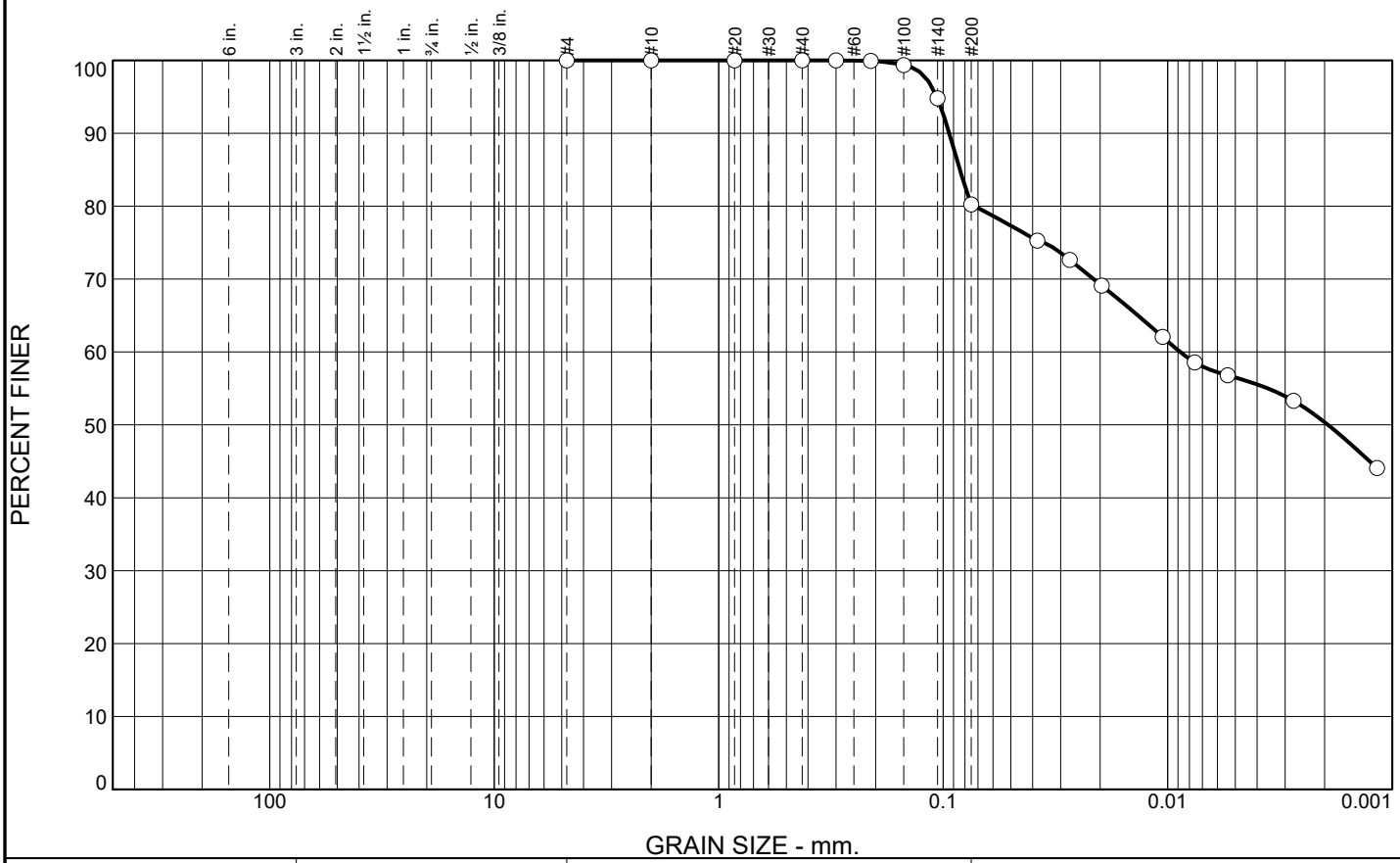
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	19.8	23.7	56.5

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	99.9		
#100	99.4		
#140	94.8		
#200	80.2		
0.0381 mm.	75.3		
0.0273 mm.	72.6		
0.0197 mm.	69.1		
0.0105 mm.	62.1		
0.0076 mm.	58.6		
0.0054 mm.	56.8		
0.0027 mm.	53.3		
0.0012 mm.	44.1		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0939 D_{85}= 0.0842 D_{60}= 0.0088
D_{50}= 0.0019 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 22

Date: 9/26/2022

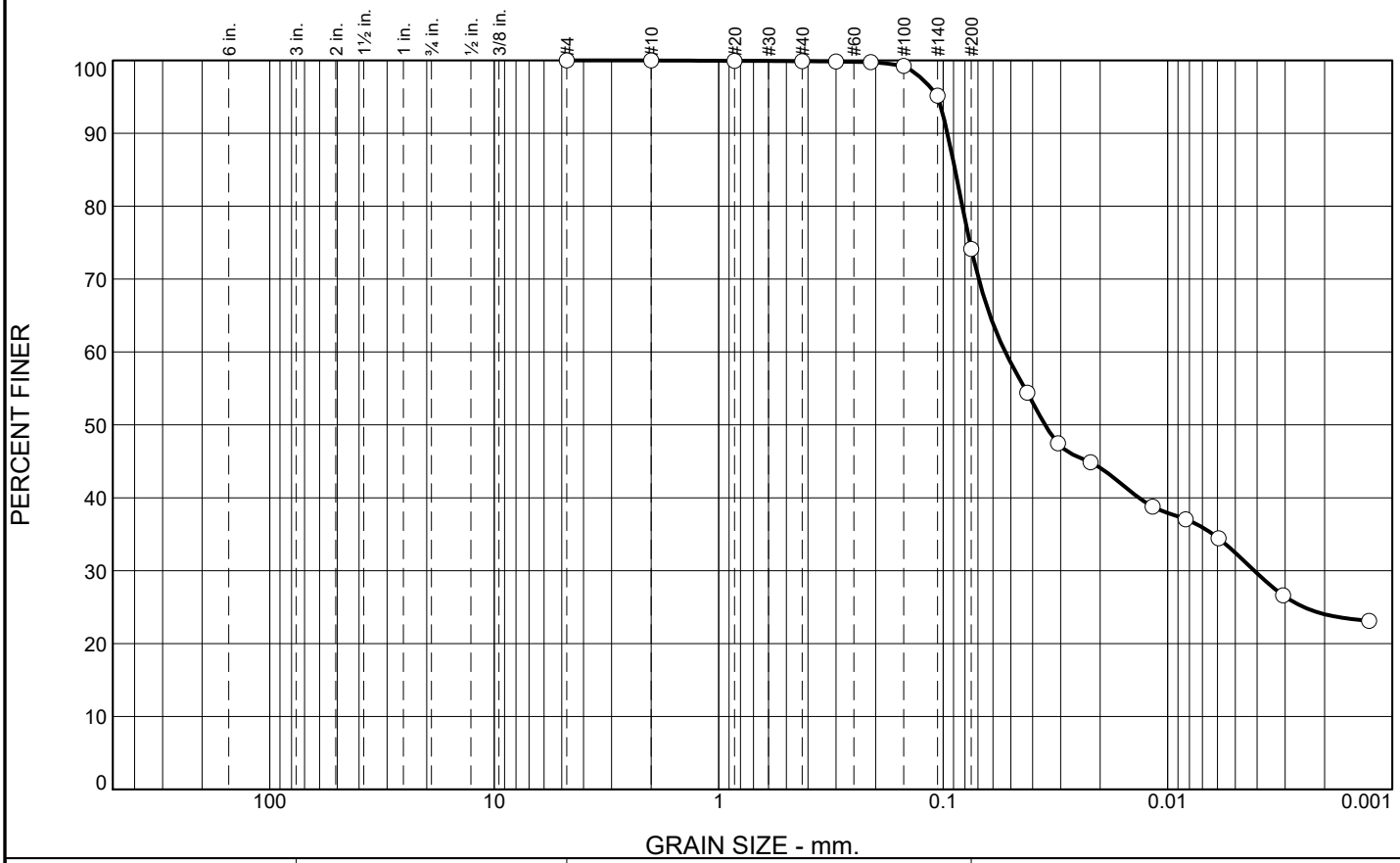
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	25.8	41.6	32.5

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	99.3		
#140	95.2		
#200	74.1		
0.0422 mm.	54.4		
0.0308 mm.	47.5		
0.0220 mm.	44.9		
0.0117 mm.	38.8		
0.0083 mm.	37.0		
0.0059 mm.	34.4		
0.0031 mm.	26.6		
0.0013 mm.	23.1		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0957 D_{85}= 0.0885 D_{60}= 0.0529
D_{50}= 0.0352 D_{30}= 0.0041 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 23

Date: 9/26/2022

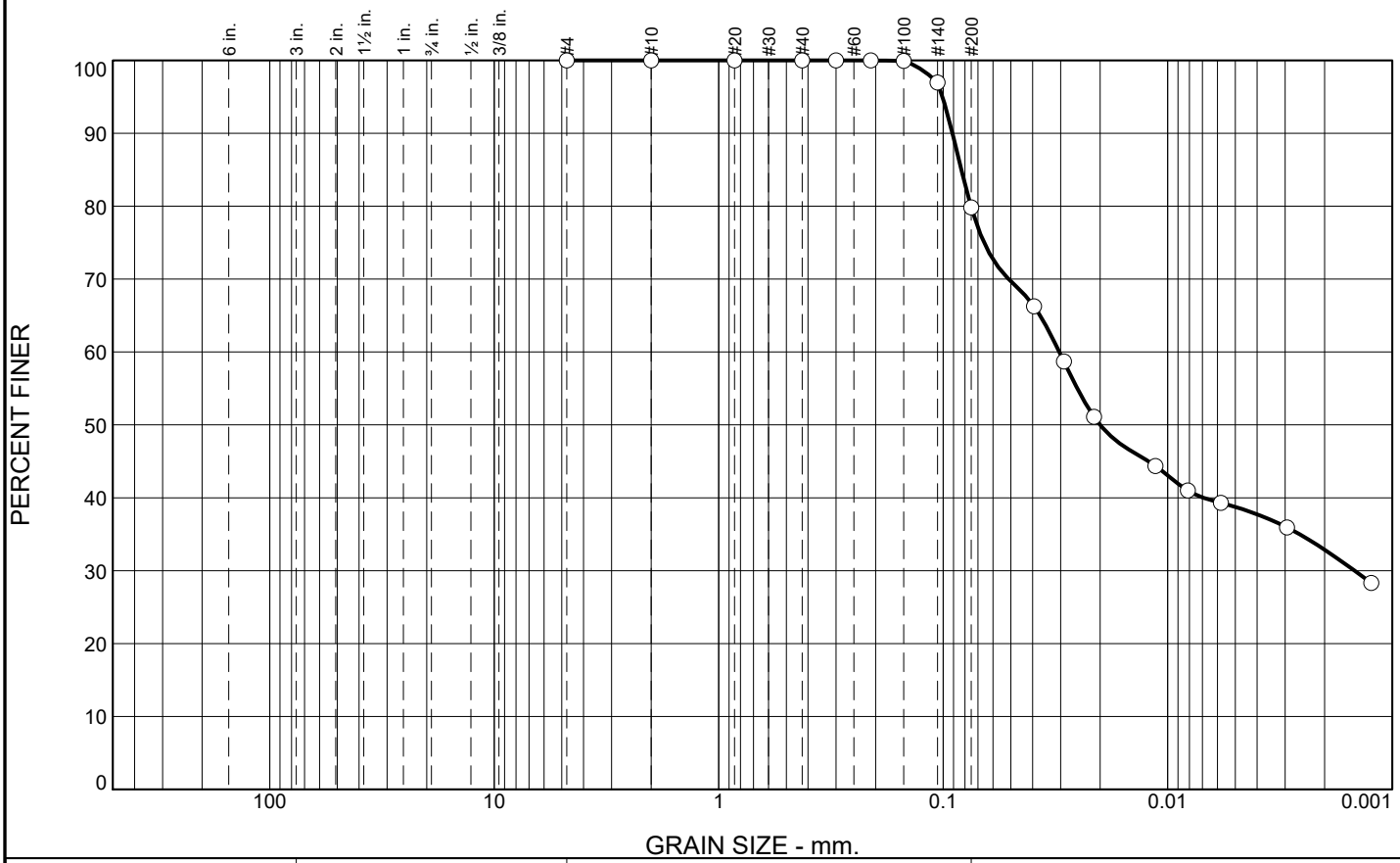
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	20.2	41.1	38.7

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	100.0		
#100	99.9		
#140	97.0		
#200	79.8		
0.0394 mm.	66.3		
0.0290 mm.	58.7		
0.0213 mm.	51.1		
0.0113 mm.	44.4		
0.0081 mm.	41.0		
0.0058 mm.	39.3		
0.0029 mm.	35.9		
0.0012 mm.	28.3		

* (no specification provided)

Soil Description

Silt, some clay, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0909 D_{85}= 0.0830 D_{60}= 0.0304
D_{50}= 0.0200 D_{30}= 0.0015 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 24

Date: 9/26/2022

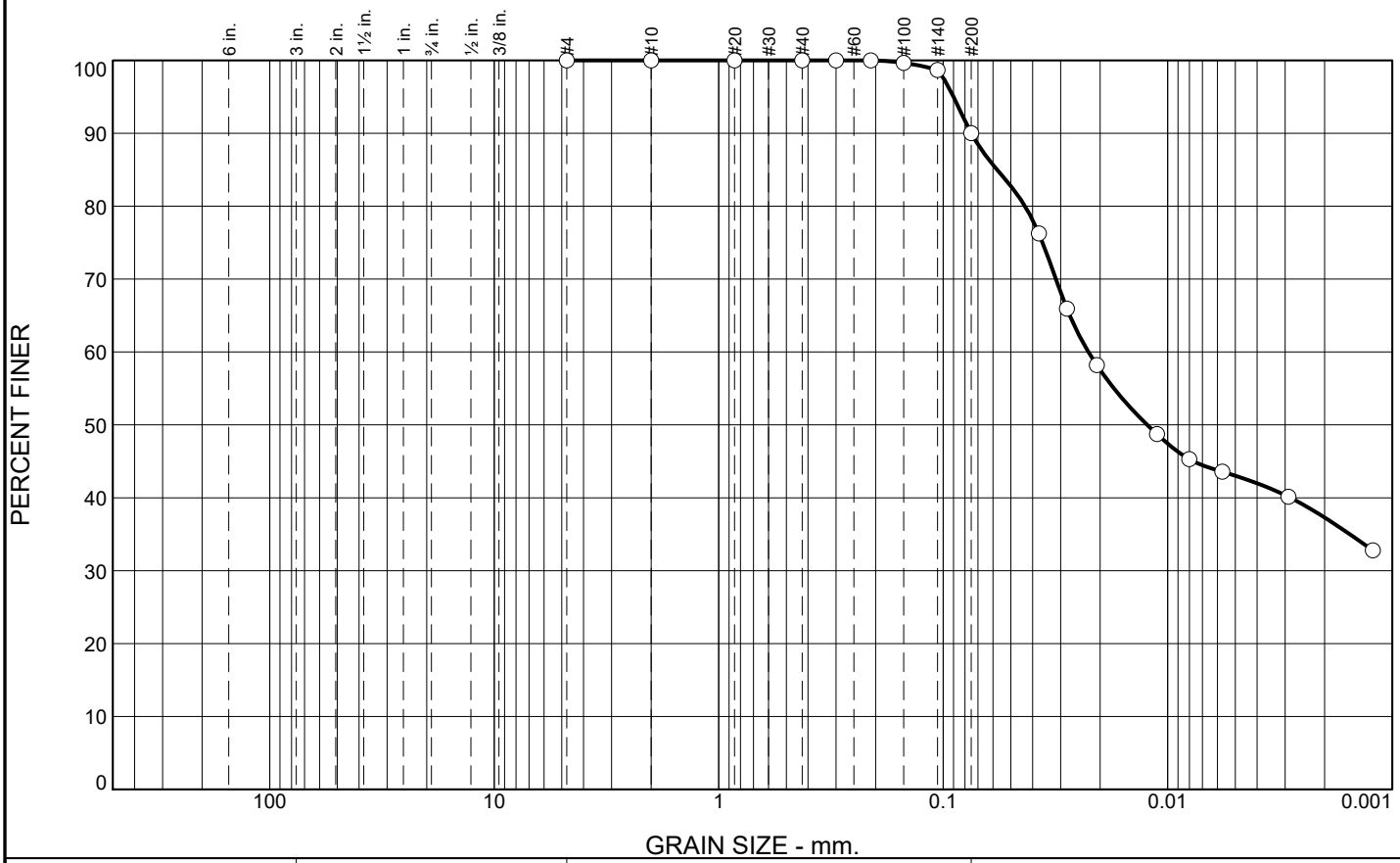
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.0	47.0	43.0

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	100.0		
#100	99.7		
#140	98.7		
#200	90.0		
0.0375 mm.	76.3		
0.0281 mm.	65.9		
0.0207 mm.	58.2		
0.0112 mm.	48.7		
0.0080 mm.	45.3		
0.0057 mm.	43.6		
0.0029 mm.	40.1		
0.0012 mm.	32.8		

* (no specification provided)

Soil Description

Silt, some clay, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0749 D_{85}= 0.0575 D_{60}= 0.0225
D_{50}= 0.0123 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 25

Date: 9/26/2022

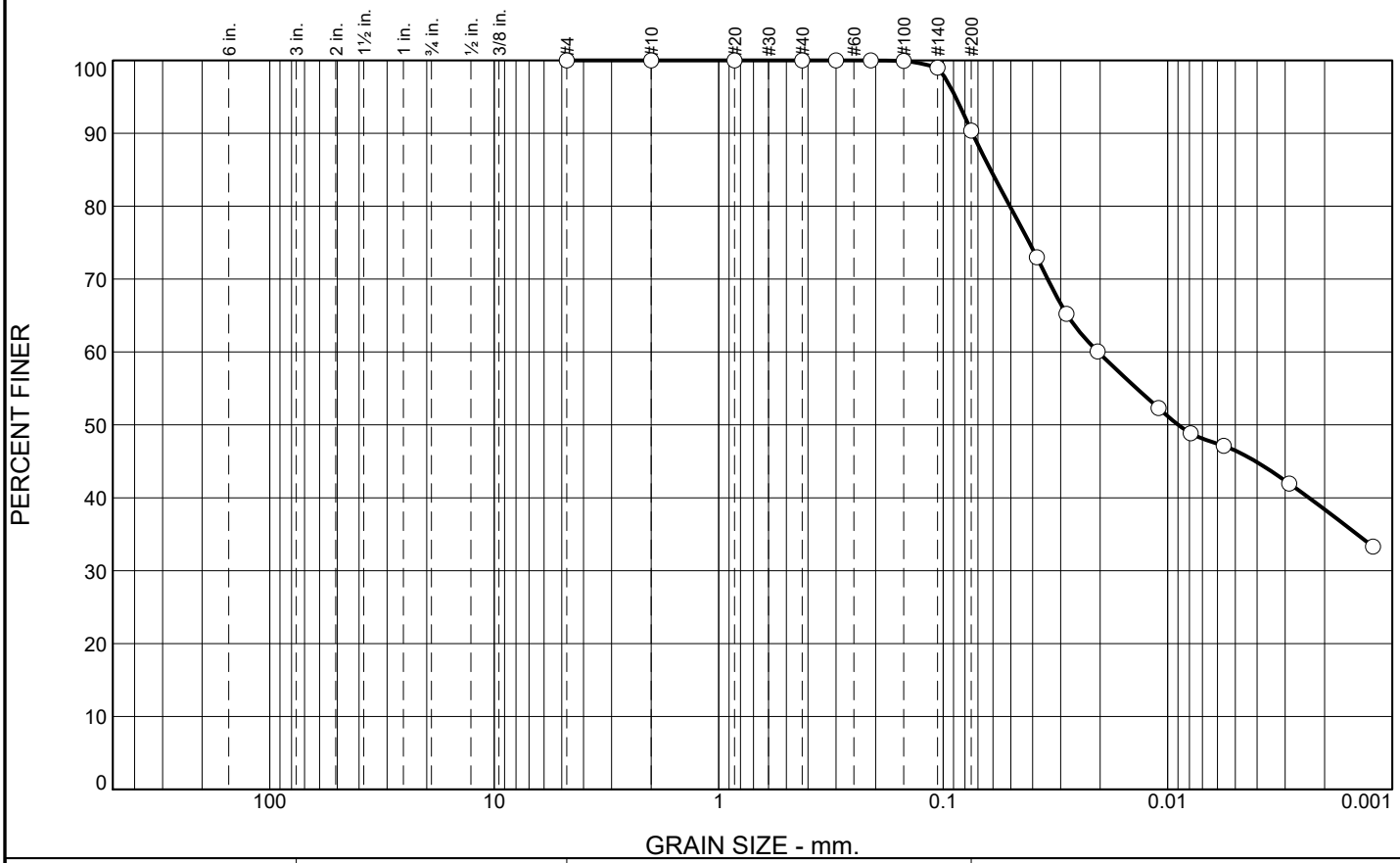
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.6	43.9	46.5

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	100.0		
#100	99.9		
#140	99.0		
#200	90.4		
0.0383 mm.	73.0		
0.0282 mm.	65.2		
0.0205 mm.	60.1		
0.0110 mm.	52.3		
0.0079 mm.	48.9		
0.0056 mm.	47.1		
0.0029 mm.	42.0		
0.0012 mm.	33.3		

* (no specification provided)

Soil Description

Lean clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0740 D_{85}= 0.0615 D_{60}= 0.0204
D_{50}= 0.0090 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 26

Date: 9/26/2022

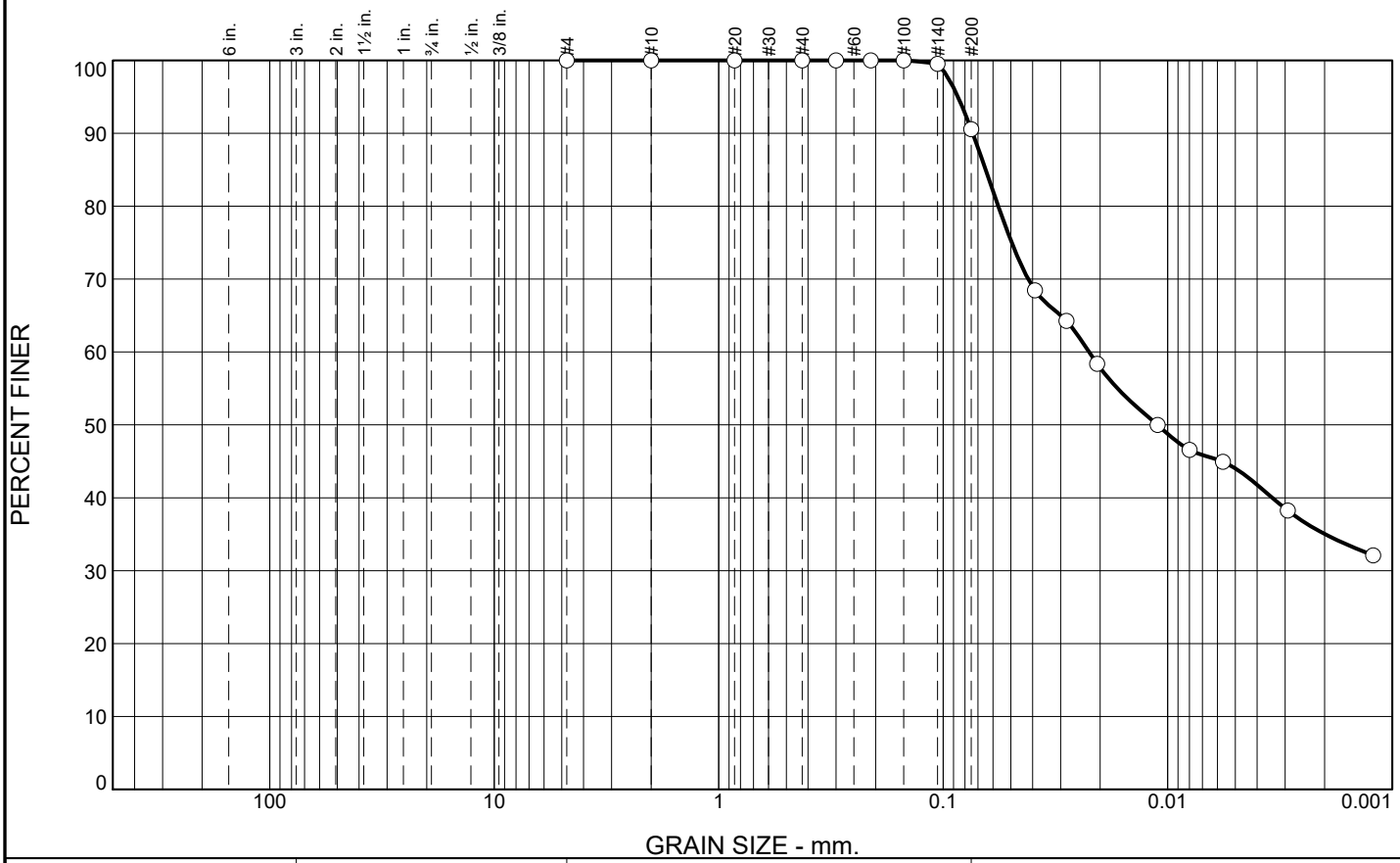
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	9.4	46.6	44.0

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	100.0		
#100	100.0		
#140	99.5		
#200	90.6		
0.0390 mm.	68.5		
0.0282 mm.	64.3		
0.0206 mm.	58.4		
0.0111 mm.	50.0		
0.0080 mm.	46.6		
0.0057 mm.	44.9		
0.0029 mm.	38.3		
0.0012 mm.	32.1		

* (no specification provided)

Soil Description

Silt, some clay, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0738 D_{85}= 0.0647 D_{60}= 0.0224
D_{50}= 0.0111 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 27

Date: 9/26/2022

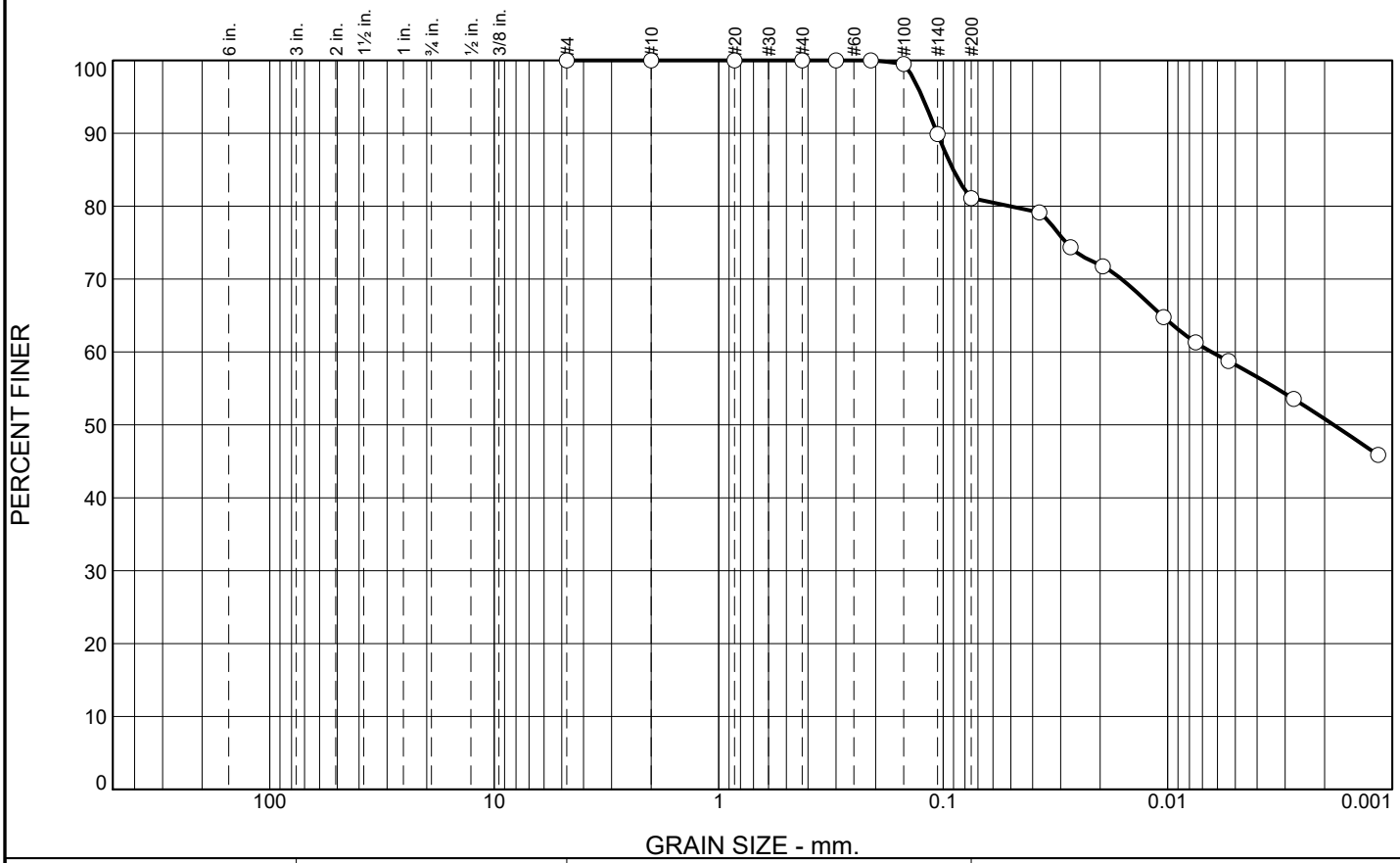
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	18.9	22.9	58.2

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	100.0		
#100	99.5		
#140	89.9		
#200	81.1		
0.0373 mm.	79.2		
0.0271 mm.	74.4		
0.0195 mm.	71.8		
0.0104 mm.	64.8		
0.0075 mm.	61.3		
0.0054 mm.	58.8		
0.0027 mm.	53.6		
0.0012 mm.	45.9		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1063 D_{85}= 0.0901 D_{60}= 0.0064
D_{50}= 0.0018 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 28

Date: 9/26/2022

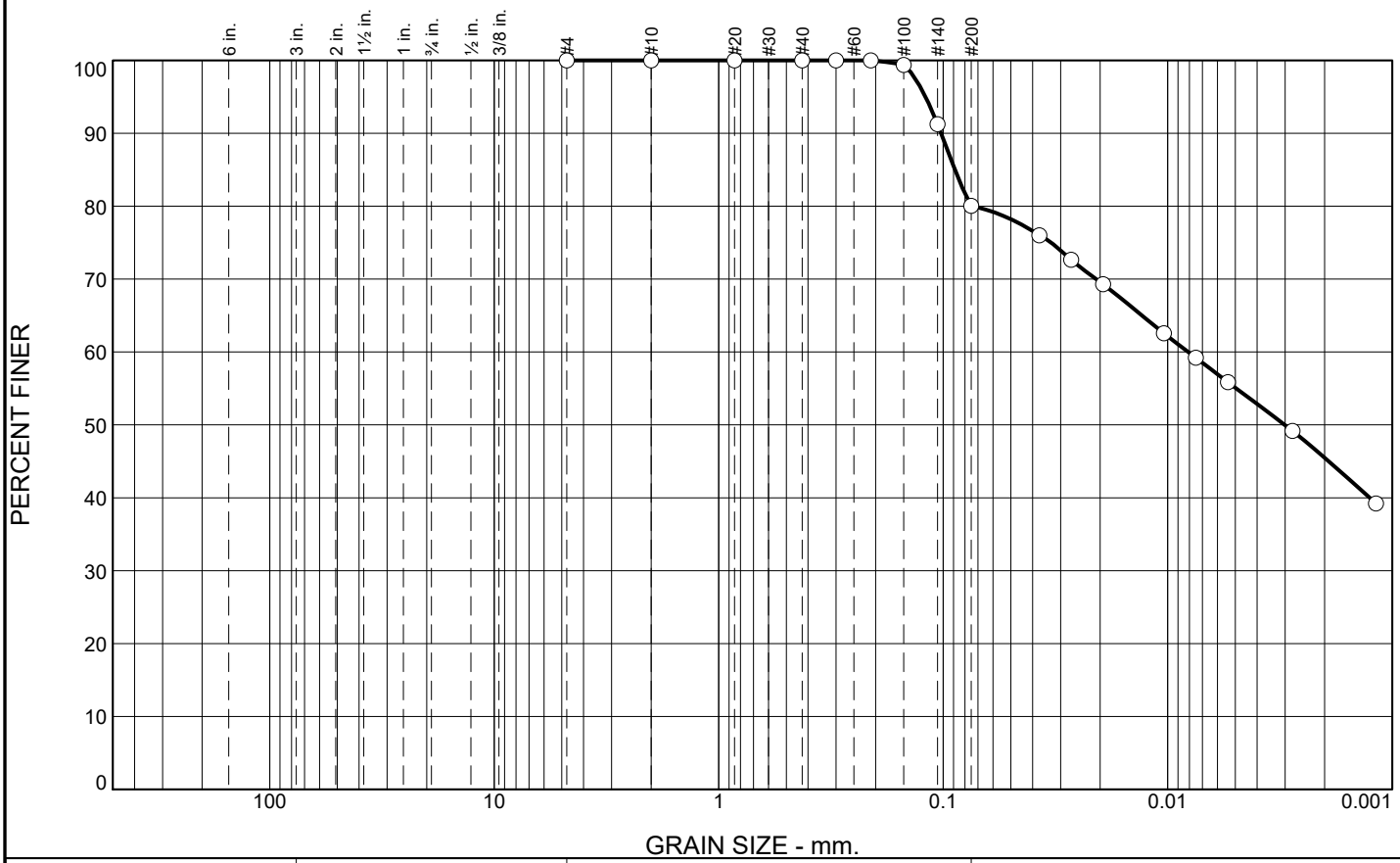
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	20.0	24.9	55.1

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	100.0		
#100	99.4		
#140	91.3		
#200	80.0		
0.0373 mm.	76.0		
0.0269 mm.	72.7		
0.0194 mm.	69.3		
0.0104 mm.	62.6		
0.0075 mm.	59.2		
0.0054 mm.	55.9		
0.0028 mm.	49.2		
0.0012 mm.	39.2		

* (no specification provided)

Soil Description

Fat clay, little silt, little fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1021 D_{85}= 0.0886 D_{60}= 0.0081
D_{50}= 0.0030 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 29

Date: 9/26/2022

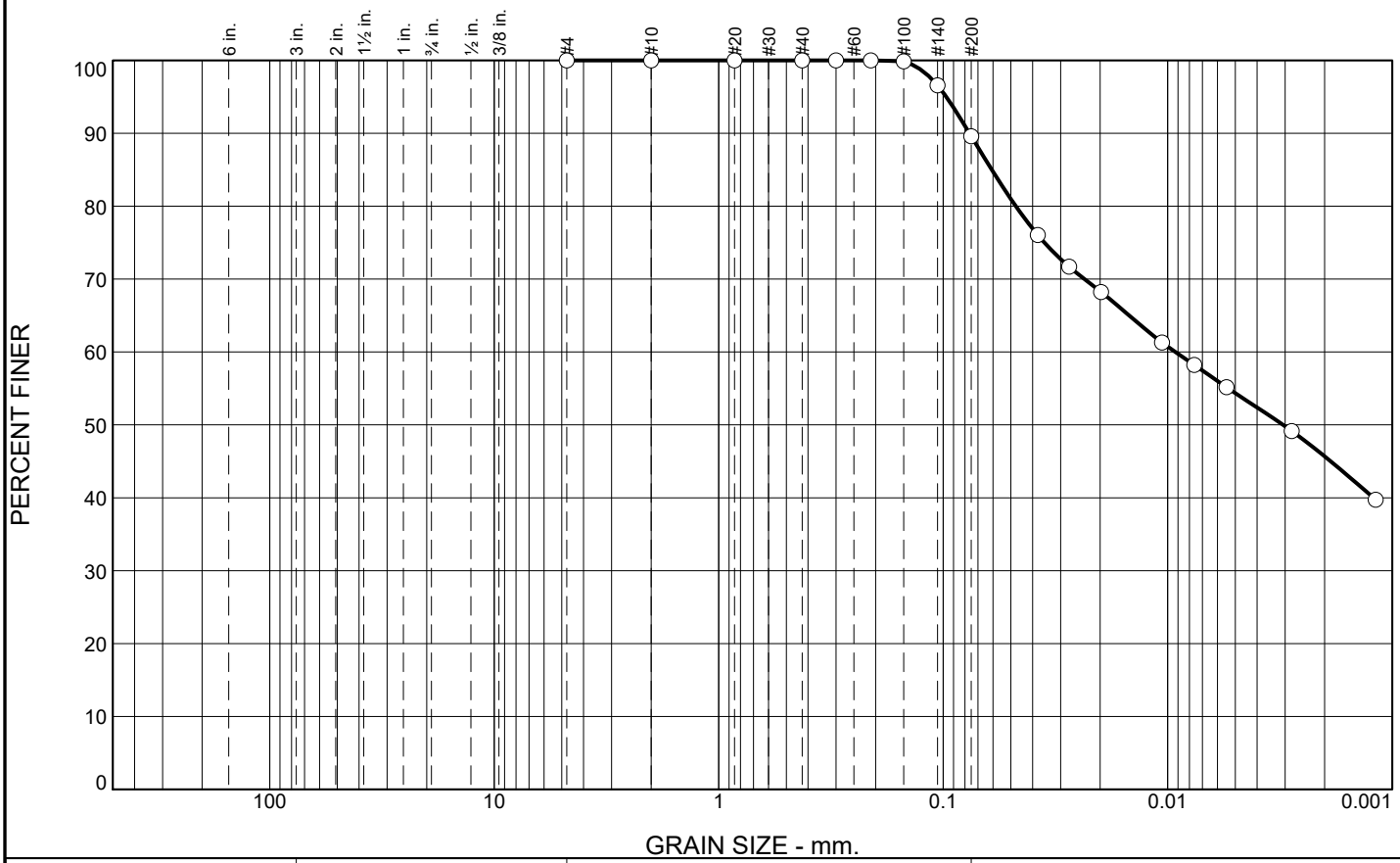
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	10.4	35.2	54.4

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	100.0		
#100	99.9		
#140	96.6		
#200	89.6		
0.0379 mm.	76.1		
0.0275 mm.	71.7		
0.0198 mm.	68.2		
0.0106 mm.	61.3		
0.0076 mm.	58.2		
0.0055 mm.	55.2		
0.0028 mm.	49.2		
0.0012 mm.	39.7		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0764 D_{85}= 0.0607 D_{60}= 0.0092
D_{50}= 0.0031 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 30

Date: 9/26/2022

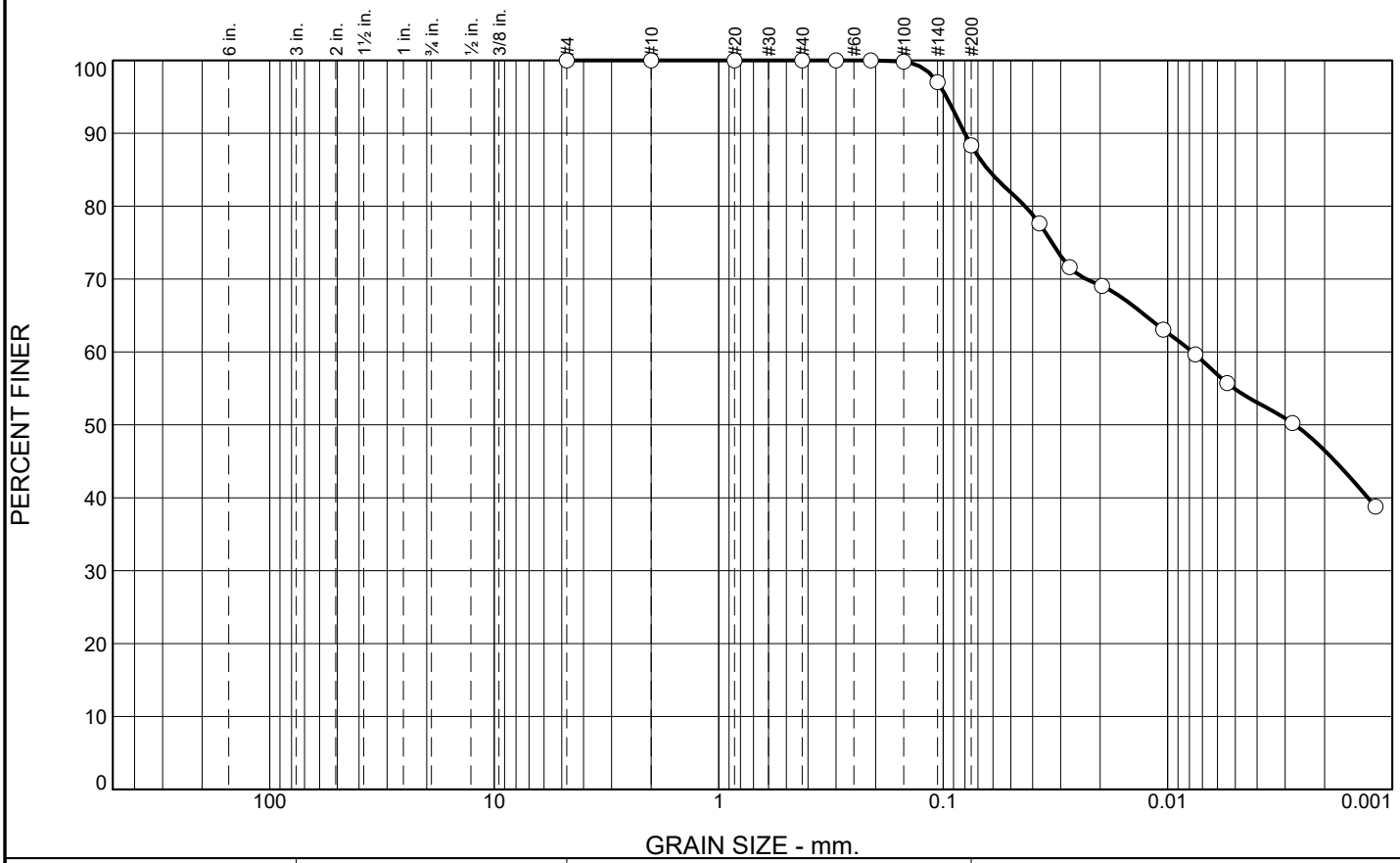
Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

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	11.7	33.4	54.9

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	100.0		
#100	99.8		
#140	97.0		
#200	88.3		
0.0373 mm.	77.7		
0.0274 mm.	71.6		
0.0196 mm.	69.1		
0.0105 mm.	63.1		
0.0075 mm.	59.7		
0.0054 mm.	55.7		
0.0028 mm.	50.2		
0.0012 mm.	38.8		

* (no specification provided)

Soil Description

Fat clay, some silt, few fine-grained quartz sand, brown

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0801 D_{85}= 0.0631 D_{60}= 0.0078
D_{50}= 0.0027 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 22G0514
Sample Number: 31

Date: 9/26/2022

Taylor Engineering, Inc.

Client: North Water District Labratory Services
Project: 22G0514

Project No: C2022-020 **Figure**

Tested By: NEL **Checked By:** WFW

Laboratory Results for: 22G0514

K2210148.

ALS Group USA, Corp. dba ALS Environmental

ADDRESS
PHONE FAX
ALS Group USA, Corp.

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: 22G0514
Sample Matrix: Sediment, Ocean Water

Service Request: K2210148
Date Received: 09/02/2022

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 sediment, ocean water samples were received for analysis at ALS Environmental on 09/02/2022. 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 09/16/2022

SAMPLE DETECTION SUMMARY

CLIENT ID: 22G0514-18			Lab ID: K2210148-007			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-19			Lab ID: K2210148-008			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-20			Lab ID: K2210148-009			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-02			Lab ID: K2210148-001			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-03			Lab ID: K2210148-002			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-04			Lab ID: K2210148-003			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-05			Lab ID: K2210148-004			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-06			Lab ID: K2210148-005			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-07			Lab ID: K2210148-006			
Analyte	Results	Flag	MDL	MRL	Units	Method

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: **Service Request:**

Project:

SAMPLE CROSS-REFERENCE

VE22101148

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: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-02 ***Marine Water Sampled: 08/25/2022 19:40***			
Sub_CN T-4500	10/07/2022	09/08/2022 19:40	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-03 ***Marine Water Sampled: 08/25/2022 18:55***			
Sub_CN T-4500	10/07/2022	09/08/2022 18:55	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-04 ***Marine Water Sampled: 08/25/2022 18:13***			
Sub_CN T-4500	10/07/2022	09/08/2022 18:13	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-05 ***Marine Water Sampled: 08/25/2022 16:35***			
Sub_CN T-4500	10/07/2022	09/08/2022 16:35	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-06 ***Marine Water Sampled: 08/25/2022 16:35***			
Sub_CN T-4500	10/07/2022	09/08/2022 16:35	
Analyte(s): Total Cyanide			
Containers Supplied:			

K2210148

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-07 ***Marine Water Sampled: 08/25/2022 20:15***			
Sub_CN T-4500	10/07/2022	09/08/2022 20:15	
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/14/2022 09:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/15/2022 08:30	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/16/2022 08:10	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 22G0514-18 ***Sediment Sampled: 08/24/2022 15:52***			
TOC-9060	10/07/2022	09/21/2022 15:52	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 22G0514-19 ***Sediment Sampled: 08/24/2022 17:15***			
TOC-9060	10/07/2022	09/21/2022 17:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

K2210148

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-20 ***Sediment*** ***Sampled: 08/24/2022 12:25***			
TOC-9060	10/07/2022	09/21/2022 12:25	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/16/2022 13:20	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

Released By	Date	Received By	Date
	9/1/22	UPS	9/1/22
		Received: ALS	9/2/22 1000

PM UR

Cooler Receipt and Preservation Form

Client NWDLS Service Request K22 10148

Received: 9/2/22 Opened: 9/2/22 By: DH Unloaded: 9/2/22 By: DH

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
	4.11	IR02				1Z12W40V0193689741	

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 # below 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 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Under filled 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

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:** K2210148
Project: 22G0514/

Sample Name: 22G0514-02 **Date Collected:** 08/25/22
Lab Code: K2210148-001 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-03 **Date Collected:** 08/25/22
Lab Code: K2210148-002 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-04 **Date Collected:** 08/25/22
Lab Code: K2210148-003 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-05 **Date Collected:** 08/25/22
Lab Code: K2210148-004 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-06 **Date Collected:** 08/25/22
Lab Code: K2210148-005 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

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:** K2210148
Project: 22G0514/

Sample Name: 22G0514-07 **Date Collected:** 08/25/22
Lab Code: K2210148-006 **Date Received:** 09/2/22
Sample Matrix: Ocean Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-18 **Date Collected:** 08/24/22
Lab Code: K2210148-007 **Date Received:** 09/2/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Name: 22G0514-19 **Date Collected:** 08/24/22
Lab Code: K2210148-008 **Date Received:** 09/2/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Name: 22G0514-20 **Date Collected:** 08/24/22
Lab Code: K2210148-009 **Date Received:** 09/2/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Results

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 19:40
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-02	**Basis:**	NA
Lab Code:	K2210148-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	**J**

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 18:55
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-03	**Basis:**	NA
Lab Code:	K2210148-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001** **J**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 18:13
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-04	**Basis:**	NA
Lab Code:	K2210148-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	**J**

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 16:35
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-05	**Basis:**	NA
Lab Code:	K2210148-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	**J**

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 16:35
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-06	**Basis:**	NA
Lab Code:	K2210148-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	**J**

ALS Group USA, Corp.
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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/25/22 20:15
Sample Matrix:	Ocean Water	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-07	**Basis:**	NA
Lab Code:	K2210148-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	**J**

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/24/22 15:52
Sample Matrix:	Sediment	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-18	**Basis:**	Dry, per Method
Lab Code:	K2210148-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.61**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/24/22 17:15
Sample Matrix:	Sediment	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-19	**Basis:**	Dry, per Method
Lab Code:	K2210148-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.64**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	08/24/22 12:25
Sample Matrix:	Sediment	**Date Received:**	09/02/22 10:00
Sample Name:	22G0514-20	**Basis:**	Dry, per Method
Lab Code:	K2210148-009		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.51**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

QC Summary Forms

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry, per Method
Lab Code:	K2210148-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	ND	U	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2210148-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.0009 J**	mg/L	0.020	0.0005	1	09/07/22 08:15	09/06/22	

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Analyzed:**	09/12/22
Sample Matrix:	Sediment	**Date Extracted:**	09/12/22

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method:	9060	**Units:**	Percent
Prep Method:	Method	**Basis:**	Dry, per Method
		Analysis Lot:	777315

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2210148-LCS1	4.59	4.40	104	72-122

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210148
Project:	22G0514	**Date Analyzed:**	09/07/22
Sample Matrix:	Ocean Water	**Date Extracted:**	09/06/22

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:	776565

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2210148-LCS2	0.0701	0.075	94	84-115

Laboratory Results for: 22G0514

K2209771.

ALS Group USA, Corp. dba ALS Environmental

ADDRESS
PHONE FAX
ALS Group USA, Corp.

Narrative Documents

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Client: North Water District Lab Services (NWDLS)
Project: 22G0514
Sample Matrix: Sediment

Service Request: K2209771
Date Received: 08/25/2022

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 samples were received for analysis at ALS Environmental on 08/25/2022. 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 09/16/2022

SAMPLE DETECTION SUMMARY

CLIENT ID: 22G0514-15			Lab ID: K2209771-001			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-16			Lab ID: K2209771-002			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-17			Lab ID: K2209771-003			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-21			Lab ID: K2209771-004			
Analyte	Results	Flag	MDL	MRL	Units	Method

Sample Receipt Information

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Client: **Service Request:**

Project:

SAMPLE CROSS-REFERENCE

K2209771

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: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-15 ***Sediment*** ***Sampled: 08/17/2022 09:15***			
TOC-9060	10/14/2022	09/14/2022 09:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 22G0514-16 ***Sediment*** ***Sampled: 08/18/2022 08:30***			
TOC-9060	10/14/2022	09/15/2022 08:30	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 22G0514-17 ***Sediment*** ***Sampled: 08/19/2022 08:10***			
TOC-9060	10/14/2022	09/16/2022 08:10	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
Sample ID: 22G0514-21 ***Sediment*** ***Sampled: 08/19/2022 13:20***			
TOC-9060	10/14/2022	09/16/2022 13:20	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

Released By — Date: 8/24/22

Received By: UPS — Date: 8/24/22

Rec: JH 8/25/22 1030

PM DC

Cooler Receipt and Preservation Form

Client NWDLS Service Request K22 09771

Received: 8/25/22 Opened: 8/25/22 By: ZH Unloaded: 8/25/22 By: ZH

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
	2.3	IR02				1Z2W40V01964 0162	

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 # below 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 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Under filled 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: _____

: _____

1/13/22 *Page* ____ *of* ____

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.

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Analyst Summary report

Client: North Water District Lab Services (NWDLS) **Service Request:** K2209771
Project: 22G0514/

Sample Name: 22G0514-15 **Date Collected:** 08/17/22
Lab Code: K2209771-001 **Date Received:** 08/25/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Name: 22G0514-16 **Date Collected:** 08/18/22
Lab Code: K2209771-002 **Date Received:** 08/25/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Name: 22G0514-17 **Date Collected:** 08/19/22
Lab Code: K2209771-003 **Date Received:** 08/25/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Name: 22G0514-21 **Date Collected:** 08/19/22
Lab Code: K2209771-004 **Date Received:** 08/25/22
Sample Matrix: Sediment

Analysis Method	Extracted/Digested By	Analyzed By
9060	DBRADBURY	DBRADBURY

Sample Results

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General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Collected:**	08/17/22 09:15
Sample Matrix:	Sediment	**Date Received:**	08/25/22 10:30
Sample Name:	22G0514-15	**Basis:**	Dry, per Method
Lab Code:	K2209771-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.31**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Collected:**	08/18/22 08:30
Sample Matrix:	Sediment	**Date Received:**	08/25/22 10:30
Sample Name:	22G0514-16	**Basis:**	Dry, per Method
Lab Code:	K2209771-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.22**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Collected:**	08/19/22 08:10
Sample Matrix:	Sediment	**Date Received:**	08/25/22 10:30
Sample Name:	22G0514-17	**Basis:**	Dry, per Method
Lab Code:	K2209771-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.27**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Collected:**	08/19/22 13:20
Sample Matrix:	Sediment	**Date Received:**	08/25/22 10:30
Sample Name:	22G0514-21	**Basis:**	Dry, per Method
Lab Code:	K2209771-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	**0.27**	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

QC Summary Forms

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General Chemistry

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry, per Method
Lab Code:	K2209771-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060	ND	U	Percent	0.10	0.02	1	09/12/22 15:19	09/12/22	

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QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2209771
Project:	22G0514	**Date Analyzed:**	09/12/22
Sample Matrix:	Sediment	**Date Extracted:**	09/12/22

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method:	9060	**Units:**	Percent
Prep Method:	Method	**Basis:**	Dry, per Method
		Analysis Lot:	777315

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2209771-LCS	4.59	4.40	104	72-122

Laboratory Results for: 22G0514

K2210450.

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ADDRESS
PHONE FAX
ALS Group USA, Corp.

Narrative Documents

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Client: North Water District Lab Services (NWDLS)
Project: 22G0514
Sample Matrix: Elutriate, Liquid

Service Request: K2210450
Date Received: 09/10/2022

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:

Six elutriate, liquid samples were received for analysis at ALS Environmental on 09/10/2022. 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 09/20/2022

SAMPLE DETECTION SUMMARY

CLIENT ID: 22G0514-09			Lab ID: K2210450-001			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-10			Lab ID: K2210450-002			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-11			Lab ID: K2210450-003			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-12			Lab ID: K2210450-004			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-13			Lab ID: K2210450-005			
Analyte	Results	Flag	MDL	MRL	Units	Method

CLIENT ID: 22G0514-14			Lab ID: K2210450-006			
Analyte	Results	Flag	MDL	MRL	Units	Method

Sample Receipt Information

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www.alsglobal.com

Client: **Service Request:**

Project:

SAMPLE CROSS-REFERENCE

SUBCONTRACT ORDER

K2210450

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: 22G0514

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/08/2022 19:40	
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/08/2022 18:55	
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/08/2022 18:13	
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/08/2022 16:35	
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/08/2022 16:35	
Analyte(s): Total Cyanide			
Containers Supplied:			

NWDLS
North Water District Laboratory Services, Inc.

K2210450

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/08/2022 20:15	
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-09 ***Elutriate Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-10 ***Elutriate Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-11 ***Elutriate Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-12 ***Elutriate Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			
Sample ID: 22G0514-13 ***Elutriate Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			

NWDLS
North Water Quality Laboratory Services Inc.

SUBCONTRACT ORDER
(Continued)

K22104150

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-14 *Elutriate* ***Sampled: 07/18/2022 00:00***			
Sub_CN T-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Cyanide			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/14/2022 09:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/15/2022 08:30	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/16/2022 08:10	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/21/2022 15:52	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/21/2022 17:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

NWDLS
North Water District Laboratory Services, Inc

K2210450

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/21/2022 12:25	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/16/2022 13:20	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			

Released By	Date	Received By	Date
		[signature]	1005 9/10/22

PM LR

Cooler Receipt and Preservation Form

Client NWDLS Service Request K22 10450

Received: 9/10/22 Opened: 9/10/22 By: [signature] Unloaded: 9/10/22 By: [signature]

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
	3.7	1120				1Z12W40V019237	
						7884	

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 # below 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 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Under filled 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
All Samples	6, 250mL			X	NaOH	1mL	19-Gen-0757A	[signature]	1017

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.

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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:** K2210450
Project: 22G0514/

Sample Name: 22G0514-09 **Date Collected:** 09/7/22
Lab Code: K2210450-001 **Date Received:** 09/10/22
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-10 **Date Collected:** 09/7/22
Lab Code: K2210450-002 **Date Received:** 09/10/22
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-11 **Date Collected:** 09/7/22
Lab Code: K2210450-003 **Date Received:** 09/10/22
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-12 **Date Collected:** 09/7/22
Lab Code: K2210450-004 **Date Received:** 09/10/22
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Name: 22G0514-13 **Date Collected:** 09/7/22
Lab Code: K2210450-005 **Date Received:** 09/10/22
Sample Matrix: Elutriate, Liquid

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

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Analyst Summary report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514/		

Sample Name:	22G0514-14	**Date Collected:**	09/7/22
Lab Code:	K2210450-006	**Date Received:**	09/10/22
Sample Matrix:	Elutriate, Liquid		

Analysis Method	Extracted/Digested By	Analyzed By
SM 4500-CN- E	MRICH	MRICH

Sample Results

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-09	**Basis:**	NA
Lab Code:	K2210450-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001 J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-10	**Basis:**	NA
Lab Code:	K2210450-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001 J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

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Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-11	**Basis:**	NA
Lab Code:	K2210450-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001** **J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-12	**Basis:**	NA
Lab Code:	K2210450-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001** **J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-13	**Basis:**	NA
Lab Code:	K2210450-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001** **J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	09/07/22 09:52
Sample Matrix:	Elutriate, Liquid	**Date Received:**	09/10/22 10:05
Sample Name:	22G0514-14	**Basis:**	NA
Lab Code:	K2210450-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001** **J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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

Analytical Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Collected:**	NA
Sample Matrix:	Elutriate, Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2210450-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	SM 4500-CN- E	**0.001 J**	mg/L	0.020	0.0005	1	09/15/22 15:45	09/15/22	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	North Water District Lab Services (NWDLS)	**Service Request:**	K2210450
Project:	22G0514	**Date Analyzed:**	09/15/22
Sample Matrix:	Elutriate, Liquid	**Date Extracted:**	09/15/22

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:	777746

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2210450-LCS	0.0709	0.075	95	84-115

Laboratory Analysis Report

Total Number of Pages: 11

Job ID : 22082545

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
22G0514

Report To :	Client Name:	NWDLS	P.O.#.:	22G0514
	Attn:	Monica O. Martin	Sample Collected By:	
	Client Address:	130 S Trade Center Pkwy	Date Collected:	08/17/22 - 08/19/22
	City, State, Zip:	Conroe, Texas, 77385		

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
22G0514-15	Sludge	22082545.01
22G0514-16	Sludge	22082545.02
22G0514-17	Sludge	22082545.03
22G0514-21	Sludge	22082545.04

Released By: Amanda Shute
Title: Project Manager
Date: 9/1/2022

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.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Results apply to the sample as received. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Soil samples are reported on a wet weight basis unless otherwise noted. Uncertainty estimates are available on request.

ab-q210-0321

Date Received : 08/25/2022 08:10

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 22082545

Date: 9/1/2022

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		

Qualifier Definition

H3	Sample was received and analyzed past holding time.
S1	Surrogate recovery is above control limit. Results may be biased high.

LABORATORY TEST RESULTS

Job ID : 22082545

Date 9/1/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-15
Date Collected: 08/17/22
Time Collected: 09:15
Other Information:

Job Sample ID: 22082545.01
Sample Matrix Sludge
% Moisture 29

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	29	%	1		0.1		H3	08/25/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			08/25/22 20:55	VMN
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			08/25/22 20:55	VMN
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			08/25/22 20:55	VMN
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				08/25/22 20:55	VMN
	Chlorooctadecane(surr)	147	%	1.00		60-150			08/25/22 20:55	VMN
	1-Chlorooctane(surr)	137	%	1.00		60-143			08/25/22 20:55	VMN

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22082545

Date 9/1/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-16
Date Collected: 08/18/22
Time Collected: 08:30
Other Information:

Job Sample ID: 22082545.02
Sample Matrix Sludge
% Moisture 24

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	24	%	1		0.1			08/25/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			08/25/22 21:27	VMN
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			08/25/22 21:27	VMN
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			08/25/22 21:27	VMN
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				08/25/22 21:27	VMN
	Chlorooctadecane(surr)	141	%	1.00		60-150			08/25/22 21:27	VMN
	1-Chlorooctane(surr)	127	%	1.00		60-143			08/25/22 21:27	VMN

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22082545

Date 9/1/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-17
Date Collected: 08/19/22
Time Collected: 08:10
Other Information:

Job Sample ID: 22082545.03
Sample Matrix Sludge
% Moisture 33.7

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	33.7	%	1		0.1			08/25/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			08/25/22 23:07	VMN
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			08/25/22 23:07	VMN
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			08/25/22 23:07	VMN
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				08/25/22 23:07	VMN
	Chlorooctadecane(surr)	159	%	1.00		60-150		S1	08/25/22 23:07	VMN
	1-Chlorooctane(surr)	129	%	1.00		60-143			08/25/22 23:07	VMN

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22082545

Date 9/1/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-21
Date Collected: 08/19/22
Time Collected: 13:20
Other Information:

Job Sample ID: 22082545.04
Sample Matrix Sludge
% Moisture 31.8

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	31.8	%	1		0.1			08/25/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			08/25/22 23:39	VMN
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			08/25/22 23:39	VMN
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			08/25/22 23:39	VMN
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				08/25/22 23:39	VMN
	Chlorooctadecane(surr)	176	%	1.00		60-150		S1	08/25/22 23:39	VMN
	1-Chlorooctane(surr)	152	%	1.00		60-143		S1	08/25/22 23:39	VMN

ab-q212-0321
Soil results reported on dry weight basis

*-Moisture Attached

QUALITY CONTROL CERTIFICATE

Job ID : 22082545 **Date :** 9/1/2022

Analysis : **Total Petroleum Hydrocarbons** **Method :** **TX 1005** **Reporting Units :** **mg/Kg**

QC Batch ID : Qb220825140 **Created Date :** 08/25/22 **Created By :** VNair

Samples in This QC Batch : 22082545.01,02,03,04

Sample Preparation : PB22082550 **Prep Method :** TX 1005 **Prep Date :** 08/25/22 10:00 **Prep By :** VNair

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	9.49		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	13.0		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.88		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.88		
Chlorooctadecane(surr)	3386-33-2	116	%	1.00				
1-Chlorooctane(surr)	111-85-3	120	%	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	585	117	500	607	121	3.8	20	75-125	
>C12-C28	500	617	123	500	615	123	0.3	20	75-125	
>C28-C35	500	549	110	500	556	111	1.3	20	75-125	

QC Type: MS and MSD
QC Sample ID: 22082482.01

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	589	118	500	588	118	0.2	20	75-125	
>C12-C28	BRL	500	574	115	500	587	117	2.2	20	75-125	
>C28-C35	BRL	500	543	109	500	550	110	1.3	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 22082545 **Date :** 9/1/2022

Analysis : % Moisture **Method : SM 2540G** **Reporting Units : %**

QC Batch ID : Qb22082597 **Created Date :** 08/25/22 **Created By :** RPadmanaban

Samples in This QC Batch : 22082545.01,02

Sample Preparation : PB22082521 **Prep Method :** SM 2540G **Prep Date :** 08/25/22 16:00 **Prep By :** RPadmanaban

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
% Moisture		< MQL	%	1	0.1			

QC Type: Duplicate

QC Sample ID: 22082509.07

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
% Moisture	35.6	35.6	%	0	20		

QUALITY CONTROL CERTIFICATE

Job ID : 22082545 **Date :** 9/1/2022

Analysis : % Moisture **Method : SM 2540G** **Reporting Units : %**

QC Batch ID : Qb22082598 **Created Date :** 08/25/22 **Created By :** RPadmanaban

Samples in This QC Batch : 22082545.03,04

Sample Preparation : PB22082521 **Prep Method :** SM 2540G **Prep Date :** 08/25/22 16:00 **Prep By :** RPadmanaban

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
% Moisture		< MQL	%	1	0.1			

QC Type: Duplicate

QC Sample ID: 22082545.03

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
% Moisture	33.7	33.7	%	0	20		

NWDLS

Job ID:22082545

08/25/2022 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: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-15 ***Sediment Sampled: 08/17/2022 09:15***			
TPH-1005	10/14/2022	08/31/2022 09:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			01A
Sample ID: 22G0514-16 ***Sediment Sampled: 08/18/2022 08:30***			
TPH-1005	10/14/2022	09/01/2022 08:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			02A
Sample ID: 22G0514-17 ***Sediment Sampled: 08/19/2022 08:10***			
TPH-1005	10/14/2022	09/02/2022 08:10	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			03A
Sample ID: 22G0514-21 ***Sediment Sampled: 08/19/2022 13:20***			
TPH-1005	10/14/2022	09/02/2022 13:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			04A

Jam Keasley 0810 — Released By
8.25.22 — Date
Carley Kendrix — Received By
8/25/22 @0810 — Date
2.2°C IRY

Sample Condition Checklist

A&B JobID : **22082545**	Date Received : **08/25/2022**	Time Received : **8:10AM**
Client Name : **NWDLS**		
Temperature : **2.2°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:

COC shows sediment; received sludge. ~JE 08/25/22

Received by : CHendrix

Check in by/date : Jedralin / 08/25/2022

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 24

Job ID : 22090133

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
22G0514

Report To :	Client Name:	NWDLS	P.O.#.:	22G0514
	Attn:	Monica O. Martin	Sample Collected By:	
	Client Address:	130 S Trade Center Pkwy	Date Collected:	08/24/22 - 08/25/22
	City, State, Zip:	Conroe, Texas, 77385		

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
22G0514-02	Water	22090133.01
22G0514-03	Water	22090133.02
22G0514-04	Water	22090133.03
22G0514-05	Water	22090133.04
22G0514-06	Water	22090133.05
22G0514-07	Water	22090133.06
22G0514-18	Solid	22090133.07
22G0514-19	Solid	22090133.08
22G0514-20	Solid	22090133.09

Released By: Amanda Shute
Title: Project Manager
Date: 9/8/2022

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.

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ab-q210-0321

Date Received : 09/01/2022 12:00

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 22090133

Date: 9/8/2022

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		

Qualifier Definition

J	Estimation. Below calibration range but above MDL.
S1	Surrogate recovery is above control limit. Results may be biased high.
S6	Surrogate recovery is outside control limits due to matrix effects.

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-02

Date Collected: 08/25/22

Time Collected: 19:40

Other Information:

Job Sample ID: 22090133.01

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	1.4	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/02/22 16:58	SKM
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/02/22 16:58	SKM
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/02/22 16:58	SKM
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/02/22 16:58	SKM
	Chlorooctadecane(surr)	121	%	1.00		70-125			09/02/22 16:58	SKM
	1-Chlorooctane(surr)	100	%	1.00		70-125			09/02/22 16:58	SKM

ab-q212-0321

Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-03

Date Collected: 08/25/22

Time Collected: 18:55

Other Information:

Job Sample ID: 22090133.02

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	1.1	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	0.941	mg/L	1.00	0.35	2.15		J	09/02/22 17:26	SKM
	>C12-C28	0.667	mg/L	1.00	0.37	2.15		J	09/02/22 17:26	SKM
	>C28-C35	0.645	mg/L	1.00	0.18	2.15		J	09/02/22 17:26	SKM
	Total C6-C35	2.25	mg/L	1.00	0.18				09/02/22 17:26	SKM
	Chlorooctadecane(surr)	126	%	1.00		70-125		S1	09/02/22 17:26	SKM
	1-Chlorooctane(surr)	124	%	1.00		70-125			09/02/22 17:26	SKM

ab-q212-0321

Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-04

Date Collected: 08/25/22

Time Collected: 18:13

Other Information:

Job Sample ID: 22090133.03

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	<0.35	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/02/22 17:53	SKM
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/02/22 17:53	SKM
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/02/22 17:53	SKM
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/02/22 17:53	SKM
	Chlorooctadecane(surr)	163	%	1.00		70-125		S1	09/02/22 17:53	SKM
	1-Chlorooctane(surr)	169	%	1.00		70-125		S1	09/02/22 17:53	SKM

ab-q212-0321

Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-05

Date Collected: 08/25/22

Time Collected: 16:35

Other Information:

Job Sample ID: 22090133.04

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	1.1	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	1.64	mg/L	1.00	0.35	2.15		J	09/02/22 18:20	SKM
	>C12-C28	0.726	mg/L	1.00	0.37	2.15		J	09/02/22 18:20	SKM
	>C28-C35	0.458	mg/L	1.00	0.18	2.15		J	09/02/22 18:20	SKM
	Total C6-C35	2.82	mg/L	1.00	0.18				09/02/22 18:20	SKM
	Chlorooctadecane(surr)	219	%	1.00		70-125		S1	09/02/22 18:20	SKM
	1-Chlorooctane(surr)	217	%	1.00		70-125		S1	09/02/22 18:20	SKM

ab-q212-0321

Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-06

Date Collected: 08/25/22

Time Collected: 16:35

Other Information:

Job Sample ID: 22090133.05

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	<0.35	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/02/22 18:47	SKM
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/02/22 18:47	SKM
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/02/22 18:47	SKM
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/02/22 18:47	SKM
	Chlorooctadecane(surr)	106	%	1.00		70-125			09/02/22 18:47	SKM
	1-Chlorooctane(surr)	90.8	%	1.00		70-125			09/02/22 18:47	SKM

ab-q212-0321

Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-07
Date Collected: 08/25/22
Time Collected: 20:15
Other Information:

Job Sample ID: 22090133.06
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	1.3	mg/L	1	0.35	1			09/06/22 16:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/02/22 19:14	SKM
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/02/22 19:14	SKM
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/02/22 19:14	SKM
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/02/22 19:14	SKM
	Chlorooctadecane(surr)	104	%	1.00		70-125			09/02/22 19:14	SKM
	1-Chlorooctane(surr)	98.5	%	1.00		70-125			09/02/22 19:14	SKM

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-18
Date Collected: 08/24/22
Time Collected: 15:52
Other Information:

Job Sample ID: 22090133.07
Sample Matrix Solid
% Moisture 49.6

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	49.6	%	1		0.1			09/02/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			09/02/22 17:22	SKM
	>C12-C28*	26.10	mg/Kg	1.00	13.0	25			09/02/22 17:22	SKM
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			09/02/22 17:22	SKM
	Total C6-C35*	26.10	mg/Kg	1.00	6.88				09/02/22 17:22	SKM
	Chlorooctadecane(surr)	117	%	1.00		60-150			09/02/22 17:22	SKM
	1-Chlorooctane(surr)	131	%	1.00		60-143			09/02/22 17:22	SKM

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-19
Date Collected: 08/24/22
Time Collected: 17:15
Other Information:

Job Sample ID: 22090133.08
Sample Matrix Solid
% Moisture 56

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	56	%	1		0.1			09/02/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			09/02/22 17:55	SKM
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			09/02/22 17:55	SKM
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			09/02/22 17:55	SKM
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				09/02/22 17:55	SKM
	Chlorooctadecane(surr)	118	%	1.00		60-150			09/02/22 17:55	SKM
	1-Chlorooctane(surr)	136	%	1.00		60-143			09/02/22 17:55	SKM

ab-q212-0321
Soil results reported on dry weight basis

LABORATORY TEST RESULTS

Job ID : 22090133

Date 9/8/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-20
Date Collected: 08/24/22
Time Collected: 12:25
Other Information:

Job Sample ID: 22090133.09
Sample Matrix Solid
% Moisture 43.4

Test Method	Parameter/Test Description	Result	Units	DF	SDL	MQL	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture									
	% Moisture	43.4	%	1		0.1			09/02/22 17:00	RP
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12*	<9.49	mg/Kg	1.00	9.49	25			09/02/22 18:27	SKM
	>C12-C28*	<13	mg/Kg	1.00	13.0	25			09/02/22 18:27	SKM
	>C28-C35*	<6.88	mg/Kg	1.00	6.88	25			09/02/22 18:27	SKM
	Total C6-C35*	<6.88	mg/Kg	1.00	6.88				09/02/22 18:27	SKM
	Chlorooctadecane(surr)	84.8	%	1.00		60-150			09/02/22 18:27	SKM
	1-Chlorooctane(surr)	109	%	1.00		60-143			09/02/22 18:27	SKM

ab-q212-0321
Soil results reported on dry weight basis

*-Moisture Attached

QUALITY CONTROL CERTIFICATE

Job ID : 22090133 **Date :** 9/8/2022

Analysis : % Moisture **Method : SM 2540G** **Reporting Units : %**

QC Batch ID : Qb220902136 **Created Date :** 09/02/22 **Created By :** RPadmanaban

Samples in This QC Batch : 22090133.07,08,09

Sample Preparation : PB22090248 **Prep Method :** SM 2540G **Prep Date :** 09/02/22 16:00 **Prep By :** RPadmanaban

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
% Moisture		< MQL	%	1	0.1			

QC Type: Duplicate

QC Sample ID: 22090079.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
% Moisture	0.229	0.229	%	0	20		

QUALITY CONTROL CERTIFICATE

Job ID : 22090133 **Date :** 9/8/2022

Analysis : **Total Petroleum Hydrocarbons** **Method :** **TX 1005** **Reporting Units :** **mg/L**

QC Batch ID : Qb22090305 **Created Date :** 09/02/22 **Created By :** Skannan

Samples in This QC Batch : 22090133.01,02,03,04,05,06

Sample Preparation : PB22090303 **Prep Method :** TX 1005 **Prep Date :** 09/02/22 10:00 **Prep By :** JOlivera

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	0.35		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.37		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.18		
Total C6-C35		< MDL	mg/L	1.00	----	0.18		
Chlorooctadecane(surr)	3386-33-2	72.4	%	1.00				
1-Chlorooctane(surr)	111-85-3	74.5	%	1.00				

QC Type: Duplicate

QC Sample ID: 22090133.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
>C12-C28	BRL	BRL	mg/L	0	+20		
>C28-C35	BRL	BRL	mg/L	0	+20		
C6-C12	BRL	BRL	mg/L	0	+20		
Total C6-C35	BRL	BRL	mg/L	0	+20		

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	51.5	120	43	49.7	116	3.5	20	75-125	
>C12-C28	43	46.3	108	43	41.8	97.3	10.3	20	75-125	
>C28-C35	43	40.5	94.1	43	37.9	88.2	6.6	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 22090133 **Date :** 9/8/2022

Analysis : **Total Petroleum Hydrocarbons** **Method :** **TX 1005** **Reporting Units :** **mg/Kg**

QC Batch ID : Qb22090602 **Created Date :** 09/02/22 **Created By :** Skannan

Samples in This QC Batch : 22090133.07,08,09

Sample Preparation : PB22090601 **Prep Method :** TX 1005 **Prep Date :** 09/02/22 16:00 **Prep By :** JOlivera

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
C6-C12	TPH-1005-1	< MDL	mg/Kg	1.00	25	9.49		
>C12-C28	TPH-1005-2	< MDL	mg/Kg	1.00	25	13.0		
>C28-C35	TPH-1005-4	< MDL	mg/Kg	1.00	25	6.88		
Total C6-C35		< MDL	mg/Kg	1.00	----	6.88		
Chlorooctadecane(surr)	3386-33-2	88.8	%	1.00				
1-Chlorooctane(surr)	111-85-3	113	%	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	578	116	500	517	103	11.1	20	75-125	
>C12-C28	500	486	97.2	500	451	90.2	7.5	20	75-125	
>C28-C35	500	537	107	500	506	101	5.9	20	75-125	

QC Type: MS and MSD
QC Sample ID: 22090133.07

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	564	113	500	589	118	4.4	20	75-125	
>C12-C28	13.2	500	548	110	500	484	96.9	12.3	20	75-125	
>C28-C35	BRL	500	529	106	500	587	117	10.4	20	75-125	

QUALITY CONTROL CERTIFICATE

Job ID : 22090133 **Date :** 9/8/2022

Analysis : Total Organic Carbon **Method : EPA 415.1** **Reporting Units : mg/L**

QC Batch ID : Qb22090754 **Created Date :** 09/07/22 **Created By :** Ajohn

Samples in This QC Batch : 22090133.01,02,03

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	10.1	101						90-110	

QC Type: MS and MSD
QC Sample ID: 22090133.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TOC	1.4	5	5.7	86	5	5.6	84	1.8	10	80-120	

QUALITY CONTROL CERTIFICATE

Job ID : 22090133 **Date :** 9/8/2022

Analysis : Total Organic Carbon **Method : EPA 415.1** **Reporting Units : mg/L**

QC Batch ID : Qb22090755 **Created Date :** 09/07/22 **Created By :** Ajohn

Samples in This QC Batch : 22090133.04,05,06

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	9.3	93						90-110	

QC Type: MS and MSD
QC Sample ID: 22090133.04

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TOC	1.1	5	5.8	94	5	5.7	92	1.7	10	80-120	

NWDLS

Job ID:22090133

08/01/2022 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: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-02	***Marine Water Sampled: 08/25/2022 19:40***		
TOC-415.1	10/07/2022	09/22/2022 19:40	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 19:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			01AD
Sample ID: 22G0514-03	***Marine Water Sampled: 08/25/2022 18:55***		
TOC-415.1	10/07/2022	09/22/2022 18:55	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 18:55	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			02AD
Sample ID: 22G0514-04	***Marine Water Sampled: 08/25/2022 18:13***		
TOC-415.1	10/07/2022	09/22/2022 18:13	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 18:13	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			03AD

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-05	***Marine Water Sampled: 08/25/2022 16:35***		
TOC-415.1	10/07/2022	09/22/2022 16:35	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 16:35	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			04AD
Sample ID: 22G0514-06	***Marine Water Sampled: 08/25/2022 16:35***		
TOC-415.1	10/07/2022	09/22/2022 16:35	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 16:35	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			05AD
Sample ID: 22G0514-07	***Marine Water Sampled: 08/25/2022 20:15***		
TOC-415.1	10/07/2022	09/22/2022 20:15	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 20:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			06AD
[redacted]			
[redacted]	10/07/2022	08/31/2022 09:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/01/2022 08:30	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/02/2022 08:10	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-18	***Sediment***	***Sampled: 08/24/2022 15:52***	
TOC-9060	10/07/2022	09/21/2022 15:52	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			07A
Sample ID: 22G0514-19	***Sediment***	***Sampled: 08/24/2022 17:15***	
TOC-9060	10/07/2022	09/21/2022 17:15	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			08A
Sample ID: 22G0514-20	***Sediment***	***Sampled: 08/24/2022 12:25***	
TOC-9060	10/07/2022	09/21/2022 12:25	
Analyte(s): Total Organic Carbon (TOC)			
Containers Supplied:			09A
[redacted]			
[redacted]	10/07/2022	09/02/2022 13:20	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Released By: [signature] Date: 9.1.22

Received By: [signature] Date: 09/1/22 12

3.1°C
NR4

Gmail

Amanda Shute <ashute@ablabs.com>

Incoming Samples

Krystal Moore <krystal.moore@nwdls.com> Fri, Sep 2, 2022 at 11:42 AM
To: Amanda Shute <ashute@ablabs.com>, Deena Higginbotham <deena@nwdls.com>, Monica Martin <monica@nwdls.com>
Cc: Carley Hendrix <carley.hendrix@ablabs.com>, Shantall Carpenter <scarpenter@ablabs.com>

Good morning Amanda,

I sent an email with the revised work order for 22G0517 yesterday morning. An email was sent back to me stating that the revised work order had been received but I will attach it in this email. The analysis will be TPH-1005.

Thank you!

From: Amanda Shute <ashute@ablabs.com>
Sent: Friday, September 2, 2022 11:43 AM
To: Krystal Moore <krystal.moore@nwdls.com>; Deena Higginbotham <deena@nwdls.com>; Monica Martin <monica@nwdls.com>
Cc: Carley Hendrix <carley.hendrix@ablabs.com>; Shantall Carpenter <scarpenter@ablabs.com>
Subject: Re: Incoming Samples

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

[Quoted text hidden]

22G0514-A&B Revised.pdf
1591K

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: 22G0514

Analysis	Due	Expires	Comments
Sample ID: 22G0514-02 *Marine Water* *Sampled: 08/25/2022 19:40*			
TOC-415.1	10/07/2022	09/22/2022 19:40	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 19:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-03 *Marine Water* *Sampled: 08/25/2022 18:55*			
TOC-415.1	10/07/2022	09/22/2022 18:55	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 18:55	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-04 *Marine Water* *Sampled: 08/25/2022 18:13*			
TOC-415.1	10/07/2022	09/22/2022 18:13	
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 18:13	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-05 *Marine Water* *Sampled: 08/25/2022 16:35*			
TOC-415.1	10/07/2022	09/22/2022 16:35	
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 16:35	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-06 *Marine Water* *Sampled: 08/25/2022 16:35*			
TOC-415.1	10/07/2022	09/22/2022 16:35	
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 16:35	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-07 *Marine Water* *Sampled: 08/25/2022 20:15*			
TOC-415.1	10/07/2022	09/22/2022 20:15	
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005	10/07/2022	09/08/2022 20:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	08/31/2022 09:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/01/2022 08:30	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/02/2022 08:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-18 ***Sediment Sampled: 08/24/2022 15:52***			
TPH-1005	10/07/2022	09/07/2022 15:52	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-19 ***Sediment Sampled: 08/24/2022 17:15***			
TPH-1005	10/07/2022	09/07/2022 17:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-20 ***Sediment Sampled: 08/24/2022 12:25***			
TPH-1005	10/07/2022	09/07/2022 12:25	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/02/2022 13:20	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Released By _____ Date _____ Received By _____ Date _____

Sample Condition Checklist

A&B JobID : **22090133**	Date Received : **09/01/2022**	Time Received : **12:00PM**
Client Name : **NWDLS**		
Temperature : **3.1°C**	Sample pH : **<2 TOC**	
Thermometer ID : **IR4**	pH Paper ID : **98538**	
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:

Sample 01-06=Water and sample 07-09=Sludge. ~JE 09/01/22

Received by : Jedralin

Check in by/date : Jedralin / 09/01/2022

ab-s005-0321

Laboratory Analysis Report

Total Number of Pages: 16

Job ID : 22090858

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
22G0514

Report To :	Client Name:	NWDLS	P.O.#.: 22G0514
	Attn:	Monica O. Martin	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 09/07/22
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
22G0514-09	Water	22090858.01
22G0514-10	Water	22090858.02
22G0514-11	Water	22090858.03
22G0514-12	Water	22090858.04
22G0514-13	Water	22090858.05
22G0514-14	Water	22090858.06

Released By: Amanda Shute
Title: Project Manager
Date: 9/16/2022

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.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Results apply to the sample as received. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Soil samples are reported on a wet weight basis unless otherwise noted. Uncertainty estimates are available on request.

ab-q210-0321

Date Received : 09/09/2022 09:00

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 22090858

Date: 9/16/2022

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		

Qualifier Definition

J	Estimation. Below calibration range but above MDL.
M2	Matrix Spike and/or Matrix Spike Duplicate recovery is below laboratory control limits due to matrix interference.
S6	Surrogate recovery is outside control limits due to matrix effects.

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-09

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.01

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			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 13:34	Mr
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/14/22 13:34	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 13:34	Mr
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/14/22 13:34	Mr
	Chlorooctadecane(surr)	80.3	%	1.00		70-125			09/14/22 13:34	Mr
	1-Chlorooctane(surr)	63.7	%	1.00		70-125		S6	09/14/22 13:34	Mr

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-10

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.02

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	2.2	mg/L	1	0.35	1			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 14:28	Mr
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/14/22 14:28	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 14:28	Mr
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/14/22 14:28	Mr
	Chlorooctadecane(surr)	82.1	%	1.00		70-125			09/14/22 14:28	Mr
	1-Chlorooctane(surr)	56	%	1.00		70-125		S6	09/14/22 14:28	Mr

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-11

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.03

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	mg/L	1	0.35	1			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 14:55	Mr
	>C12-C28	0.507	mg/L	1.00	0.37	2.15		J	09/14/22 14:55	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 14:55	Mr
	Total C6-C35	0.507	mg/L	1.00	0.18				09/14/22 14:55	Mr
	Chlorooctadecane(surr)	88.8	%	1.00		70-125			09/14/22 14:55	Mr
	1-Chlorooctane(surr)	79.8	%	1.00		70-125			09/14/22 14:55	Mr

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-12

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.04

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	mg/L	1	0.35	1			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 15:22	Mr
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/14/22 15:22	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 15:22	Mr
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/14/22 15:22	Mr
	Chlorooctadecane(surr)	74.5	%	1.00		70-125			09/14/22 15:22	Mr
	1-Chlorooctane(surr)	55.4	%	1.00		70-125		S6	09/14/22 15:22	Mr

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-13

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.05

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	2	mg/L	1	0.35	1			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 15:48	Mr
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/14/22 15:48	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 15:48	Mr
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/14/22 15:48	Mr
	Chlorooctadecane(surr)	88.6	%	1.00		70-125			09/14/22 15:48	Mr
	1-Chlorooctane(surr)	75.5	%	1.00		70-125			09/14/22 15:48	Mr

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 22090858

Date 9/16/2022

Client Name: NWDLS

Attn: Monica O. Martin

Project Name: 22G0514

Client Sample ID: 22G0514-14

Date Collected: 09/07/22

Time Collected: 09:52

Other Information:

Job Sample ID: 22090858.06

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	2	mg/L	1	0.35	1			09/13/22 12:00	AJ
TX 1005	Total Petroleum Hydrocarbons									
	C6-C12	<0.35	mg/L	1.00	0.35	2.15			09/14/22 16:15	Mr
	>C12-C28	<0.37	mg/L	1.00	0.37	2.15			09/14/22 16:15	Mr
	>C28-C35	<0.18	mg/L	1.00	0.18	2.15			09/14/22 16:15	Mr
	Total C6-C35	<0.18	mg/L	1.00	0.18				09/14/22 16:15	Mr
	Chlorooctadecane(surr)	84.4	%	1.00		70-125			09/14/22 16:15	Mr
	1-Chlorooctane(surr)	79.8	%	1.00		70-125			09/14/22 16:15	Mr

ab-q212-0321

QUALITY CONTROL CERTIFICATE

Job ID : 22090858 **Date :** 9/16/2022

Analysis : Total Organic Carbon **Method : EPA 415.1** **Reporting Units : mg/L**

QC Batch ID : Qb220913101 **Created Date :** 09/13/22 **Created By :** Ajohn

Samples in This QC Batch : 22090858.01,02,03,04,05,06

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	9.2	92						90-110	

QC Type: MS and MSD
QC Sample ID: 22090858.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TOC	3.1	5	6.8	74	5	7.4	86	8.4	10	80-120	M2

QUALITY CONTROL CERTIFICATE

Job ID : 22090858 **Date :** 9/16/2022

Analysis : **Total Petroleum Hydrocarbons** **Method :** **TX 1005** **Reporting Units :** **mg/L**

QC Batch ID : Qb22091508 **Created Date :** 09/14/22 **Created By :** SMohan

Samples in This QC Batch : 22090858.01,02,03,04,05,06

Sample Preparation : PB22091508 **Prep Method :** TX 1005 **Prep Date :** 09/14/22 12:30 **Prep By :** SMohan

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	0.35		
>C12-C28	TPH-1005-2	< MDL	mg/L	1.00	2.15	0.37		
>C28-C35	TPH-1005-4	< MDL	mg/L	1.00	2.15	0.18		
Total C6-C35		< MDL	mg/L	1.00	----	0.18		
Chlorooctadecane(surr)	3386-33-2	71.3	%	1.00				
1-Chlorooctane(surr)	111-85-3	74	%	1.00				

QC Type: Duplicate

QC Sample ID: 22090858.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
>C12-C28	BRL	BRL	mg/L	0	+20		
>C28-C35	BRL	BRL	mg/L	0	+20		
C6-C12	BRL	BRL	mg/L	0	+20		
Total C6-C35	BRL	BRL	mg/L	0	+20		

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	45.0	105	43	46.5	108	3.2	20	75-125	
>C12-C28	43	43.0	100	43	45.4	105	5.3	20	75-125	
>C28-C35	43	46.4	108	43	48.1	112	3.6	20	75-125	

NWDLS

Job ID:22090858

09/09/2022 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: 22G0514

Analysis	Due	Expires	Comments
[redacted]			
[redacted]1	10/07/2022	09/22/2022 19:40	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	10/07/2022	09/08/2022 19:40	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]1	10/07/2022	09/22/2022 18:55	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	10/07/2022	09/08/2022 18:55	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/22/2022 18:13	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]05	10/07/2022	09/08/2022 18:13	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/22/2022 16:35	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	10/07/2022	09/08/2022 16:35	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/22/2022 16:35	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	10/07/2022	09/08/2022 16:35	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/22/2022 20:15	
Analyte(s): Total Organic Carbon (TOC)			
[redacted]	10/07/2022	09/08/2022 20:15	
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-09 ***Elutriate Sampled: 07/18/2022 00:00***			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

01AD

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-10 *Elutriate* *Sampled: 07/18/2022 00:00*			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52 02AD ~~01AD~~
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-11 *Elutriate* *Sampled: 07/18/2022 00:00*			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52 03AD ~~01AD~~
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-12 *Elutriate* *Sampled: 07/18/2022 00:00*			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52 04AD ~~01AD~~
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
Sample ID: 22G0514-13 *Elutriate* *Sampled: 07/18/2022 00:00*			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52 05AD ~~01AD~~
Analyte(s): Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s): 1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
Sample ID: 22G0514-14 *Elutriate* *Sampled: 07/18/2022 00:00*			
TOC-415.1-ELUT	10/07/2022	08/15/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s):			
Total Organic Carbon (TOC)			
TPH-1005-ELUT	10/07/2022	08/01/2022 00:00	Leached: 09/07/2022 09:52
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	08/31/2022 09:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/01/2022 08:30	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/02/2022 08:10	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/07/2022 15:52	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]05	10/07/2022	09/07/2022 17:15	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

NWDLS

SUBCONTRACT ORDER
(Continued)

Work Order: 22G0514 (Continued)

Analysis	Due	Expires	Comments
[redacted]			
[redacted]	10/07/2022	09/07/2022 12:25	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			
[redacted]			
[redacted]	10/07/2022	09/02/2022 13:20	
Analyte(s):			
1-Chlorooctadecane-surr	1-Chlorooctane-surr		Total Petroleum Hydrocarbons (TPH), C6-C35
Containers Supplied:			

Released By: [signature] Date: 9/9/22

Received By: [signature] Date: 09/09/22 09[illegible]

3.0°C
IRY

Sample Condition Checklist

A&B JobID : **22090858**	Date Received : **09/09/2022**	Time Received : **9:00AM**
Client Name : **NWDLS**		
Temperature : **3.0°C**	Sample pH : **<2 TOC**	
Thermometer ID : **IR4**	pH Paper ID : **98538**	
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:

Sample 03A preserved with 1ml of H2SO4 on 09/09/22 12:14 LOT#99799 pH <2. ~JE 09/09/22

Received by : Jedralin

Check in by/date : Jedralin / 09/09/2022

ab-s005-0321

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

22G3840

Lab PM : Monica O. Martin	**Project Name :** PCCA CDP KIT DELIVERY — **Schedule Comments:**
Terracon_Houston Gregg Pawlak 11555 Clay Road Houston, TX 77043 Phone: (713) 690-8989	**Project Comments:** Terracon Corpus Office 3606 WOW Rd. Corpus Christi, TX 78413

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G3840-01	CDP-EQ BLANK		7/25/2022 0940	AQ QC			
22G3840-02	CDP-01-W		7/25/2022	AQ Grab			
22G3840-03	CDP-02-W		7/25/2022	AQ Grab			
22G3840-04	CDP-03-W		7/25/2022	AQ Grab			
22G3840-05	CDP-04-W		7/25/2022	AQ Grab			
22G3840-06	CDP-05-W		7/25/2022	AQ Grab			
22G3840-07	CDP-REF-W		7/25/2022	AQ Grab			
22G3840-08	CDP-DUP-W		7/25/2022	AQ Grab			

Field Remarks:

Lab Preservation: (Circle and Write ID Below) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Print Name Andrew Rodriguez	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation NWDLS	Relinquished To Lab By: (Signature)	Date/Time 7-25-22/1315	Received for Laboratory By: (Signature)	Date/Time 7-25-22/1315

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Eq. Blank on Core Barrel - Station CDP-03-3C before Core #2

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-01	CDP-EQ BLANK	08/19/22 → 1125 →		AQ QC	A PreClean HDPE 250mL HNO3 after Fil B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200. HNO3 Cr VI-D 3500 Cr6+Buf 4°C	Samples in Cooler Placed in Ref. Trailer

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

22G0514

CHAIN OF CUSTODY RECORD

NWDLS
North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-02	CDP-01-W	08/25/2022 1903	08/25/2022 1940	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil AAHDPE Bucket 5 Gal ABHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal ADHDPE Bucket 5 Gal B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L Amber Glass 1L w/ Teflon-lined Lid	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20(HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200 HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	8-5 gal Buckets

Field Remarks: Collected at Station CDP-01-1A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8/29/22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: 1.2/1.2 °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID: 210879256

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-01 W	08/25/2022 1903	8/25/2022 1940		M Amber Glass 1L w/ Teflon-lined Lid N Amber Glass 1L w/ Teflon-lined Lid O HDPE 250mL NaOH P Glass VOA 60mL Q Glass VOA 60mL R Glass VOA 60mL S Glass VOA 40mL HCl pH<2 T Glass VOA 40mL HCl pH<2 U Glass VOA 40mL HCl pH<2 V HDPE 1L W HDPE Bucket 5 Gal X HDPE Bucket 5 Gal Y HDPE Bucket 5 Gal Z HDPE Bucket 5 Gal	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Site Water Elutriate Prep 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	8-5gal. Buckets

Field Remarks: Collected at Station CDP-01-1A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1808	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C

Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

22G0514

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-03	CDP-02-W	08/25/2022 1825	08/25/2022 1855	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil AAHDPE Bucket 5 Gal ABHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal ADHDPE Bucket 5 Gal B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L Amber Glass 1L w/ Teflon-lined Lid	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200. HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	8-5gal. Buckets

Field Remarks: Collected at Station: CDP-02-ZA

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/25/22 1630	Received By: (Signature)	Date/Time 8/25/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/25/22 1830	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

22G0514

CHAIN OF CUSTODY RECORD

NWDLS
North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Project Comments:

Schedule Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-02-W	08/25/2022 1825	08/25/2022 1855		M Amber Glass 1L w/ Teflon-lined Lid N Amber Glass 1L w/ Teflon-lined Lid O HDPE 250mL NaOH P Glass VOA 60mL Q Glass VOA 60mL R Glass VOA 60mL S Glass VOA 40mL HCl pH<2 T Glass VOA 40mL HCl pH<2 U Glass VOA 40mL HCl pH<2 V HDPE 1L W HDPE Bucket 5 Gal X HDPE Bucket 5 Gal Y HDPE Bucket 5 Gal Z HDPE Bucket 5 Gal	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Site Water Elutriate Prep 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	8- 5gal. Buckets

Field Remarks: Collected at Station CDP-02-ZA

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Medonne	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1900	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

22G0514

CHAIN OF CUSTODY RECORD

NWDLS
North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Project Comments:

Schedule Comments: One (1) 60 ml Vial - lid Broke during Sampling - Not included w/ this Sample - No Extra Vials to Collect.

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-04	CDP-03-W	08/25/2022 1736	08/25/2022 1813	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil AAHDPE Bucket 5 Gal ABHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L Amber Glass 1L w/ Teflon-lined Lid	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200. HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	8-5gal. Buckets

Field Remarks: Collected at Station CDP-03-3A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

22G0514

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-03-W	08/25/2022 1736	08/25/2022 1813		M Amber Glass 1L w/ Teflon-lined Lid N Amber Glass 1L w/ Teflon-lined Lid O HDPE 250mL NaOH P Glass VOA 60mL Q Glass VOA 60mL R Glass VOA 60mL S Glass VOA 40mL HCl pH<2 T Glass VOA 40mL HCl pH<2 U Glass VOA 40mL HCl pH<2 V HDPE 1L W HDPE Bucket 5 Gal X HDPE Bucket 5 Gal Y HDPE Bucket 5 Gal Z HDPE Bucket 5 Gal	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Site Water Elutriate Prep 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	8-5 gal. Buckets

Field Remarks: Collected at Station CDP-03-3A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1636	Received By: (Signature)	Date/Time 8/27/22 1636
Print Name Michael Medeiros	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

22G0514

CHAIN OF CUSTODY RECORD

NWDLS
North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-21-16

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-05	CDP-04-W	08/25/2022 1650	08/25/2022 1635	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil AAHDPE Bucket 5 Gal ABHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L Amber Glass 1L w/ Teflon-lined Lid	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200 HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	8-5gal. Buckets

Field Remarks: Collected at Station CDP-04-4A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-04-W	08/25/2022 1650	08/25/2022 1635		M Amber Glass 1L w/ Teflon-lined Lid N Amber Glass 1L w/ Teflon-lined Lid O HDPE 250mL NaOH P Glass VOA 60mL Q Glass VOA 60mL R Glass VOA 60mL S Glass VOA 40mL HCl pH<2 T Glass VOA 40mL HCl pH<2 U Glass VOA 40mL HCl pH<2 V HDPE 1L W HDPE Bucket 5 Gal X HDPE Bucket 5 Gal Y HDPE Bucket 5 Gal Z HDPE Bucket 5 Gal	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Site Water Elutriate Prep 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	8-5gal Buckets

Field Remarks: Collected at Station CDP-04-4A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

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`22G0514~

22G0514

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-06	CDP-05-W	08/25/2022 0925	08/25/2022 1635	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil AAHDPE Bucket 5 Gal ABHDPE Bucket 5 Gal ACHDPE Bucket 5 Gal ADHDPE Bucket 5 Gal B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L Amber Glass 1L w/ Teflon-lined Lid	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200. HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	8-5 gal. Buckets

Field Remarks: See field Notes - Field Sheet
Collected at CDP-05-5A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler Signature:	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name: Michael Malone	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/29/22 0800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

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22G0514

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Project Name : PCCA CDP 2022 - PHASE II

Project Comments:

Schedule Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-05-W	08/25/2022 0925	08/25/2022 1635		M Amber Glass 1L w/ Teflon-lined Lid N Amber Glass 1L w/ Teflon-lined Lid O HDPE 250mL NaOH P Glass VOA 60mL Q Glass VOA 60mL R Glass VOA 60mL S Glass VOA 40mL HCl pH<2 T Glass VOA 40mL HCl pH<2 U Glass VOA 40mL HCl pH<2 V HDPE 1L W HDPE Bucket 5 Gal X HDPE Bucket 5 Gal Y HDPE Bucket 5 Gal Z HDPE Bucket 5 Gal	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Site Water Elutriate Prep 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	8 5gal. Buckets

Field Remarks: See field Notes - Field Sheet
Collected at Station CDP-05-5A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No
Container Intact : Yes / No
COC Labels Agree: Yes / No
Appropriate Containers: Yes / No
Appropriate Volume: Yes / No
Coolers Intact: Yes / No
Received on Ice: Yes / No
Samples Accepted: Yes / No
Temperature: °C
Thermometer ID:

Anamar

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-07	CDP-REF-W	08/25/2022 2000	08/25/2022 2015	AQ Grab	A PreClean HDPE 250mL HNO3 after Fil B HDPE 250 Cr6+Buf after filtration C PreCleaned HDPE 250mL HNO3 D HDPE 250mL H2SO4 E HDPE 250mL H2SO4 F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J Glass VOA 60mL K Glass VOA 60mL L HDPE 250mL NaOH M Glass VOA 60mL N Glass VOA 60mL O Glass VOA 60mL P Glass VOA 40mL HCl pH<2	Antimony KED D ICPMS HNO3 Arsenic KED D ICPMS 2 HNO3 Beryllium KED D ICPMS HNO3 Cadmium KED D ICPMS HNO3 Chromium KED D ICPM HNO3 Copper KED D ICPMS 2 HNO3 Cr III D KED ICPMS [Group Analysis] Hg-245.1 HNO3 Lead KED D ICPMS 200 HNO3 Nickel KED D ICPMS 20 HNO3 Selenium KED ICPMS 2 HNO3 Silver KED D ICPMS 20 HNO3 Thallium KED D ICPMS HNO3 Zinc KED D ICPMS 200 HNO3 OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C	

Field Remarks: Collected at Station B - Reference

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name ANAMAR	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0900

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
		08/25/2022 2000	08/25/2022 2015	See Pg 12.850	Q Glass VOA 40mL HCl pH<2 R Glass VOA 40mL HCl pH<2 S HDPE 1L	TPH-1005 4°C Cr VI-D 3500 Cr6+Buf 4°C NH3-N SEAL-350.1 H2SO4 4°C Sub_CN T-4500 NaOH 4°C TOC-415.1 H2SO4 4°C TSS-2540 4°C	See Pg. 12.850

Field Remarks: Collected at Station B - Reference

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madigan	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1803	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-08	CDP-DUP-W	08/25/2022 1814	08/25/2022 1816	AQ Grab	A Amber Glass 1L w/ Teflon-lined Lid B Amber Glass 1L w/ Teflon-lined Lid C Amber Glass 1L w/ Teflon-lined Lid	Site Water Elutriate Prep 4°C	

Field Remarks: Collected at Station CDP-03-3A

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madsen	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1630	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0600

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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22G0514

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Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Each Subsample (1A+1C) will be analyzed discretely for Physical Grain Size prior to compositing - Then 1A+C Subsamples will be composited for Sediment Chemistry, Elutriate Prep and Toxicology Analyses

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-15	CDP-01-S CDP-01-1A CDP-01-1C	08/16/2022 1330 08/17/2022 0940	08/16/2022 1630 08/17/2022 0915	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive 4°C** Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 200 4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 200 4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 200 4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	CDP-01-1A 4 Buckets w/ Teflon Bags ~20 gals. CDP-01-1C 5 Buckets w/ Teflon Bags ~23-25 gal.

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other: _____

8/19/22

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/22	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name: Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: _____ °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID: _____

Anamar

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22G0514

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

See Page 27 for Comments

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-01-1A	08/16/2022 1330	08/16/2022 1630	S-Composite	See Pg 27	AB 10D-503 4°C AB 48HR-503 4°C AB 96HR-503 4°C LP 10D-503 4°C MB 96HR-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+H 4°C TOC-9060 4°C TS-2540 G 4°C	See Page 27
	CDP-01-1C	08/17/2022 0640	08/17/2022 0915				

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/19/2022	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name Michael Macdonnan	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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22G0514

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Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Each Subsample (2A+2C) will be analyzed discretely for Physical Grain size prior to compositing. Then 2A+2C Subsamples will be composited for Sediment Chemistry, Elutriate Prep and Toxicology Analysis

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-16	CDP-02-S			S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive 4°C** Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 200 4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 200 4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 20 4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	
	CDP-02-2A	08/17/2022 1245	08/17/2022 1500				CDP-02-2A 4 Buckets w/Teflon Bags ~22 gal.
	CDP-02-2C	08/18/2022 0655	08/18/2022 0830				CDP-02-2C 4 Buckets w/Teflon Bags ~22 gal.

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

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22G0514

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: See Page 29 for Comments

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-02-2A	08/17/2022 1245	08/17/2022 1500	5 Composite	See Page 29	AB 10D-503 4°C AB 48HR-503 4°C AB 96HR-503 4°C LP 10D-503 4°C MB 96HR-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+H 4°C TOC-9060 4°C TS-2540 G 4°C	See Page 29
	CDP-02-2C	08/18/2022 0655	08/18/2022 0830				

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

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22G0514

CHAIN OF CUSTODY RECORD

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Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Each SubSample 3A (Core 1) and 3C (Core 1) will be analyzed discretely for Physical Grain Size Analysis prior to compositing. Then 3A (Core 1) and 3C (Core 1) Subsamples will be Composited for Sediment Chemistry, Elutriate Prep and Toxicology Analysis

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-17	CDP-03-S CDP-03-3A Core #1 08/18/2022	12:15	08/18/2022 1345	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive 4°C** Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 20(4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 20(4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 2(4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	CDP-03-3A Core #1 3 Buckets w/ Teflon Bags ~13 gals.
	CDP-03-3C Core #1	08/19/2022 0705	08/19/2022 0810				CDP-03-3C Core #1 4 Buckets w/ Teflon Bags ~18 gal.

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature)	Date/Time 8-19-22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8-19-22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
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(936) 321-6060 - lab@nwdls.com
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`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: See Page 31 for Comments.

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-03-3A Core #1 08/18/2022	12:15	08/18/2022 1345	S. Composite	See Pg 31	AB 10D-503 4°C AB 48HR-503 4°C AB 96HR-503 4°C LP 10D-503 4°C MB 96HR-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+ 4°C TOC-9060 4°C TS-2540 G 4°C	See Pg 31
	CDP-03-3C Core #1	08/19/2022 0705	08/19/2022 0810				

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature)	Date/Time 8.19.22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8.19.22/2205	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2205

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

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`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Composite CDP-03-3A Duplicate Core #2 - Teflon Bags and CDP-03-3C Duplicate Core #2 - Teflon Bags for Physical, Chemistry and Eluviate Prep

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-21	CDP-DUP-S CDP-03-3A Core #2	08/18/2022 1600	08/18/2022 1700	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L	Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 20(4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS : 4°C Copper KED ICPMS 20(4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 2(4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C CN T-9014 4°C	CDP-03-3A Core #2 1 Bucket w/ Teflon Bag 6 gal. X 1 Bucket No Teflon 6 gal. CDP-03-3C Core #2 2 Buckets w/ Teflon Bags ~10 gal. 2 Buckets No Teflon ~10 gal.
	CDP-03-3C Core #2	08/19/2022 1145	08/19/2022 1320				

Field Remarks: X 3A Core 2 — 1 Bucket w/ No Teflon Extra/Archive; ** 3C Core 2 — 2 Buckets No Teflon Extra/Archive — for Toxicology Analysis

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 08/19/2022	Received By: (Signature) Jason Keasly	Date/Time 8-19-22/1805
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature) Jason Keasly	Date/Time 8-19-22/2005	Received for Laboratory By: (Signature)	Date/Time 8/19/22 2005

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

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`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Each Subsample 4A+4C will be analyzed discretely for Physical Grain Size analysis prior to Compositing. Then A+C subsamples will be Composited for Sediment Chemistry, Elutriate Prep, and Toxicology Analysis

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-18	CDP-04-S CDP-04-4A	08/24/2022 1438	8/24/2022 1458	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive 4°C** Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 200 4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 200 4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 200 4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	CDP-04-4A 4 - Buckets w/ Ziplock Bags ~20gal.
	CDP-04-4C	8/24/2022 1529	8/24/2022 1552				CDP-04-4C 4 - Buckets w/ Ziplock Bags ~20gal.

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/24/22 1630	Received By: (Signature)	Date/Time 8/24/22 1630
Print Name: Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/24/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-24-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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22G0514

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Gregg Pawlak
11555 Clay Road
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Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Project Comments:

Schedule Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-04-4A	8/24/2022 1438	8/24/2022 1458		See Page 33 & 50	AB 10D-503 4°C AB 48HR-503 4°C AB 96HR-503 4°C LP 10D-503 4°C MB 96HR-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+H 4°C TOC-9060 4°C TS-2540 G 4°C	See Page 33 & 50
	CDP-04-4C	8/24/2022 1529	8/24/2022 1552				

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1638	Received By: (Signature)	Date/Time 8/27/22 1638
Print Name Michael Madonna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0840

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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`22G0514~

22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments: Each Subsample 5A+5C will be analyzed Discrete for Physical Grain Size prior to compositing. Then 5A+5C subsamples will be composited for Sediment Chemistry, elutriate prep and Toxicology Analysis.

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-19	CDP-05-S CDP-05-5A	8/24/2022 1615	8/24/2022 1635	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive** 4°C Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 200 4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 200 4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 20 4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	~~See~~ CDP-05-5A 4 Buckets w/ Teflon Bag ~20 gal.
	CDP-05-5C	8/24/2022 1647	8/24/2022 1715				CDP-05-5C 4 Buckets w/ Teflon Bag ~20 gal.

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Mabanna	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8.29.22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
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22G0514

Terracon_Houston
Gregg Pawlak
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Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-05-5A	8/24/2022 1615	8/24/2022 1635		See Page 35 & 50 ↓	AB 10D-503 4°C AB 48HR-503 4°C AB 96HR-503 4°C LP 10D-503 4°C MB 96HR-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+I- 4°C TOC-9060 4°C TS-2540 G 4°C	See Page 35 & 50 ↓
	CDP-05-5C	8/24/2022 1647	8/24/2022 1715				

Field Remarks:

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name: Michael MacDonnan	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1830	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

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CHAIN OF CUSTODY RECORD

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22G0514

Terracon_Houston
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Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Schedule Comments:

Project Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
22G0514-20	CDP-REF-S CDP-REF-A	8/24/2022 10:35	8/24/2022 ~~1130~~ 1115	S Composite	A HDPE 250mL B HDPE 250mL C Glass 250mL w/ Teflon-lined Lid D Glass 250mL w/ Teflon-lined Lid E Glass 250mL w/ Teflon-lined Lid F Glass 250mL w/ Teflon-lined Lid G HDPE 1L H HDPE Bucket 5 Gal I HDPE Bucket 5 Gal J HDPE Bucket 5 Gal K HDPE Bucket 5 Gal L HDPE Bucket 5 Gal M HDPE Bucket 5 Gal N HDPE Bucket 5 Gal	**Sample Archive** 4°C Antimony KED ICPMS 2 4°C Arsenic KED ICPMS 200 4°C Beryllium KED ICPMS 2 4°C Cadmium KED ICPMS 2 4°C Chromium KED ICPMS 4°C Copper KED ICPMS 200 4°C Hg-7471 4°C Lead KED ICPMS 200.8 4°C Nickel KED ICPMS 200. 4°C Selenium KED ICPMS 2 4°C Silver KED ICPMS 200.8 4°C Thallium KED ICPMS 20 4°C Zinc KED ICPMS 200.8 4°C OCP-8081 4°C PCB-8082 4°C SVOA-8270 4°C TPH-1005 <-20°C	CDP-REF-A 1 Bucket w/ Teflon 1 of 3 2 Buckets No Teflon 2 of 3, 3 of 3
	CDP-REF-B	8/24/2022 1130	8/24/2022 1155				CDP-REF-B 1 Bucket w/ Teflon 2 Buckets No Teflon
	CDP-REF-C	8/24/2022 12:10	8/24/2022 1225				CDP-REF-C 1 Bucket w/ Teflon 2 Buckets No Teflon

Field Remarks: Buckets w/ Teflon - Use for Grain Size. Chemistry & Elutriate Analysis

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madarra	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

CHAIN OF CUSTODY RECORD

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22G0514

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA CDP 2022 - PHASE II

Project Comments:

Schedule Comments:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
	CDP-REF-A	8/24/2022 1035	8/24/2022 1115	S-Composite	See Pg 37 of 50	AB 10D-503 4°C LP 10D-503 4°C MM 28D-503 4°C NV 28D-503 4°C Sediment Prep 4°C CN T-9014 4°C Cr III ICPMS Solid [Group Analysis] Cr VI-7196 4°C NH3-N T-350.2 4°C pH-9045 4°C Sub_Grain Size-Sieve+H 4°C TOC-9060 4°C TS-2540 G 4°C	See Page 37 of 50
	CDP-REF-B	8/24/2022 1130	8/24/2022 1155				
	CDP-REF-C	8/24/2022 1210	8/24/2022 1225				

Field Remarks: See Pg. 37 of 50

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 8/27/22 1630	Received By: (Signature)	Date/Time 8/27/22 1630
Print Name Michael Madozma	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation ANAMAR	Relinquished To Lab By: (Signature)	Date/Time 8/27/22 1800	Received for Laboratory By: (Signature)	Date/Time 8-29-22 0800

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Anamar

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

APPENDIX F

STATISTICAL CALCULATIONS

Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	ANT-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Antimony, mg/kg				

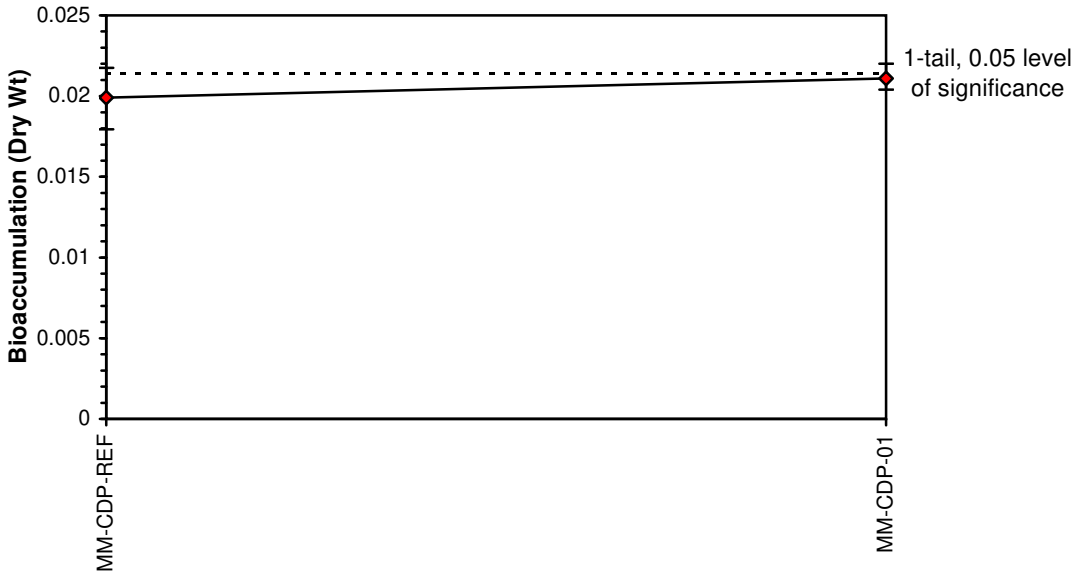
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.0181	0.0179	0.0207	0.0209	0.0217
MM-CDP-01	0.0207	0.0220	0.0204	0.0215	0.0209

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.0199	0.0000	0.0199	0.0179	0.0217	8.762	5			
MM-CDP-01	0.0211	0.0013	0.0211	0.0204	0.0220	3.053	5	1.494	1.860	0.0015

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95183	0.842	-0.3416	-0.7571
F-Test indicates equal variances (p = 0.08)	7.29639	23.1539		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs MM-CDP-REF	0.00154	0	3.8E-06	1.7E-06	0.17345	1, 8

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	AS-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Arsenic, mg/kg				

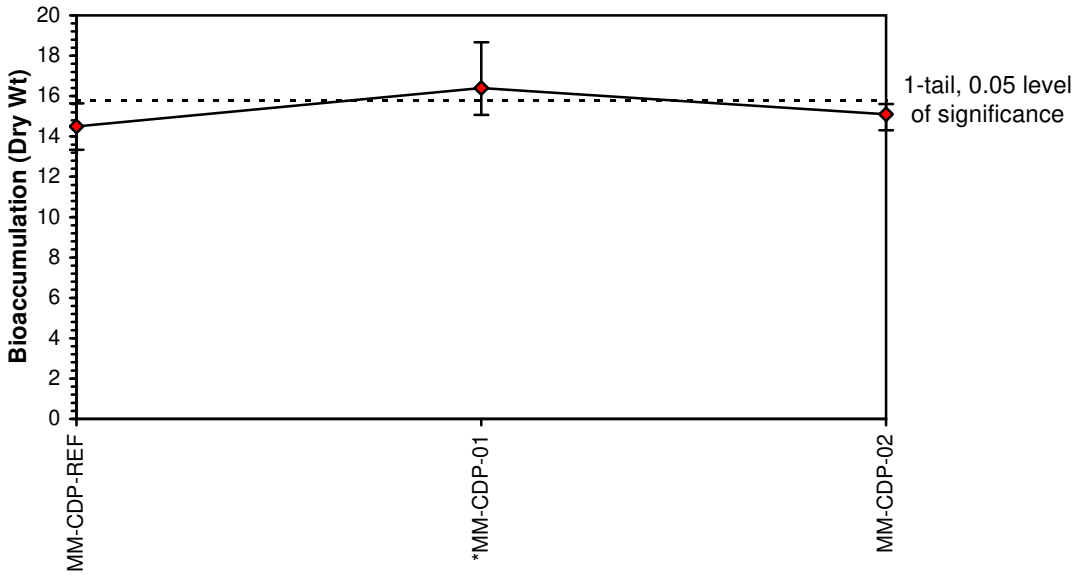
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	15.000	15.600	13.300	13.800	14.600
MM-CDP-01	15.600	17.000	15.100	18.700	15.800
MM-CDP-02	15.600	15.500	15.000	14.300	15.100

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	14.460	0.0000	14.460	13.300	15.600	6.368	5			
*MM-CDP-01	16.440	-0.1471	16.440	15.100	18.700	8.779	5	3.033	2.110	1.377
MM-CDP-02	15.100	-0.0475	15.100	14.300	15.600	3.409	5	0.980	2.110	1.377

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94415	0.881	0.74874	0.75752
Bartlett's Test indicates equal variances (p = 0.18)	3.41623	9.21035		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	1.37738	0	5.10467	1.06533	0.02954	2, 12

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	BE-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Beryllium, mg/kg				

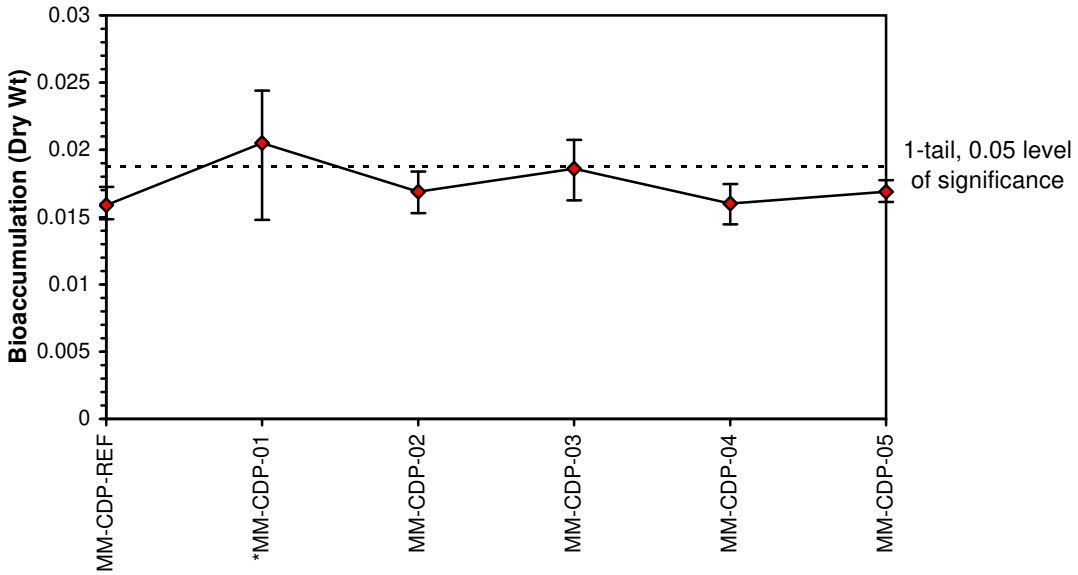
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.0153	0.0167	0.0172	0.0148	0.0153
MM-CDP-01	0.0148	0.0244	0.0187	0.0238	0.0208
MM-CDP-02	0.0170	0.0184	0.0175	0.0153	0.0163
MM-CDP-03	0.0207	0.0181	0.0198	0.0162	0.0180
MM-CDP-04	0.0145	0.0148	0.0161	0.0175	0.0173
MM-CDP-05	0.0169	0.0161	0.0161	0.0175	0.0177

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.0159	0.0000	0.0159	0.0148	0.0172	6.501	5			
*MM-CDP-01	0.0205	0.0047	0.0205	0.0148	0.0244	19.193	5	3.710	2.360	0.0030
MM-CDP-02	0.0169	0.0011	0.0169	0.0153	0.0184	6.964	5	0.832	2.360	0.0030
MM-CDP-03	0.0186	0.0027	0.0186	0.0162	0.0207	9.414	5	2.159	2.360	0.0030
MM-CDP-04	0.0160	0.0002	0.0160	0.0145	0.0175	8.612	5	0.144	2.360	0.0030
MM-CDP-05	0.0169	0.0010	0.0169	0.0161	0.0177	4.470	5	0.800	2.360	0.0030

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94794	0.927	-0.617	2.75719
Bartlett's Test indicates equal variances (p = 0.02)	14.063	15.0863		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	0.00295	0	1.6E-05	3.9E-06	0.00865	5, 24

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	CD-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Cadmium, mg/kg				

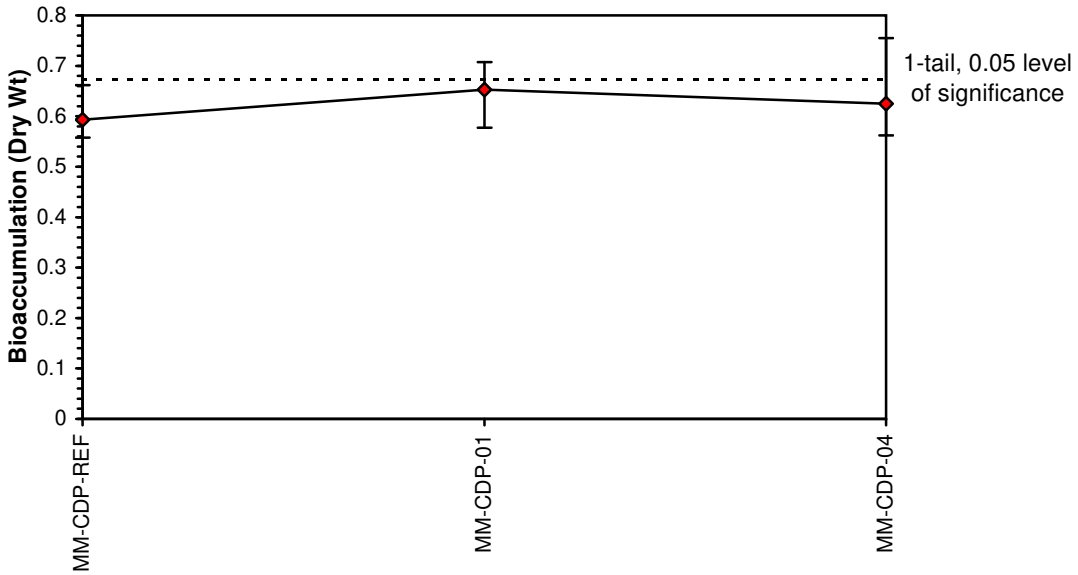
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.6610	0.5820	0.5870	0.5570	0.5760
MM-CDP-01	0.6820	0.6320	0.5780	0.7080	0.6670
MM-CDP-04	0.5620	0.5720	0.6620	0.5730	0.7550

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.5926	0.0000	0.5926	0.5570	0.6610	6.732	5			
MM-CDP-01	0.6534	0.1492	0.6534	0.5780	0.7080	7.701	5	1.583	2.110	0.0810
MM-CDP-04	0.6248	0.0790	0.6248	0.5620	0.7550	13.331	5	0.838	2.110	0.0810

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94997	0.881	0.80905	0.47273
Bartlett's Test indicates equal variances (p = 0.35)	2.10216	9.21035		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	0.08103	0	0.00463	0.00369	0.32002	2, 12

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	CR-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Chromium, mg/kg				

Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.3640	0.3630	0.3910	0.3720	0.3410
MM-CDP-01	0.4260	0.4230	0.3320	0.6390	0.4420
MM-CDP-02	0.4350	0.6150	0.4670	0.4580	0.3740
MM-CDP-03	0.4530	0.3510	0.4520	0.4470	0.3890
MM-CDP-04	0.3220	0.2990	0.3500	0.8360	0.4960
MM-CDP-05	0.3730	0.3180	0.3490	0.4330	0.4270

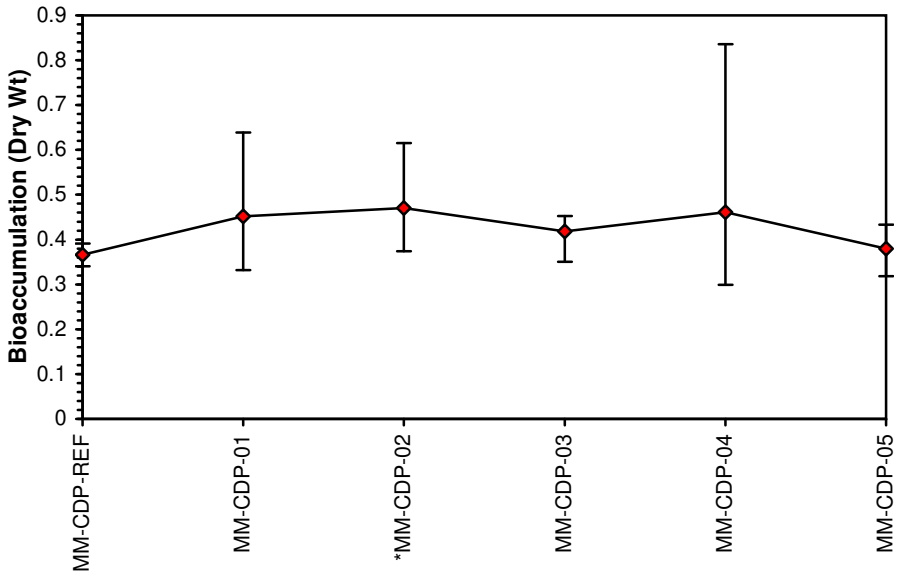
			Transform: Untransformed					Rank	1-Tailed
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
MM-CDP-REF	0.3662	0.0000	0.3662	0.3410	0.3910	4.921	5		
MM-CDP-01	0.4524	0.1360	0.4524	0.3320	0.6390	24.956	5	20.00	16.00
*MM-CDP-02	0.4698	0.1635	0.4698	0.3740	0.6150	18.925	5	16.00	16.00
MM-CDP-03	0.4184	0.0824	0.4184	0.3510	0.4530	11.051	5	20.00	16.00
MM-CDP-04	0.4606	0.1489	0.4606	0.2990	0.8360	48.515	5	29.00	16.00
MM-CDP-05	0.3800	0.0218	0.3800	0.3180	0.4330	13.073	5	25.00	16.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.84936	0.927	1.78337	5.68295
Bartlett's Test indicates unequal variances (p = 4.47E-04)	22.3609	15.0863		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs MM-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	CR-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Chromium, mg/kg				

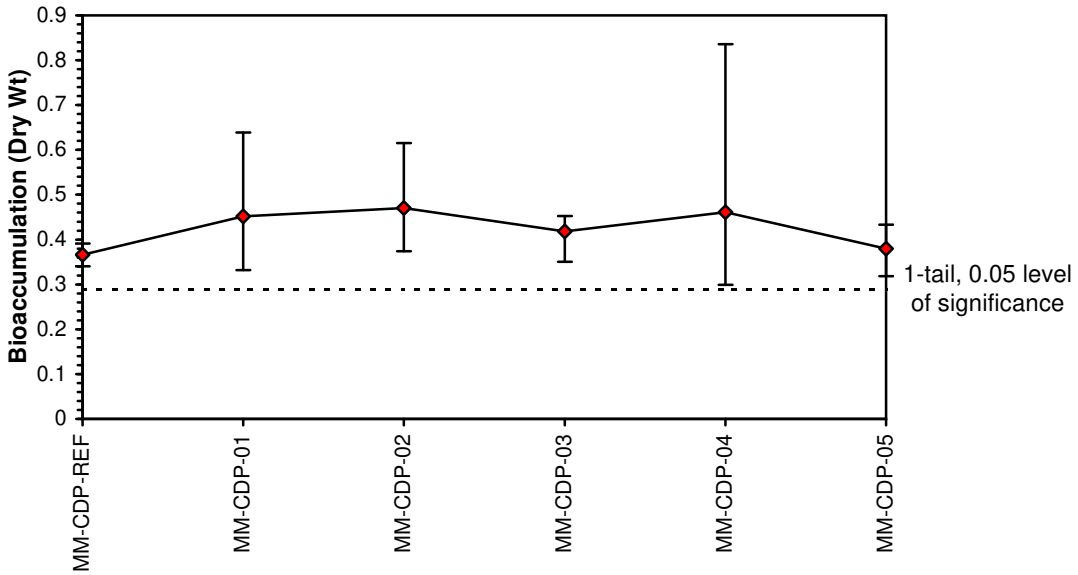
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.3640	0.3630	0.3910	0.3720	0.3410
MM-CDP-01	0.4260	0.4230	0.3320	0.6390	0.4420
MM-CDP-02	0.4350	0.6150	0.4670	0.4580	0.3740
MM-CDP-03	0.4530	0.3510	0.4520	0.4470	0.3890
MM-CDP-04	0.3220	0.2990	0.3500	0.8360	0.4960
MM-CDP-05	0.3730	0.3180	0.3490	0.4330	0.4270

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.3662	0.0000	2.7361	2.5575	2.9326	4.946	5			
MM-CDP-01	0.4524	0.1360	2.3102	1.5649	3.0120	22.226	5	1.386	2.360	0.7252
MM-CDP-02	0.4698	0.1635	2.1847	1.6260	2.6738	17.222	5	1.794	2.360	0.7252
MM-CDP-03	0.4184	0.0824	2.4153	2.2075	2.8490	11.862	5	1.044	2.360	0.7252
MM-CDP-04	0.4606	0.1489	2.5039	1.1962	3.3445	35.393	5	0.756	2.360	0.7252
MM-CDP-05	0.3800	0.0218	2.6685	2.3095	3.1447	13.265	5	0.220	2.360	0.7252

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96198	0.927	-0.6513	1.61716
Bartlett's Test indicates equal variances (p = 0.03)	12.5577	15.0863		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	-0.0766	0	0.22127	0.23604	0.4747	5, 24

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	PB-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Lead, mg/kg				

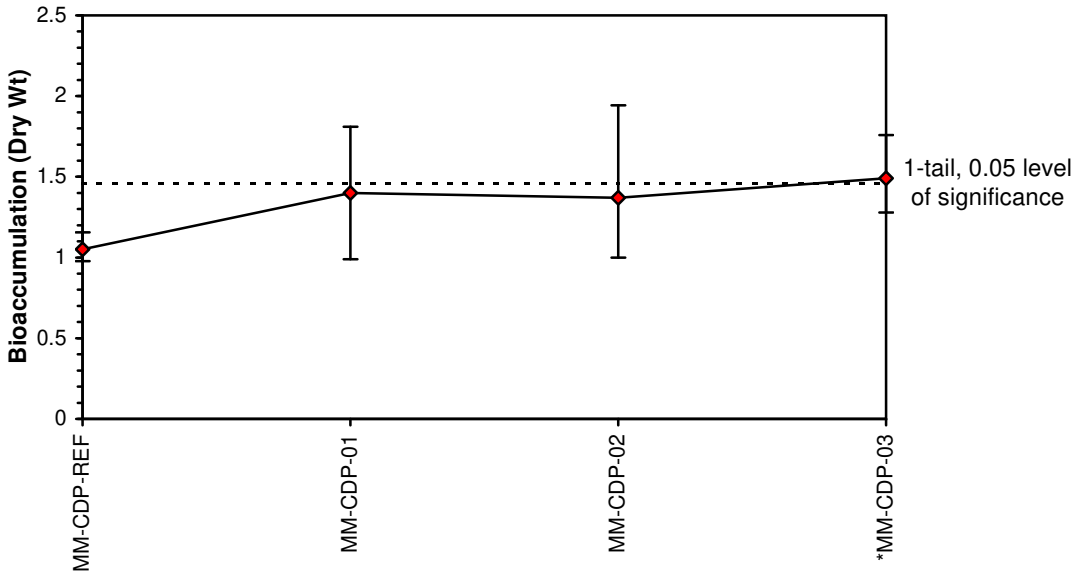
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	1.1600	1.0500	1.0700	0.9810	1.0100
MM-CDP-01	1.1700	1.8100	0.9890	1.5900	1.4400
MM-CDP-02	1.0100	1.3000	1.9400	1.5900	0.9960
MM-CDP-03	1.7400	1.7600	1.3700	1.2800	1.3100

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	1.0542	0.0000	1.0542	0.9810	1.1600	6.498	5			
MM-CDP-01	1.3998	-6.3764	1.3998	0.9890	1.8100	23.358	5	1.902	2.230	0.4051
MM-CDP-02	1.3672	-5.7749	1.3672	0.9960	1.9400	29.431	5	1.723	2.230	0.4051
*MM-CDP-03	1.4920	-8.0775	1.4920	1.2800	1.7600	15.941	5	2.410	2.230	0.4051

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.97516	0.905	0.36494	-0.267
Bartlett's Test indicates equal variances (p = 0.04)	8.37396	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs MM-CDP-REF	0.40515	0	0.18092	0.08252	0.12866	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	PB-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Lead, mg/kg				

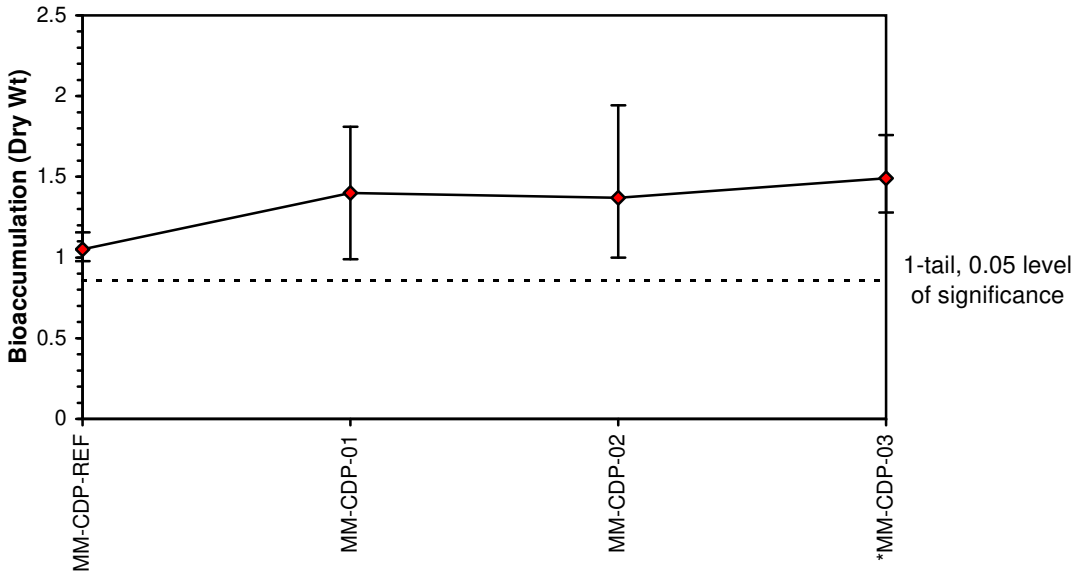
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	1.1600	1.0500	1.0700	0.9810	1.0100
MM-CDP-01	1.1700	1.8100	0.9890	1.5900	1.4400
MM-CDP-02	1.0100	1.3000	1.9400	1.5900	0.9960
MM-CDP-03	1.7400	1.7600	1.3700	1.2800	1.3100

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	1.0542	0.0000	0.9517	0.8621	1.0194	6.300	5			
MM-CDP-01	1.3998	-6.3764	0.7483	0.5525	1.0111	24.630	5	2.084	2.230	0.2176
MM-CDP-02	1.3672	-5.7749	0.7815	0.5155	1.0040	27.682	5	1.744	2.230	0.2176
*MM-CDP-03	1.4920	-8.0775	0.6835	0.5682	0.7813	15.209	5	2.749	2.230	0.2176

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.98083	0.905	0.12432	-0.4775
Bartlett's Test indicates equal variances (p = 0.11)	5.96539	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs MM-CDP-REF	-0.1955	0	0.06549	0.0238	0.07673	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Ni-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Nickel, mg/kg				

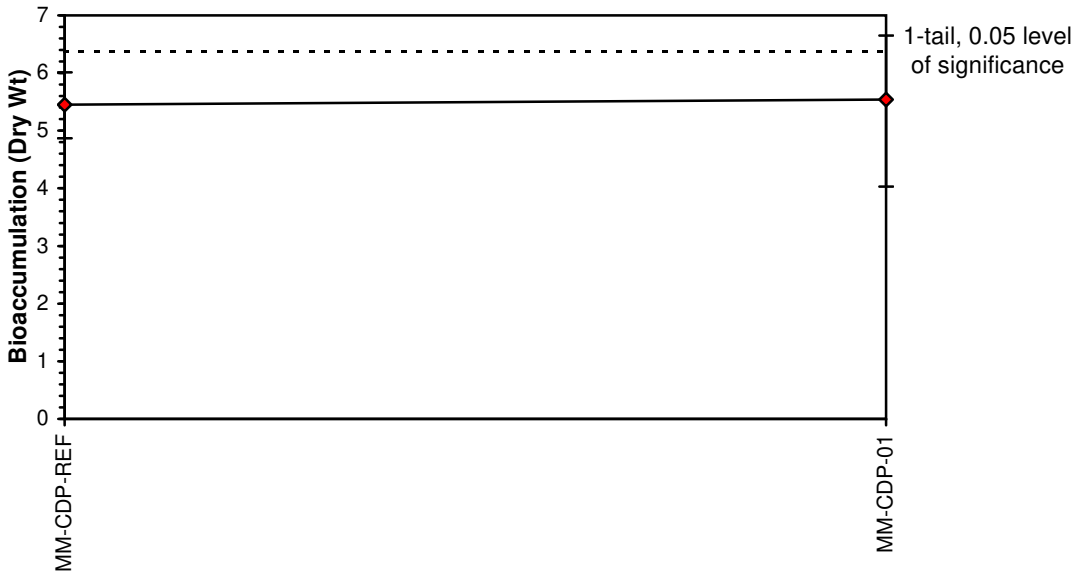
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	6.0100	4.9300	5.8700	4.8700	5.5700
MM-CDP-01	4.0300	5.8900	5.2200	6.6500	5.9000

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	5.4500	0.0000	5.4500	4.8700	6.0100	9.671	5			
MM-CDP-01	5.5380	-0.0198	5.5380	4.0300	6.6500	17.754	5	0.176	1.860	0.9277

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94818	0.842	-0.7022	0.69698
F-Test indicates equal variances (p = 0.25)	3.47973	23.1539		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs MM-CDP-REF	0.92772	0	0.01936	0.62224	0.86437	1, 8

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Se-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Selenium, mg/kg				

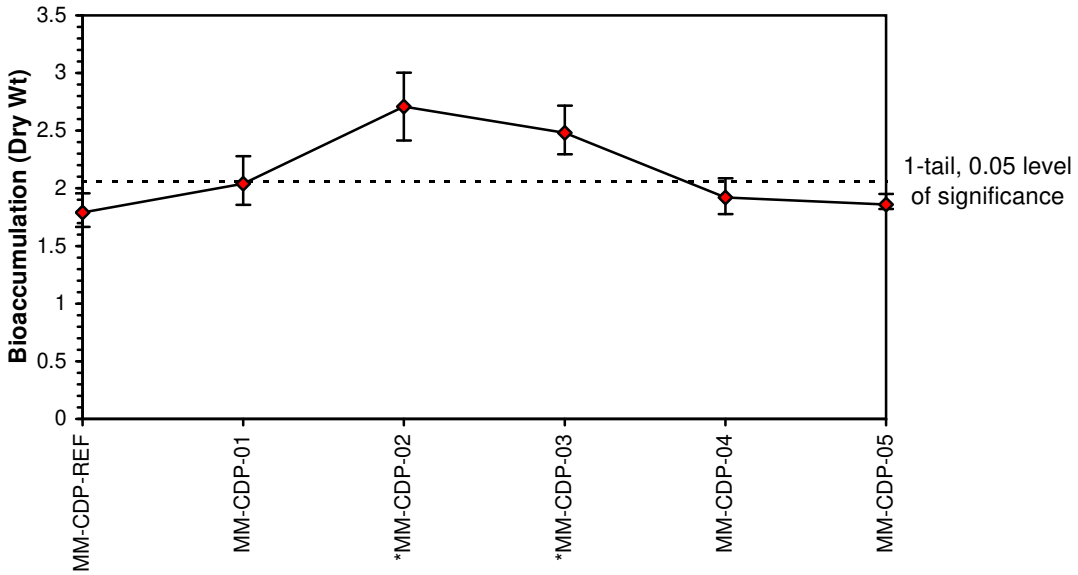
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	1.9100	1.9600	1.6700	1.6800	1.7500
MM-CDP-01	1.8600	2.2200	1.9000	2.2800	1.9500
MM-CDP-02	2.4300	2.4100	2.9400	2.7500	3.0000
MM-CDP-03	2.3400	2.7200	2.6700	2.3000	2.3900
MM-CDP-04	1.8700	1.8300	2.0500	1.7800	2.0900
MM-CDP-05	1.9500	1.8400	1.8500	1.8200	1.8300

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	1.7940	0.0000	1.7940	1.6700	1.9600	7.443	5			
MM-CDP-01	2.0420	-0.3123	2.0420	1.8600	2.2800	9.486	5	2.191	2.360	0.2672
*MM-CDP-02	2.7060	-1.1486	2.7060	2.4100	3.0000	10.237	5	8.056	2.360	0.2672
*MM-CDP-03	2.4840	-0.8690	2.4840	2.3000	2.7200	7.892	5	6.095	2.360	0.2672
MM-CDP-04	1.9240	-0.1637	1.9240	1.7800	2.0900	7.160	5	1.148	2.360	0.2672
MM-CDP-05	1.8580	-0.0806	1.8580	1.8200	1.9500	2.833	5	0.565	2.360	0.2672

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95034	0.927	0.13939	-1.0062
Bartlett's Test indicates equal variances (p = 0.13)	8.55037	15.0863		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	0.26718	0	0.69402	0.03204	3.5E-08	5, 24

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Ag-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Silver, mg/kg				

Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.5380	0.2460	0.2960	0.2170	0.2990
MM-CDP-03	0.1820	0.6250	0.2550	0.3360	0.2660

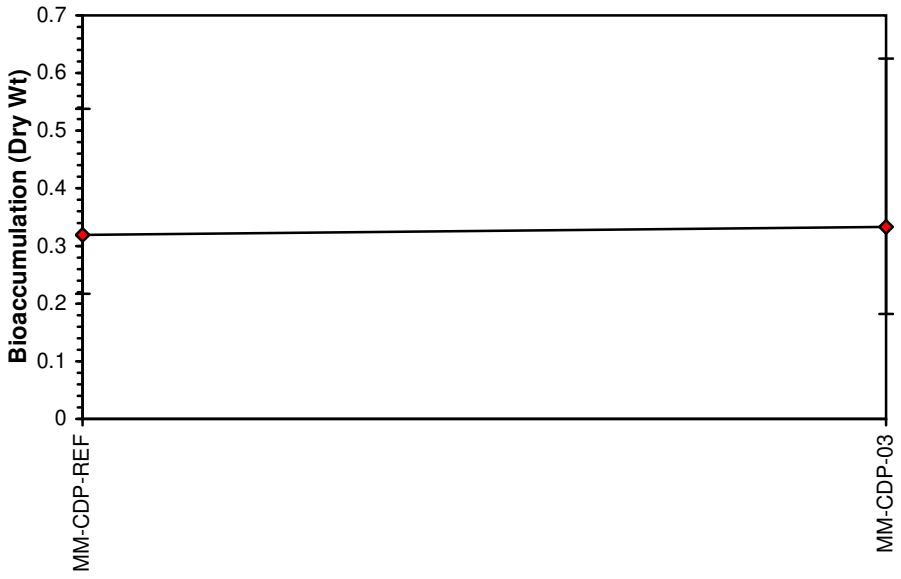
			Transform: Untransformed					Rank	1-Tailed
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
MM-CDP-REF	0.3192	0.0000	0.3192	0.2170	0.5380	39.820	5		
MM-CDP-03	0.3328	0.0200	0.3328	0.1820	0.6250	51.751	5	27.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.81066	0.842	1.42167	1.0787
F-Test indicates equal variances (p = 0.57)	1.83599	23.1539		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences
Treatments vs MM-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Ag-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Silver, mg/kg				

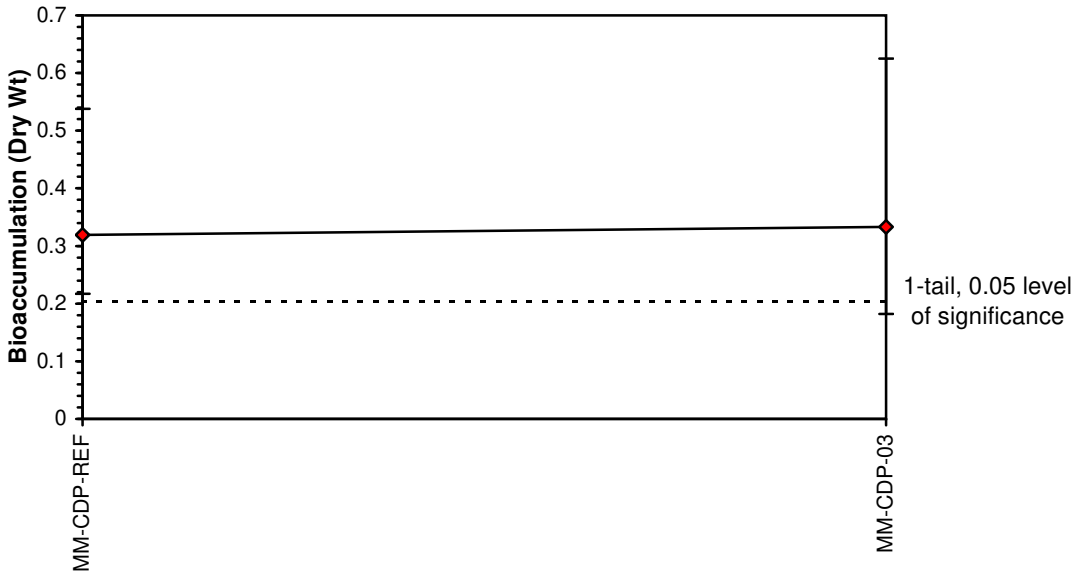
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.5380	0.2460	0.2960	0.2170	0.2990
MM-CDP-03	0.1820	0.6250	0.2550	0.3360	0.2660

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.3192	0.0000	3.4510	1.8587	4.6083	29.933	5			
MM-CDP-03	0.3328	0.0200	3.5503	1.6000	5.4945	40.069	5	-0.126	1.860	1.4620

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.9706	0.842	-0.2119	-0.0309
F-Test indicates equal variances (p = 0.55)	1.89648	23.1539		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs MM-CDP-REF	-0.0862	0	0.02467	1.54538	0.90257	1, 8

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Th-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Thallium, mg/kg				

Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.0023	0.0031	0.0021	0.0065	0.0019
MM-CDP-01	0.0040	0.0056	0.0035	0.0045	0.0039
MM-CDP-02	0.0028	0.0032	0.0038	0.0033	0.0030
MM-CDP-03	0.0042	0.0030	0.0047	0.0031	0.0030

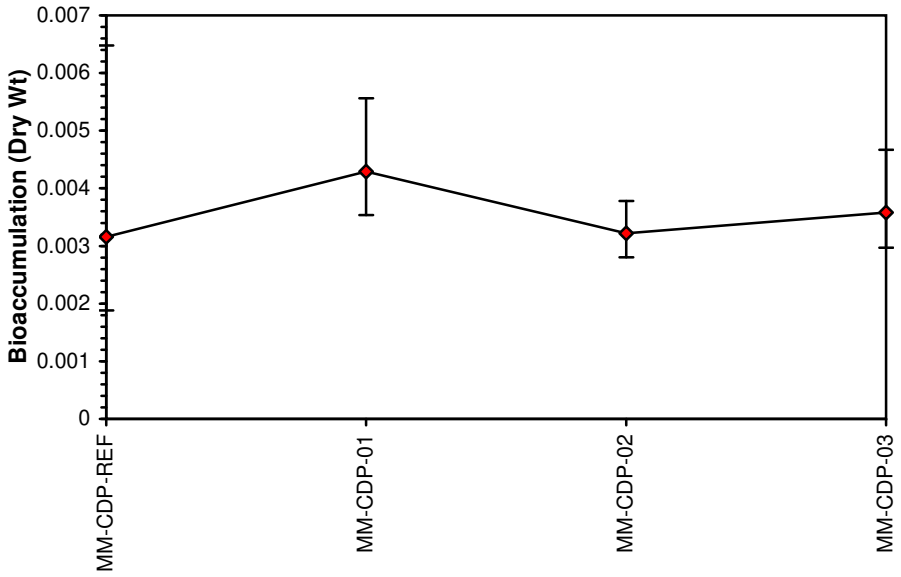
			Transform: Untransformed					Rank	1-Tailed
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
MM-CDP-REF	0.0032	0.0000	0.0032	0.0019	0.0065	60.789	5		
MM-CDP-01	0.0043	0.0011	0.0043	0.0035	0.0056	18.199	5	20.00	17.00
MM-CDP-02	0.0032	0.0001	0.0032	0.0028	0.0038	11.509	5	22.00	17.00
MM-CDP-03	0.0036	0.0004	0.0036	0.0030	0.0047	22.304	5	23.00	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.84667	0.905	1.86678	4.83608
Bartlett's Test indicates equal variances (p = 0.03)	9.31832	11.3449		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs MM-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Th-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Thallium, mg/kg				

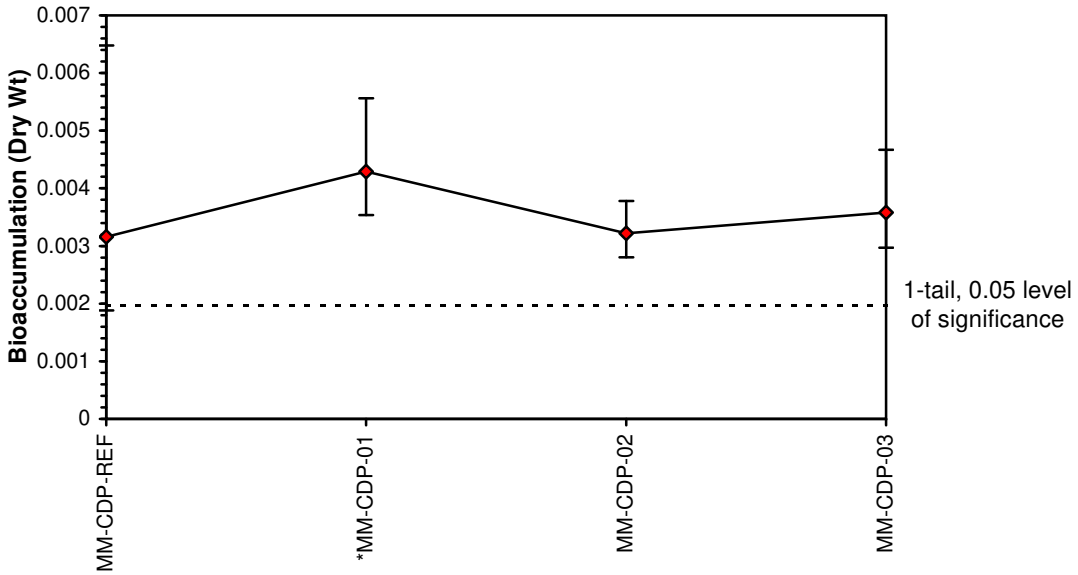
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	0.0023	0.0031	0.0021	0.0065	0.0019
MM-CDP-01	0.0040	0.0056	0.0035	0.0045	0.0039
MM-CDP-02	0.0028	0.0032	0.0038	0.0033	0.0030
MM-CDP-03	0.0042	0.0030	0.0047	0.0031	0.0030

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	0.0032	0.0000	387.80	154.32	531.91	39.323	5			
*MM-CDP-01	0.0043	0.0011	238.59	179.86	282.49	16.274	5	2.750	2.230	120.98
MM-CDP-02	0.0032	0.0001	313.94	264.55	357.14	11.067	5	1.362	2.230	120.98
MM-CDP-03	0.0036	0.0004	289.80	214.13	336.70	20.303	5	1.806	2.230	120.98

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.91203	0.905	-1.1204	3.25207
Bartlett's Test indicates equal variances (p = 0.01)	10.853	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	-0.0006	0	19251.1	7357.87	0.08677	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Zn-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Zinc, mg/kg				

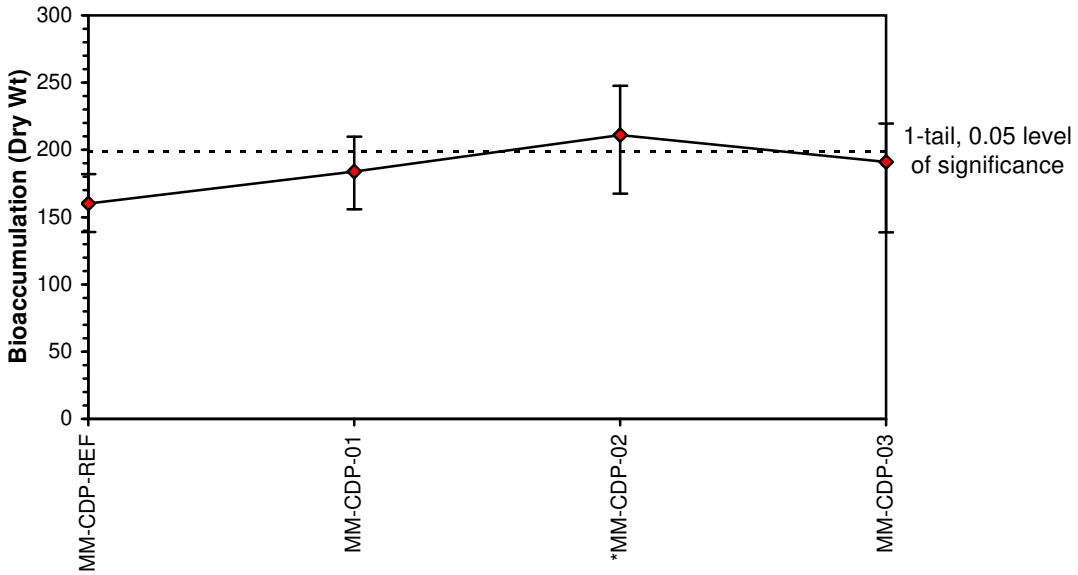
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	172.00	157.00	139.00	150.00	182.00
MM-CDP-01	156.00	200.00	178.00	210.00	177.00
MM-CDP-02	168.00	182.00	240.00	219.00	248.00
MM-CDP-03	220.00	199.00	217.00	182.00	139.00

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	160.00	0.0000	160.00	139.00	182.00	10.726	5			
MM-CDP-01	184.20	-0.1522	184.20	156.00	210.00	11.519	5	1.380	2.230	39.12
*MM-CDP-02	211.40	-0.3233	211.40	168.00	248.00	16.663	5	2.930	2.230	39.12
MM-CDP-03	191.40	-0.1975	191.40	139.00	220.00	17.260	5	1.790	2.230	39.12

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95058	0.905	-0.4903	-0.6102
Bartlett's Test indicates equal variances (p = 0.49)	2.41919	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	39.116	0	2252.18	769.2	0.06558	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	TPH-DW-MM	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	TPH, mg/kg				

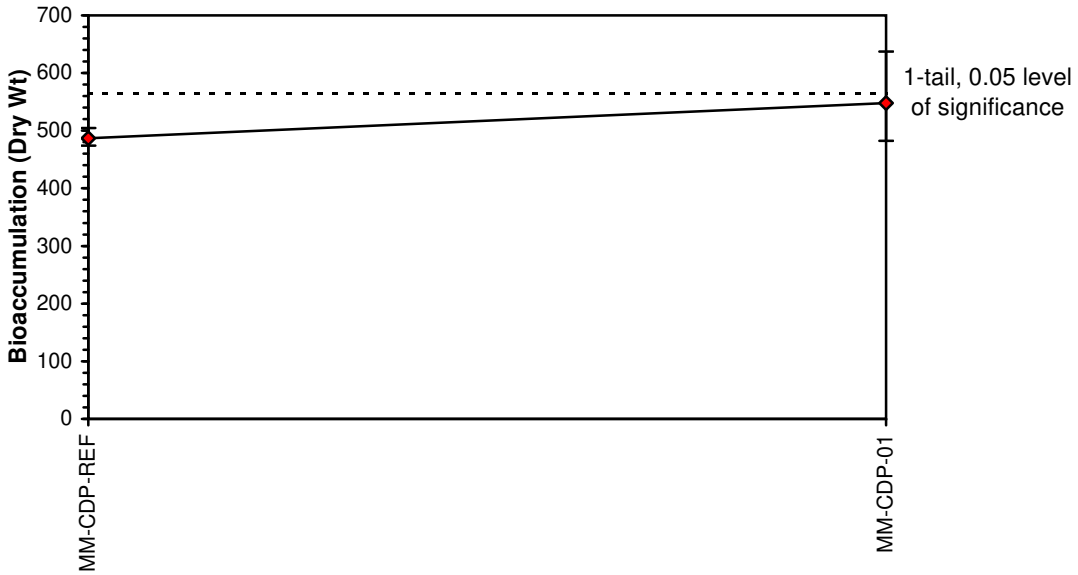
Conc-mg/Kg	1	2	3	4	5
MM-CDP-REF	482.29	473.63	485.62	488.19	504.18
MM-CDP-01	482.84	495.89	488.99	636.95	637.38

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	486.78	0.0000	486.78	473.63	504.18	2.295	5			
MM-CDP-01	548.41	-0.1269	548.41	482.84	637.38	14.798	5	1.682	2.132	78.10

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.88661	0.842	0.65203	-0.3451
F-Test indicates unequal variances (p = 2.05E-03)	52.7495	23.1539		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences Treatments vs MM-CDP-REF	78.1007	0	9495.44	3355.35	0.13102	1, 8

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	B2P-DW-MM	Sample ID:	CDP
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Bis(2-ethylhexyl)phthalate, umg/kg				

Conc-ppb	1	2	3	4	5
MM-CDP-REF	37.200	46.500	51.500	66.200	33.900
MM-CDP-01	80.700	45.000	49.200	48.300	60.000
MM-CDP-02	151.000	73.100	70.000	45.500	38.100
MM-CDP-03	94.600	41.200	101.000	66.300	50.300

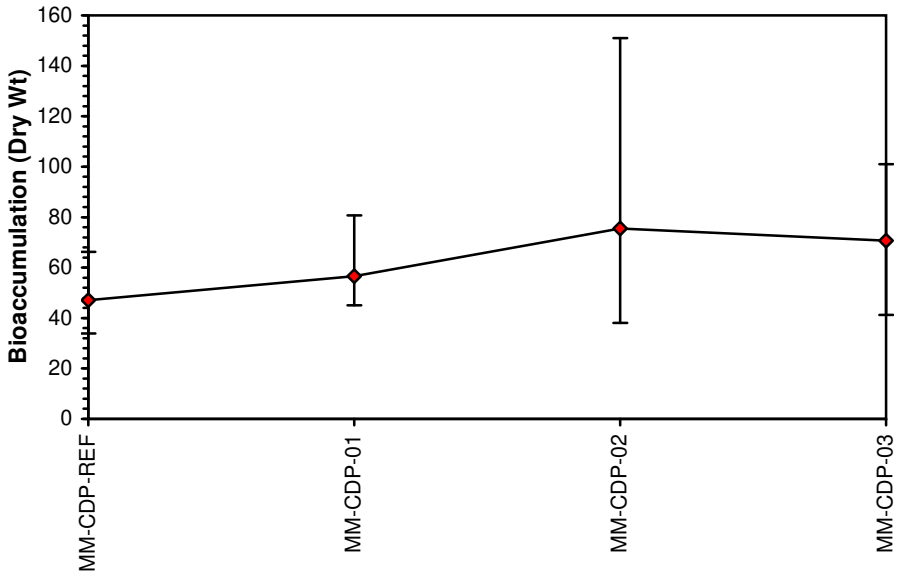
			Transform: Untransformed					Rank	1-Tailed
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
MM-CDP-REF	47.060	0.0000	47.060	33.900	66.200	27.229	5		
MM-CDP-01	56.640	-0.2080	56.640	45.000	80.700	25.746	5	23.00	17.00
MM-CDP-02	75.540	-0.6183	75.540	38.100	151.000	59.332	5	21.00	17.00
MM-CDP-03	70.680	-0.5128	70.680	41.200	101.000	37.400	5	20.00	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.9023	0.905	1.31672	2.94397
Bartlett's Test indicates equal variances (p = 0.07)	7.15824	11.3449		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs MM-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	B2P-DW-MM	Sample ID:	CDP
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Bis(2-ethylhexyl)phthalate, umg/kg				

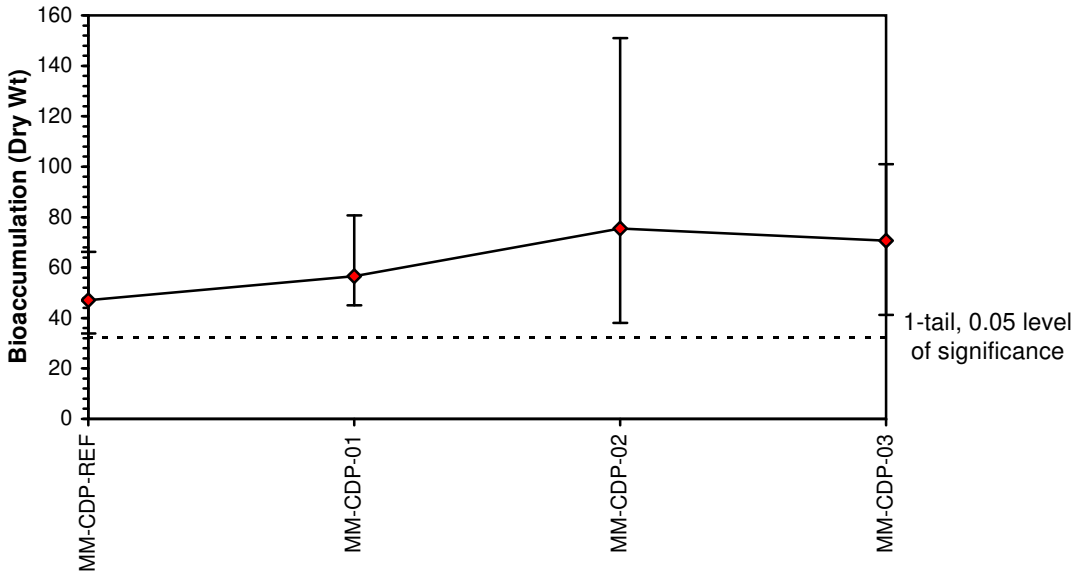
Conc-ppb	1	2	3	4	5
MM-CDP-REF	37.200	46.500	51.500	66.200	33.900
MM-CDP-01	80.700	45.000	49.200	48.300	60.000
MM-CDP-02	151.000	73.100	70.000	45.500	38.100
MM-CDP-03	94.600	41.200	101.000	66.300	50.300

			Transform: Reciprocal						1-Tailed	
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	47.060	0.0000	0.0225	0.0151	0.0295	25.682	5			
MM-CDP-01	56.640	-0.2080	0.0185	0.0124	0.0222	21.447	5	1.053	2.230	0.0085
MM-CDP-02	75.540	-0.6183	0.0166	0.0066	0.0262	46.318	5	1.551	2.230	0.0085
MM-CDP-03	70.680	-0.5128	0.0159	0.0099	0.0243	38.539	5	1.714	2.230	0.0085

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.9734	0.905	0.05289	-0.9111
Bartlett's Test indicates equal variances (p = 0.68)	1.49912	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	-12.213	0	4.3E-05	3.6E-05	0.3436	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	DBP-DW-MM	Sample ID:	CDP
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	MM-Mercenaria mercenaria
Comments:	Di-n-Butyl Phthalate, umg/kg				

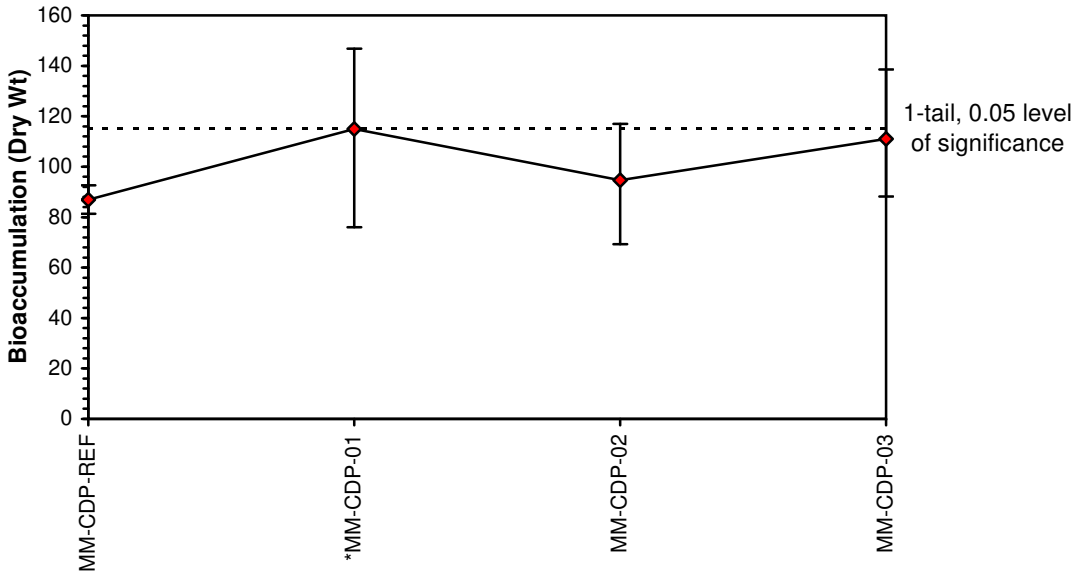
Conc-ppb	1	2	3	4	5
MM-CDP-REF	90.60	92.60	81.30	84.20	85.80
MM-CDP-01	139.00	147.00	98.00	116.00	76.20
MM-CDP-02	104.00	90.50	69.30	117.00	92.40
MM-CDP-03	139.00	114.00	117.00	88.60	98.20

			Transform: Untransformed						1-Tailed	
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
MM-CDP-REF	86.90	0.0000	86.900	81.300	92.600	5.337	5			
*MM-CDP-01	115.24	-0.3299	115.240	76.200	147.000	25.281	5	2.271	2.230	27.824
MM-CDP-02	94.64	-0.0901	94.640	69.300	117.000	18.693	5	0.620	2.230	27.824
MM-CDP-03	111.36	-0.2847	111.360	88.600	139.000	17.354	5	1.960	2.230	27.824

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96952	0.905	-0.1601	0.02736
Bartlett's Test indicates equal variances (p = 0.04)	8.60357	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs MM-CDP-REF	27.8237	0	908.47	389.187	0.11259	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: AS-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Arsenic, mg/kg			

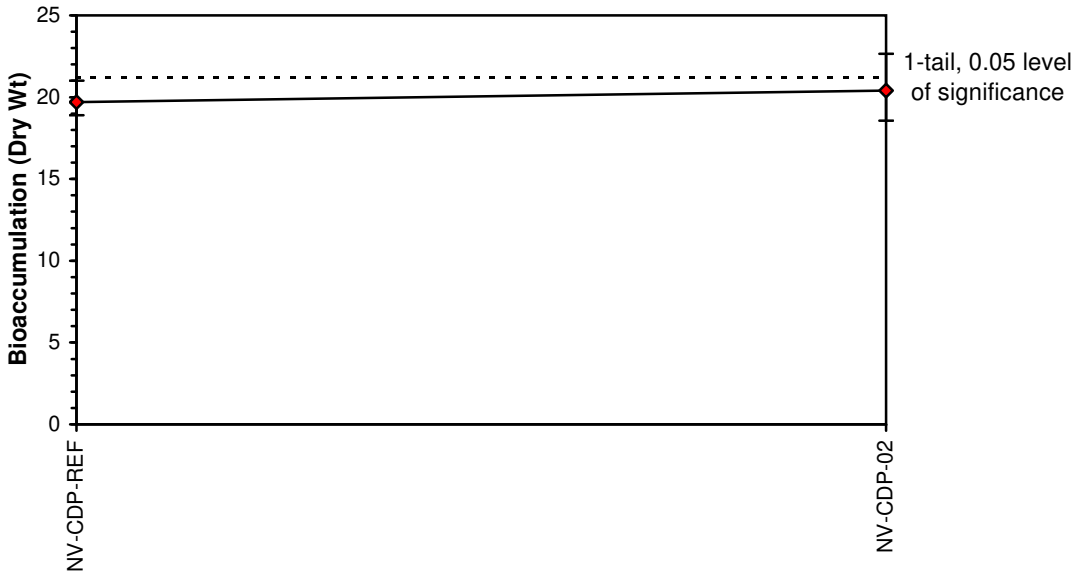
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	18.900	19.000	20.300	21.000	19.300
NV-CDP-02	20.700	22.700	18.600	19.200	21.000

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	19.700	0.0000	19.700	18.900	21.000	4.638	5			
NV-CDP-02	20.440	-0.0396	20.440	18.600	22.700	7.893	5	0.892	1.860	1.542

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.97899	0.842	0.37459	-0.2563
F-Test indicates equal variances (p = 0.30)	3.11737	23.1539		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs NV-CDP-REF	1.54197	0	1.369	1.719	0.39822	1, 8

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Be-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Berylliumc, mg/kg				

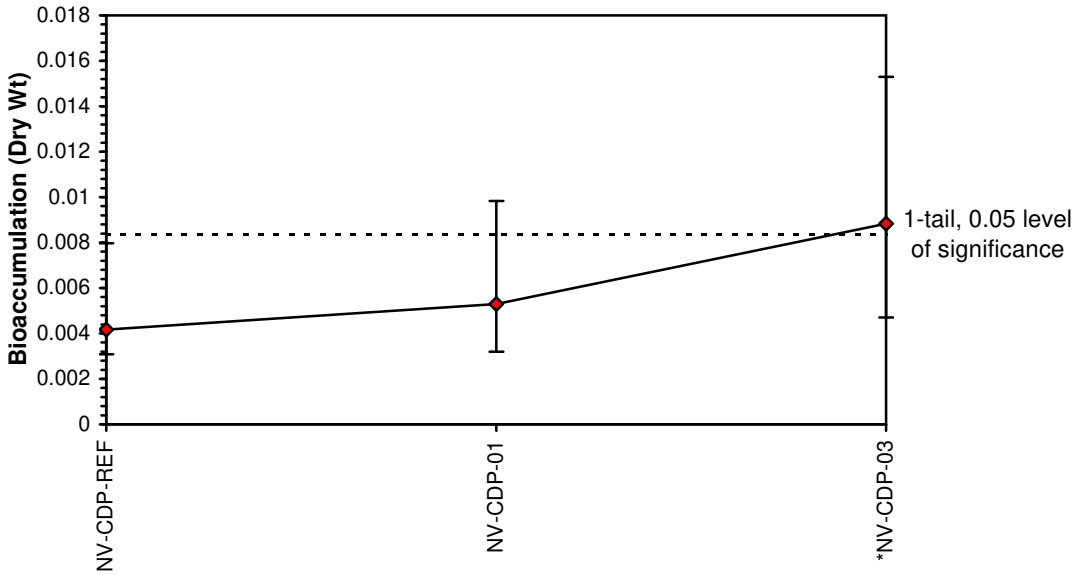
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.0080	0.0031	0.0031	0.0035	0.0032
NV-CDP-01	0.0098	0.0060	0.0032	0.0041	0.0034
NV-CDP-03	0.0058	0.0047	0.0153	0.0089	0.0095

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.0042	0.0000	0.0042	0.0031	0.0080	51.145	5			
NV-CDP-01	0.0053	0.0011	0.0053	0.0032	0.0098	51.953	5	0.573	2.110	0.0042
*NV-CDP-03	0.0088	0.0047	0.0088	0.0047	0.0153	46.957	5	2.357	2.110	0.0042

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.90224	0.881	1.01667	0.62075
Bartlett's Test indicates equal variances (p = 0.44)	1.6357	9.21035		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs NV-CDP-REF	0.00417	0	3E-05	9.8E-06	0.08645	2, 12

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Be-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Berylliumc, mg/kg				

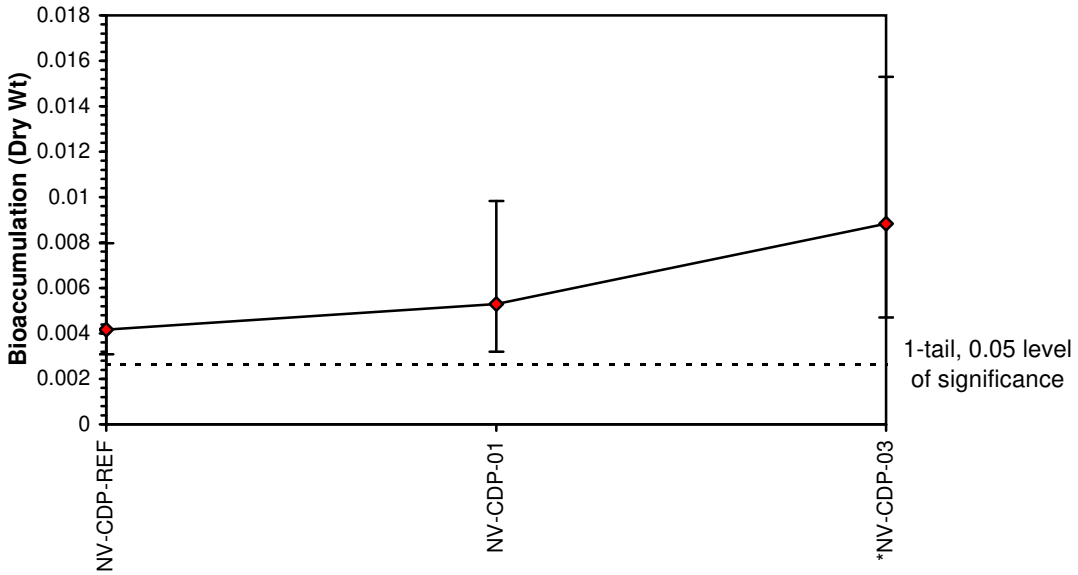
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.0080	0.0031	0.0031	0.0035	0.0032
NV-CDP-01	0.0098	0.0060	0.0032	0.0041	0.0034
NV-CDP-03	0.0058	0.0047	0.0153	0.0089	0.0095

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.0042	0.0000	274.35	125.47	323.62	30.831	5			
NV-CDP-01	0.0053	0.0011	223.72	101.73	312.50	39.341	5	1.024	2.110	104.34
*NV-CDP-03	0.0088	0.0047	133.91	65.36	212.77	43.805	5	2.840	2.110	104.34

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.91854	0.881	-0.8179	-0.2299
Bartlett's Test indicates equal variances (p = 0.72)	0.65162	9.21035		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs NV-CDP-REF	-0.001	0	25295.2	6113.88	0.04299	2, 12

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Cd-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Cadmium, mg/kg				

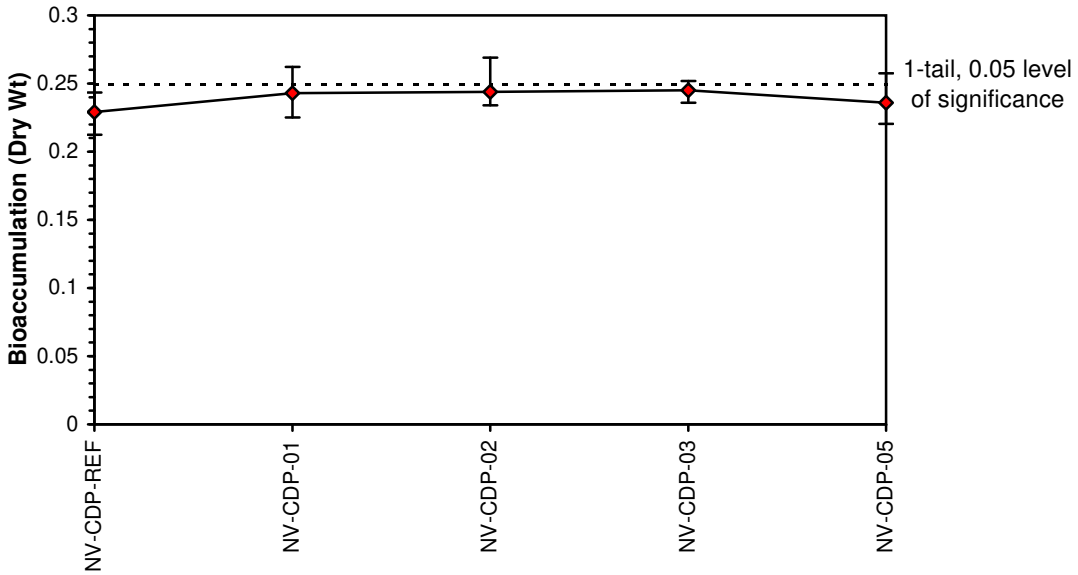
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.2330	0.2120	0.2170	0.2430	0.2380
NV-CDP-01	0.2390	0.2600	0.2620	0.2280	0.2250
NV-CDP-02	0.2690	0.2440	0.2340	0.2380	0.2350
NV-CDP-03	0.2520	0.2360	0.2480	0.2460	0.2440
NV-CDP-05	0.2240	0.2570	0.2480	0.2200	0.2290

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.2286	0.0000	0.2286	0.2120	0.2430	5.890	5			
NV-CDP-01	0.2428	0.0184	0.2428	0.2250	0.2620	7.178	5	1.596	2.300	0.0205
NV-CDP-02	0.2440	0.0200	0.2440	0.2340	0.2690	5.946	5	1.731	2.300	0.0205
NV-CDP-03	0.2452	0.0215	0.2452	0.2360	0.2520	2.420	5	1.866	2.300	0.0205
NV-CDP-05	0.2356	0.0091	0.2356	0.2200	0.2570	6.822	5	0.787	2.300	0.0205

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94217	0.918	0.43434	-0.9572
Bartlett's Test indicates equal variances (p = 0.43)	3.83795	13.2767		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences	0.02046	0	0.00025	0.0002	0.32329	4, 20
Treatments vs NV-CDP-REF						

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Cr-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Chromium, mg/kg				

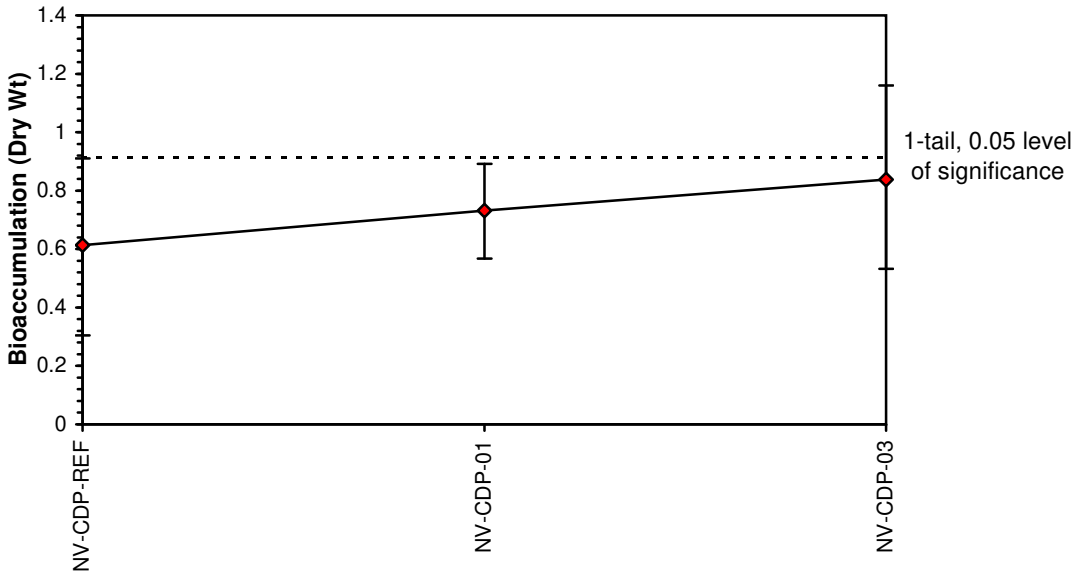
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.3040	0.9100	0.7440	0.5280	0.5800
NV-CDP-01	0.5670	0.7610	0.5760	0.8920	0.8650
NV-CDP-03	0.5320	0.5720	1.1600	0.8950	1.0300

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.6132	0.0000	0.6132	0.3040	0.9100	37.292	5			
NV-CDP-01	0.7322	0.3077	0.7322	0.5670	0.8920	21.124	5	0.832	2.110	0.3016
NV-CDP-03	0.8378	0.5807	0.8378	0.5320	1.1600	33.131	5	1.571	2.110	0.3016

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94645	0.881	-0.0931	-1.1651
Bartlett's Test indicates equal variances (p = 0.56)	1.16826	9.21035		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs NV-CDP-REF	0.30163	0	0.06313	0.05109	0.32509	2, 12

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Pb-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Lead, mg/kg			

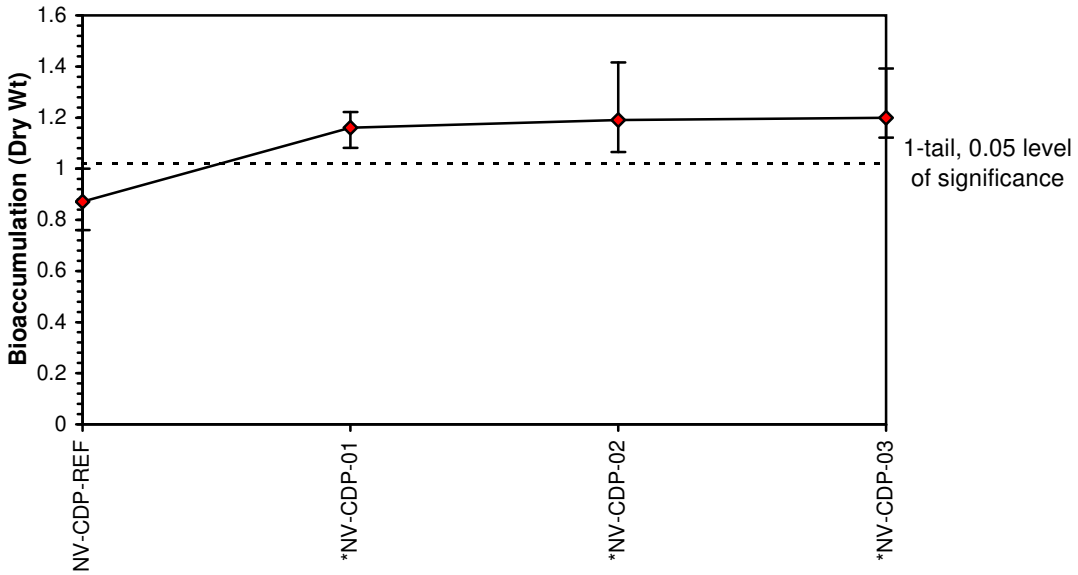
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.7600	1.0000	0.9320	0.8480	0.8130
NV-CDP-01	1.2200	1.2100	1.1700	1.1100	1.0800
NV-CDP-02	1.4200	1.2500	1.1000	1.0700	1.1300
NV-CDP-03	1.1200	1.1500	1.3900	1.1900	1.1400

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.8706	0.0000	0.8706	0.7600	1.0000	10.984	5			
*NV-CDP-01	1.1580	2.2210	1.1580	1.0800	1.2200	5.302	5	4.251	2.230	0.1508
*NV-CDP-02	1.1940	2.4992	1.1940	1.0700	1.4200	12.029	5	4.783	2.230	0.1508
*NV-CDP-03	1.1980	2.5301	1.1980	1.1200	1.3900	9.208	5	4.842	2.230	0.1508

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.90587	0.905	0.96966	0.2688
Bartlett's Test indicates equal variances (p = 0.48)	2.45815	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs NV-CDP-REF	0.15077	0	0.12387	0.01143	3.9E-04	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Pb-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Lead, mg/kg			

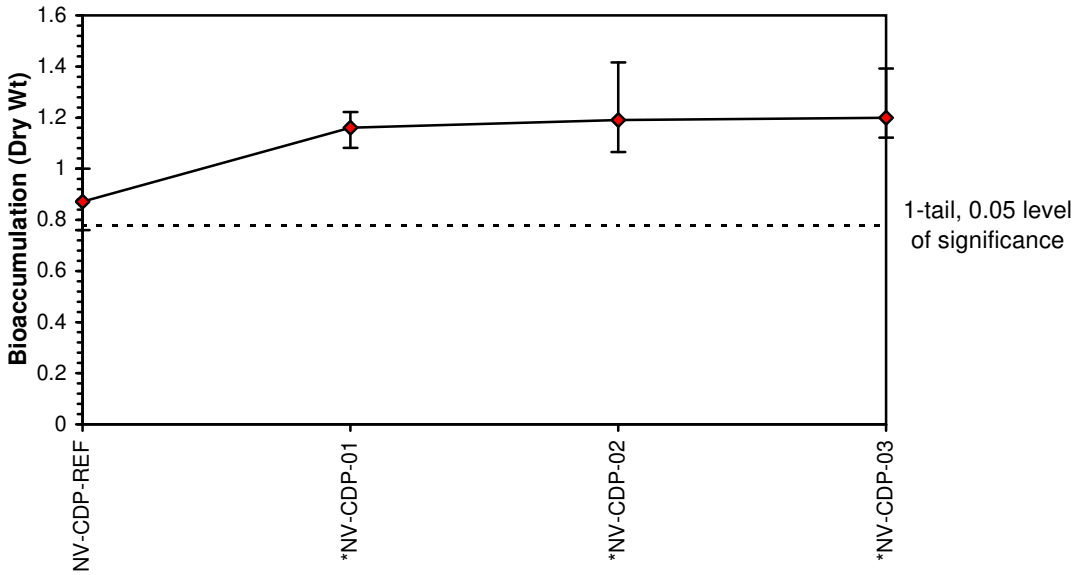
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.7600	1.0000	0.9320	0.8480	0.8130
NV-CDP-01	1.2200	1.2100	1.1700	1.1100	1.0800
NV-CDP-02	1.4200	1.2500	1.1000	1.0700	1.1300
NV-CDP-03	1.1200	1.1500	1.3900	1.1900	1.1400

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.8706	0.0000	1.1596	1.0000	1.3158	10.798	5			
*NV-CDP-01	1.1580	2.2210	0.8655	0.8197	0.9259	5.372	5	5.229	2.230	0.1254
*NV-CDP-02	1.1940	2.4992	0.8466	0.7042	0.9346	11.137	5	5.566	2.230	0.1254
*NV-CDP-03	1.1980	2.5301	0.8399	0.7194	0.8929	8.332	5	5.685	2.230	0.1254

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95517	0.905	-0.4268	-0.182
Bartlett's Test indicates equal variances (p = 0.32)	3.52916	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates significant differences Treatments vs NV-CDP-REF	-0.0842	0	0.1199	0.00791	6.1E-05	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Ni-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Nickel, mg/kg				

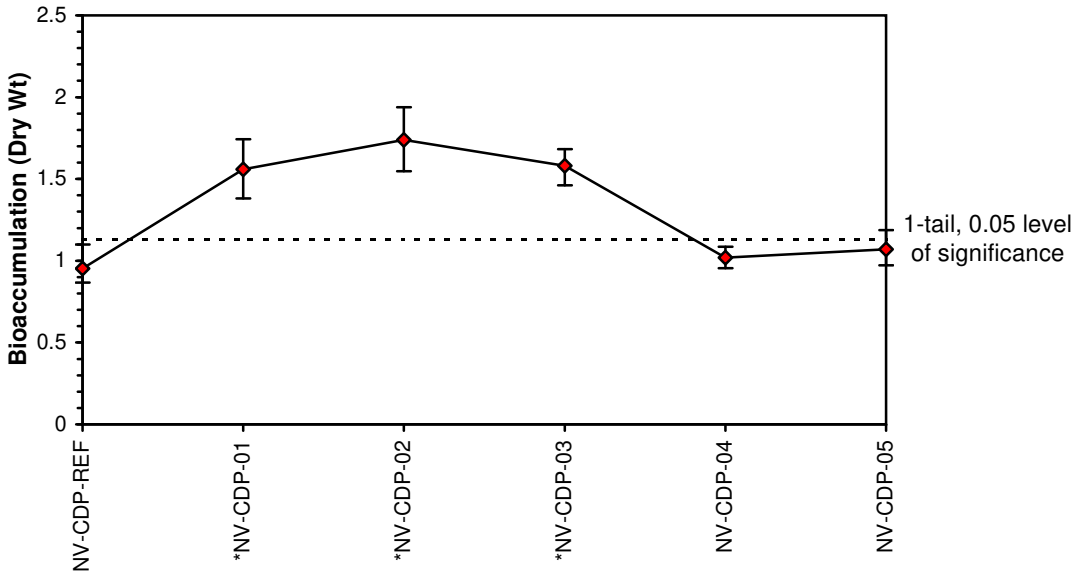
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.8670	1.1000	0.9700	0.8780	0.9500
NV-CDP-01	1.3800	1.4200	1.5500	1.7400	1.7000
NV-CDP-02	1.9400	1.6900	1.5500	1.6400	1.8900
NV-CDP-03	1.5100	1.4600	1.6500	1.5900	1.6800
NV-CDP-04	0.9600	1.0900	0.9930	1.0400	1.0400
NV-CDP-05	1.1200	1.1900	1.0400	1.0400	0.9760

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.9530	0.0000	0.9530	0.8670	1.1000	9.805	5			
*NV-CDP-01	1.5580	12.8723	1.5580	1.3800	1.7400	10.353	5	8.261	2.360	0.1728
*NV-CDP-02	1.7420	16.7872	1.7420	1.5500	1.9400	9.566	5	10.774	2.360	0.1728
*NV-CDP-03	1.5780	13.2979	1.5780	1.4600	1.6800	5.867	5	8.535	2.360	0.1728
NV-CDP-04	1.0246	1.5234	1.0246	0.9600	1.0900	4.861	5	0.978	2.360	0.1728
NV-CDP-05	1.0732	2.5574	1.0732	0.9760	1.1900	7.724	5	1.641	2.360	0.1728

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.97005	0.927	0.1783	-0.724
Bartlett's Test indicates equal variances (p = 0.24)	6.71079	15.0863		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences	0.17283	0	0.58414	0.01341	2.9E-11	5, 24
Treatments vs NV-CDP-REF						

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Sel-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Selenium, mg/kg			

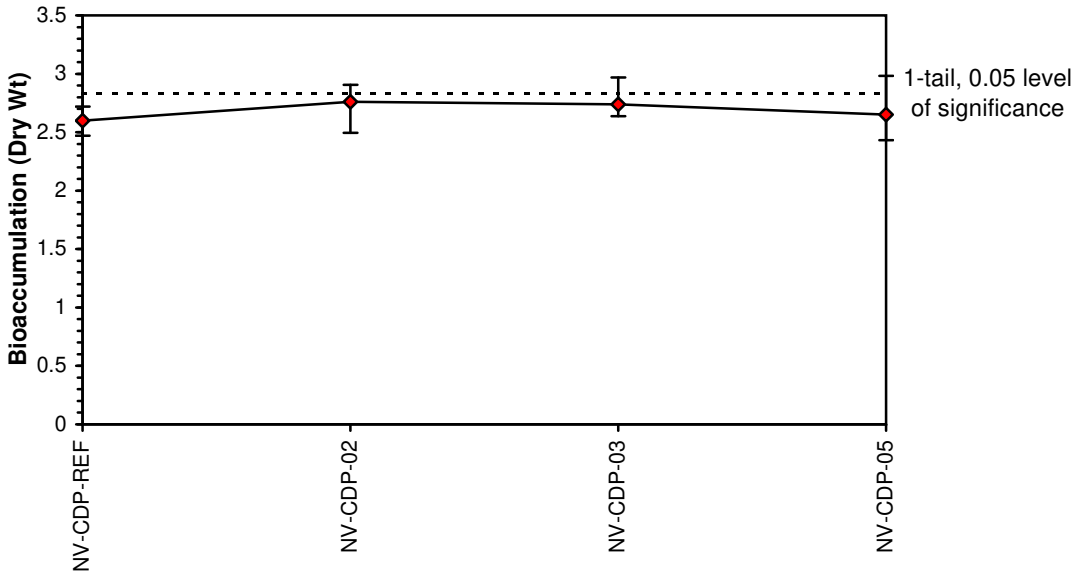
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	2.6600	2.7200	2.6700	2.4800	2.4700
NV-CDP-02	2.8300	2.8800	2.5000	2.7000	2.9100
NV-CDP-03	2.6600	2.7700	2.6700	2.9700	2.6400
NV-CDP-05	2.5500	2.9800	2.6300	2.6500	2.4300

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	2.6000	0.0000	2.6000	2.4700	2.7200	4.477	5			
NV-CDP-02	2.7640	-0.1025	2.7640	2.5000	2.9100	6.079	5	1.620	2.230	0.2257
NV-CDP-03	2.7420	-0.0887	2.7420	2.6400	2.9700	4.996	5	1.403	2.230	0.2257
NV-CDP-05	2.6480	-0.0300	2.6480	2.4300	2.9800	7.732	5	0.474	2.230	0.2257

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.98035	0.905	0.36611	0.13183
Bartlett's Test indicates equal variances (p = 0.73)	1.29802	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs NV-CDP-REF	0.22574	0	0.03006	0.02562	0.35087	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Thal-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV

Comments: Thallium, mg/kg

Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.0048	0.0042	0.0042	0.0043	0.0045
NV-CDP-02	0.0043	0.0043	0.0044	0.0052	0.0041
NV-CDP-03	0.0044	0.0043	0.0068	0.0043	0.0057
NV-CDP-04	0.0044	0.0045	0.0043	0.0049	0.0049

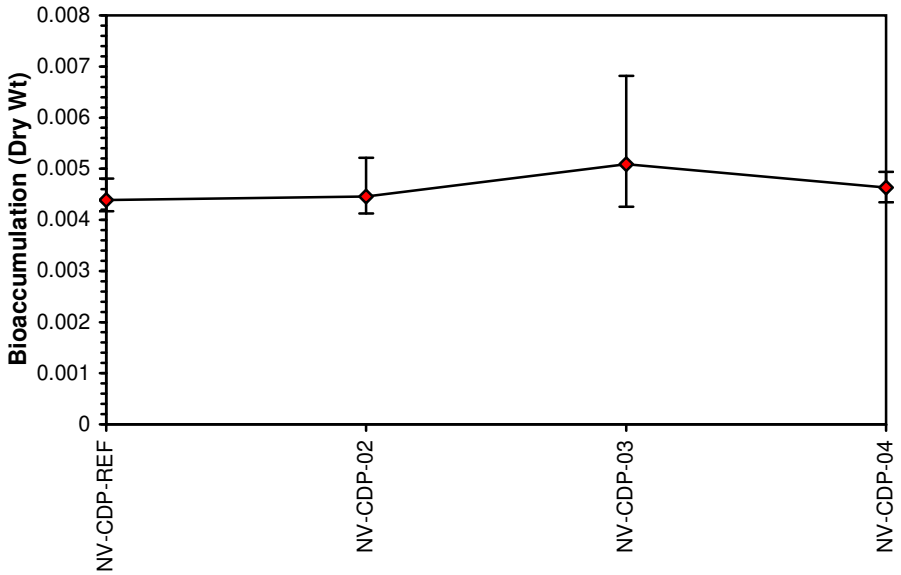
			Transform: Untransformed					Rank	1-Tailed
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
NV-CDP-REF	0.0044	0.0000	0.0044	0.0042	0.0048	5.806	5		
NV-CDP-02	0.0045	0.0001	0.0045	0.0041	0.0052	9.692	5	28.00	17.00
NV-CDP-03	0.0051	0.0007	0.0051	0.0043	0.0068	22.306	5	22.00	17.00
NV-CDP-04	0.0046	0.0002	0.0046	0.0043	0.0049	5.857	5	20.00	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.8929	0.905	1.29526	3.02411
Bartlett's Test indicates unequal variances (p = 9.83E-03)	11.3814	11.3449		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs NV-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Thal-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Thallium, mg/kg			

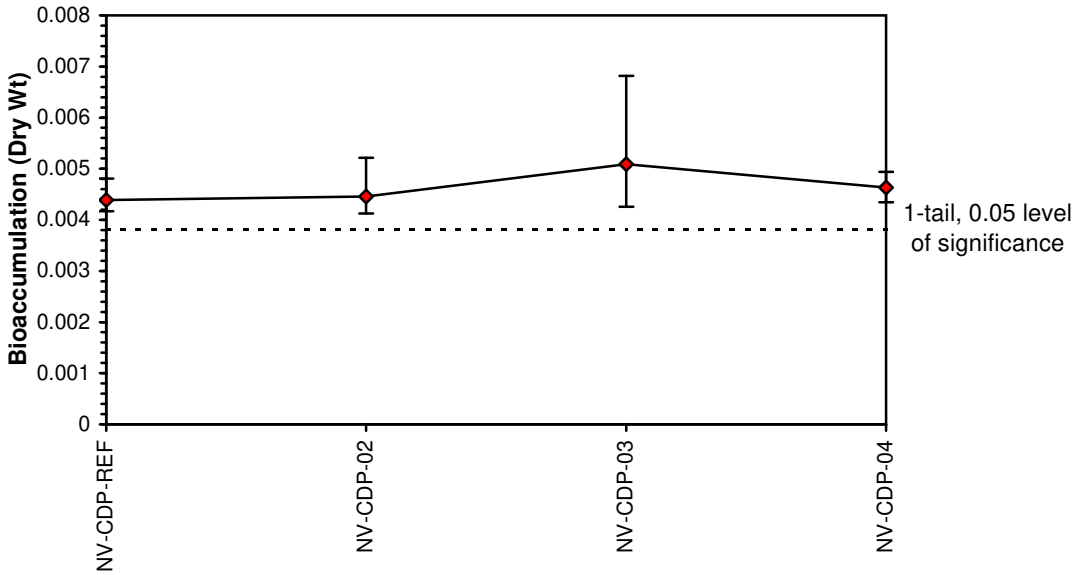
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	0.0048	0.0042	0.0042	0.0043	0.0045
NV-CDP-02	0.0043	0.0043	0.0044	0.0052	0.0041
NV-CDP-03	0.0044	0.0043	0.0068	0.0043	0.0057
NV-CDP-04	0.0044	0.0045	0.0043	0.0049	0.0049

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	0.0044	0.0000	228.17	207.90	239.81	5.547	5			
NV-CDP-02	0.0045	0.0001	225.94	191.94	242.72	8.727	5	0.146	2.230	33.90
NV-CDP-03	0.0051	0.0007	203.42	146.63	234.74	19.694	5	1.628	2.230	33.90
NV-CDP-04	0.0046	0.0002	216.66	202.43	230.41	5.791	5	0.757	2.230	33.90

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.93093	0.905	-0.9665	0.9534
Bartlett's Test indicates equal variances (p = 0.07)	7.09274	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs NV-CDP-REF	-0.0006	0	632.696	577.849	0.37988	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	Zn-DW-AV	Sample ID:	PCCA
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Zinc, mg/kg				

Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	219.00	111.00	249.00	71.00	68.40
NV-CDP-01	180.00	80.60	223.00	65.50	275.00
NV-CDP-03	228.00	264.00	114.00	153.00	148.00
NV-CDP-05	136.00	176.00	271.00	281.00	113.00

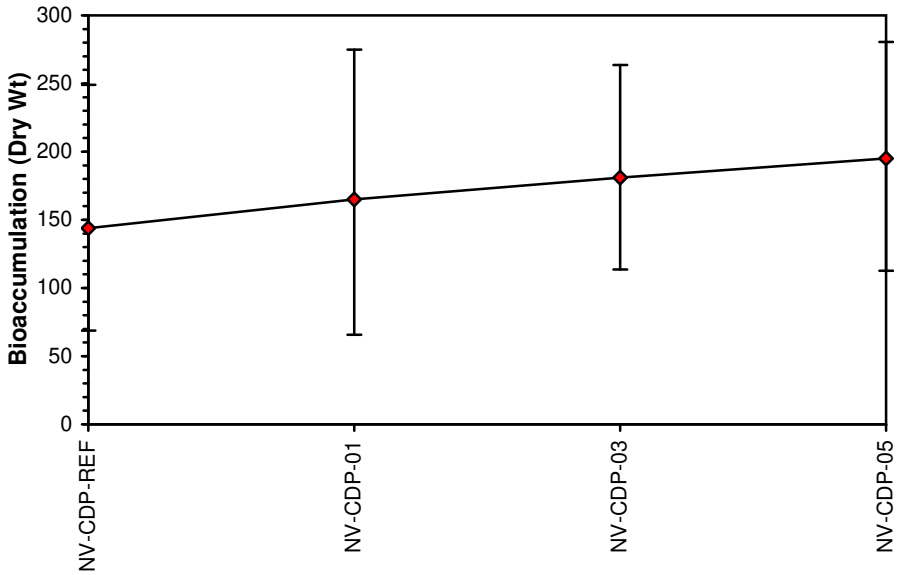
			Transform: Untransformed					Rank	1-Tailed
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
NV-CDP-REF	143.68	0.0000	143.68	68.40	249.00	59.039	5		
NV-CDP-01	164.82	-0.1482	164.82	65.50	275.00	54.868	5	26.00	17.00
NV-CDP-03	181.40	-0.2644	181.40	114.00	264.00	34.271	5	22.00	17.00
NV-CDP-05	195.40	-0.3625	195.40	113.00	281.00	39.424	5	21.00	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.89282	0.905	0.19589	-1.6314
Bartlett's Test indicates equal variances (p = 0.91)	0.54446	11.3449		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates no significant differences
Treatments vs NV-CDP-REF

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: Zn-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments: Zinc, mg/kg			

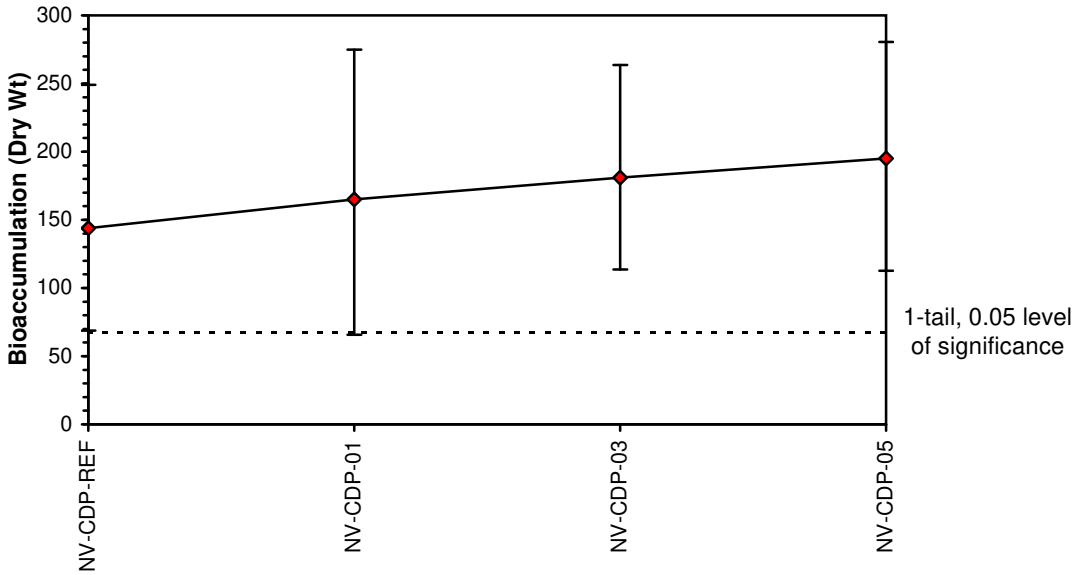
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	219.00	111.00	249.00	71.00	68.40
NV-CDP-01	180.00	80.60	223.00	65.50	275.00
NV-CDP-03	228.00	264.00	114.00	153.00	148.00
NV-CDP-05	136.00	176.00	271.00	281.00	113.00

			Transform: Reciprocal						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	143.68	0.0000	0.0093	0.0040	0.0146	54.430	5			
NV-CDP-01	164.82	-0.1482	0.0083	0.0036	0.0153	63.192	5	0.397	2.230	0.0056
NV-CDP-03	181.40	-0.2644	0.0060	0.0038	0.0088	33.102	5	1.290	2.230	0.0056
NV-CDP-05	195.40	-0.3625	0.0058	0.0036	0.0088	39.509	5	1.378	2.230	0.0056

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95753	0.905	0.33822	-0.8929
Bartlett's Test indicates equal variances (p = 0.18)	4.95102	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences Treatments vs NV-CDP-REF	-40.491	0	1.4E-05	1.6E-05	0.45601	3, 16

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:	Test ID: TPH-DW-AV	Sample ID:	PCCA
End Date:	Lab ID: NWDLS	Sample Type:	MARINE SED
Sample Date:	Protocol: EPADM91-EPA 503/8-91/001	Test Species:	AV

Comments: Total Petroleum Hydrocarbons, mg/kg

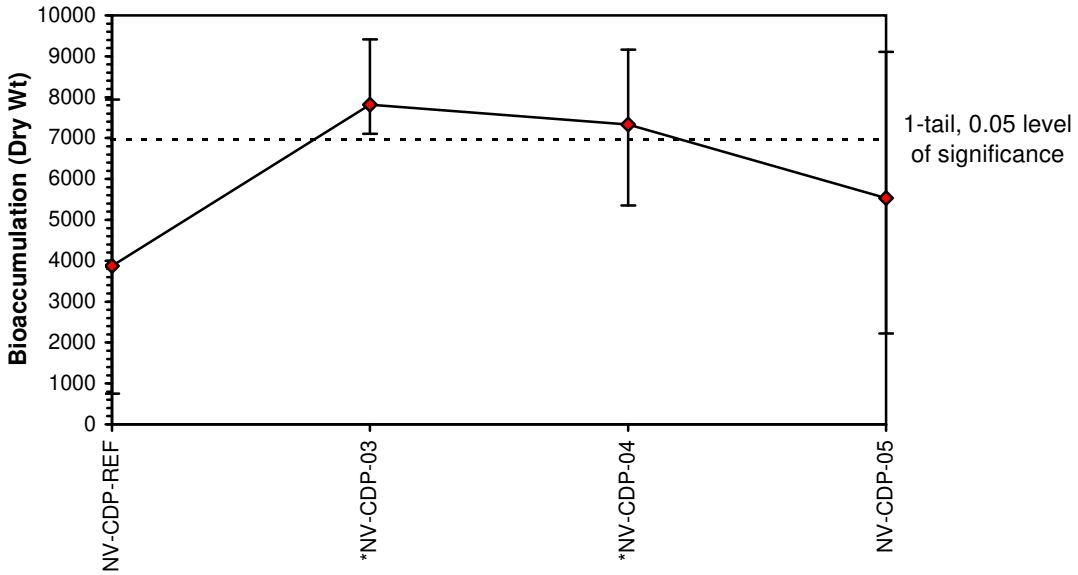
Conc-mg/Kg	1	2	3	4	5
NV-CDP-REF	4563.91	7936.51	4086.96	1993.15	749.573
NV-CDP-03	7753.62	7619.05	7200	7105.26	9411.76
NV-CDP-04	7570.09	9160.31	6623.19	7943.26	5347.83
NV-CDP-05	9112.9	2218.75	4170.21	8148.15	4007.52

			Transform: Untransformed						1-Tailed	
Conc-mg/Kg	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
NV-CDP-REF	3866.02	0.0000	3866.02	749.573	7936.51	71.220	5			
*NV-CDP-03	7817.94	-1.0225	7817.94	7105.26	9411.76	11.920	5	2.851	2.230	3090.66
*NV-CDP-04	7328.94	-0.8960	7328.94	5347.83	9160.31	19.551	5	2.499	2.230	3090.66
NV-CDP-05	5531.51	-0.4309	5531.51	2218.75	9112.9	53.341	5	1.202	2.230	3090.66

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.97089	0.905	0.38901	-0.1998
Bartlett's Test indicates equal variances (p = 0.14)	5.46401	11.3449		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test indicates no significant differences	3090.66	0	1.6E+07	4802120	0.04391	3, 16
Treatments vs NV-CDP-REF						

Dose-Response Plot



Evaluation of Dredge Materials for Bioaccumulation-Bioaccumulation (Dry Wt)

Start Date:		Test ID:	DBP-DW-AV	Sample ID:	CDP
End Date:		Lab ID:	NWDLS	Sample Type:	MARINE SED
Sample Date:		Protocol:	EPADM91-EPA 503/8-91/001	Test Species:	AV
Comments:	Bis(2-ethylhexyl)Phthalate, umg/kg				

Conc-ppb	1	2	3	4	5
NV-CDP-REF	18.800	19.900	18.100	17.100	21.400
NV-CDP-01	36.700	34.800	56.800	34.100	34.700
NV-CDP-02	60.700	77.100	70.500	83.400	92.200
NV-CDP-03	78.700	92.600	33.300	32.800	36.700

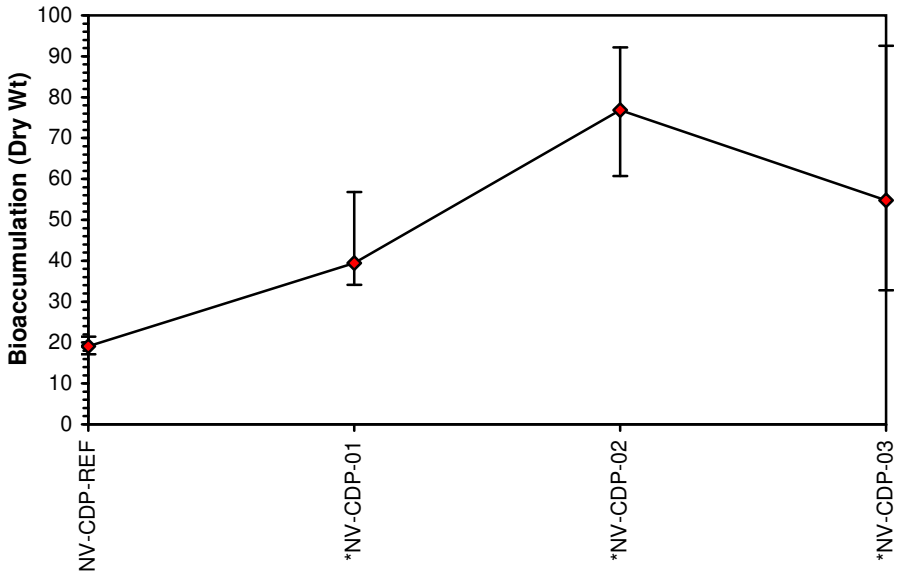
			Transform: Untransformed					Rank	1-Tailed
Conc-ppb	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
NV-CDP-REF	19.060	0.0000	19.060	17.100	21.400	8.705	5		
*NV-CDP-01	39.420	-1.1274	39.420	34.100	56.800	24.771	5	15.00	17.00
*NV-CDP-02	76.780	-3.1960	76.780	60.700	92.200	15.679	5	15.00	17.00
*NV-CDP-03	54.820	-1.9801	54.820	32.800	92.600	52.187	5	15.00	17.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.92853	0.905	0.7944	1.00251
Bartlett's Test indicates unequal variances (p = 3.69E-04)	18.3693	11.3449		

Hypothesis Test (1-tail, 0.05)

Steel's Many-One Rank Test indicates significant differences
Treatments vs NV-CDP-REF

Dose-Response Plot



APPENDIX G

TOXICITY LAB REPORT

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

November 21, 2022

LAB REPORT

Gregg Pawlak
Terracon_Houston
11555 Clay Road
Houston, TX 77043

Report ID: 20221121095707MM

RE: PCCA CDP 2022 - PHASE II

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

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	11/21/2022 09:57

Work Order Case Narrative

A total of 31 samples were collected on:

Laboratory ID	Sample Name	Sample Date
22G0514-01	CDP-EQ BLANK	08/19/2022 11:00
22G0514-02	CDP-01-W	08/25/2022 19:40
22G0514-03	CDP-02-W	08/25/2022 18:55
22G0514-04	CDP-03-W	08/25/2022 18:13
22G0514-05	CDP-04-W	08/25/2022 16:35
22G0514-06	CDP-05-W	08/25/2022 16:35
22G0514-07	CDP-REF-W	08/25/2022 20:15
22G0514-08	CDP-DUP-W	08/25/2022 18:16
22G0514-09	CDP-01-E	08/17/2022 09:15
22G0514-10	CDP-02-E	08/18/2022 08:30
22G0514-11	CDP-03-E	08/19/2022 08:10
22G0514-12	CDP-04-E	08/24/2022 15:52
22G0514-13	CDP-05-E	08/24/2022 17:15
22G0514-14	CDP-DUP-E	08/19/2022 13:20
22G0514-15	CDP-01-S	08/17/2022 09:15
22G0514-16	CDP-02-S	08/18/2022 08:30
22G0514-17	CDP-03-S	08/19/2022 08:10
22G0514-18	CDP-04-S	08/24/2022 15:52
22G0514-19	CDP-05-S	08/24/2022 17:15
22G0514-20	CDP-REF-S	08/24/2022 12:25
22G0514-21	CDP-DUP-S	08/19/2022 13:20
22G0514-22	CDP-01-1A-S	08/16/2022 16:30
22G0514-23	CDP-01-1C-S	08/17/2022 09:15
22G0514-24	CDP-02-2A-S	08/17/2022 15:00
22G0514-25	CDP-02-2C-S	08/18/2022 08:30
22G0514-26	CDP-03-3A-S	08/18/2022 17:00
22G0514-27	CDP-03-3C-S	08/19/2022 13:20
22G0514-28	CDP-04-4A-S	08/24/2022 14:58
22G0514-29	CDP-04-4C-S	08/24/2022 15:52
22G0514-30	CDP-05-5A-S	08/24/2022 16:35
22G0514-31	CDP-05-5C-S	08/24/2022 17:15

Samples were received and accepted at NWDLS on 08/19/2022 22:05 and 08/29/2022 08:00. Any receiving discrepancies are recorded and stored in NWDLS' database. The samples received a Work Order of 22G0514.

Test Conditions:

The NWDLS Toxicology Laboratory has separate areas for water and sediment storage, culture of test organisms, and testing to minimize cross-contamination between areas.

Testing was performed in 20°C ± 2°C test chambers for the polychaete bioaccumulation study, the clam bioaccumulation study was conducted at 14°C ± 2°C and all bioassays were conducted at 20°C ± 2°C. Lighting was arranged for each test phase so that light intensity was approximately 1200 microwatt (µw)/square centimeters (cm^2) using cool-white fluorescent bulbs with a 16-hour light and 8-hour dark cycle.

Test Organisms:

Two test organisms and three life stages were tested in the SPP bioassay: the silverside minnow, Menidia beryllina (15 days old); and the mysid shrimp, Americamysis bahia, at the adult (7 days old) and post-larval (<24 hours old) life stages. Two organisms were tested in the SP bioassay: the amphipod, Leptocheirus plumulosus (3—5 millimeters [mm]) and the mysid shrimp (5 days old). Two field-collected organisms, the sand worm, Nereis virens, and the quahog clam, Mercenaria mercenaria, were exposed to the SP for 28 days and analyzed for bioaccumulation. `

Three of the organisms used in the SP bioassay and the bioaccumulation test were purchased from commercial dealers. The L. plumulosus, N. virens, and M. mercenaria were purchased from Aquatic Research Organisms, Inc. (ARO), Hampton, New Hampshire. The organisms used in the SPP bioassays and the mysids for the SP bioassay were all cultured at the NWDLS Toxicology Laboratory.

The polychaetes were shipped dry in seaweed and allowed to come to test temperature in the shipping containers, from which they were introduced into the test vessels. Mercenaria were shipped in bags of seawater, which, upon receipt, were aerated and allowed to come to test temperature and salinity. The clams and polychaetes were then introduced into the test, reference, or control sediments randomly, based on a computer-generated distribution pattern. The amphipods were shipped to the NWDLS laboratory via overnight express carrier and were contained in a wide-mouth jar filled with natural seawater, packaged in an insulated cooler with freeze gels to prevent overheating during transit. Any polychaetes, clams, or amphipods that did not burrow and any organisms that exhibited abnormal behavior in the first 4 hours after being put into the test vessels were replaced by healthy organisms. No organisms were held for more than 3 days.

Test Procedures - Suspended Particulate Phase Bioassays:

The SPP, after preparation, was transferred to the test containers, either 1,000- or 500-milliliter (ml) disposable food-grade, polypropylene cups (containing 800- or 250-ml test solution, respectively), and mixed with laboratory-prepared seawater (Instant Ocean [HMM]) in appropriate proportions to give three replicates each of 10%, 50%, and 100% concentrations of SPP per station. Containers filled with 100% HMM 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 mysids were added randomly to each 800-ml cup. Ten post larval M. bahia were added to each 250-ml test container. The loading factor in all vessels was less than ½ gram of test organism tissue per liter of medium. Counts were made after 24 and 48 hours in the post-larval mysid bioassays, and after 24, 48, 72, and 96 hours in the adult mysid and silverside minnow bioassays to monitor the number of surviving organisms.

Using hand-held meters, temperature, dissolved oxygen (DO), pH, salinity, and ammonia were recorded daily. The fish were not fed, but the mysids, being highly cannibalistic, were given 1 drop of suspended Artemia (brine shrimp) nauplii per test cup twice daily.

Test Procedures - Solid Phase Bioassay/Bioaccumulation Assessment:

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-cm layer on the bottom. Five replicates were prepared for each of the Test Stations, Reference, and Control. Different 1-liter jars were used for the amphipods and for the mysids. Ten-gallon aquaria were used in the bioaccumulation study for both clams and polychaetes. A loading factor of no more than '/2 gram 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 SP bioassays and the polychaete bioaccumulation study (25 for the clams)).

Temperature, DO, pH, salinity, and ammonia were recorded daily. Seventy-five percent of the water was siphoned off and replaced 1 hour before and 48 hours after test initiation and at 48-hour intervals thereafter. Aeration was supplied to the clams and polychaetes to keep the DO level above 40% of saturation.

After 10 days, the SP bioassay was terminated. The sediment was wet-sieved (0.5-mm screen) to remove surviving organisms, which were counted.

The bioaccumulation study was conducted for 28 days following the same procedures as the SP bioassay. After 28 days, the bioaccumulation study was terminated and the clams and polychaetes were purged for 24 hours, by replicate, in clean aquaria filled with artificial seawater/ clean sand. After the purge period, these organisms were sacrificed, the clams were removed from their shells (after initial freezing), and all animals were frozen and distributed for tissue analysis.

Test Statistical Analyses and Use:

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. All 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.

Suspended Particulate Phase (SPP) 48h Mb Summary Table				
Sample ID	**Concentration (%)**	**Mean Survival (%)**	**Statistically Difference Compared to Control (yes/no)**	**LC_{50} (%)**
REF	0	96	---	>100
	10	98	---	
	50	94	---	
	100	94	No	
CDP-1	0	98	---	>100
	10	100	---	
	50	98	---	
	100	98	No	
CDP-2	0	100	---	>100
	10	100	---	
	50	96	---	
	100	98	No	
CDP-3	0	96	---	>100
	10	98	---	
	50	94	---	
	100	94	No	
CDP-4	0	100	---	>100
	10	98	---	
	50	96	---	
	100	96	No	
CDP-5	0	96	---	>100
	10	98	---	
	50	96	---	
	100	96	No	

Suspended Particulate Phase (SPP) 96h Mb Summary Table				
Sample ID	**Concentration (%)**	**Mean Survival (%)**	**Statistically Difference Compared to Control (yes/no)**	**LC_{50} (%)**
REF	0	98	---	>100
	10	98	---	
	50	96	---	
	100	96	No	
CDP-1	0	100	---	>100
	10	98	---	
	50	98	---	
	100	98	No	
CDP-2	0	100	---	>100
	10	98	---	
	50	96	---	
	100	98	No	
CDP-3	0	98	---	>100
	10	98	---	
	50	98	---	
	100	96	No	
CDP-4	0	100	---	>100
	10	98	---	
	50	98	---	
	100	96	No	
CDP-5	0	96	---	>100
	10	96	---	
	50	98	---	
	100	98	No	

Suspended Particulate Phase (SPP) 96h Is Summary Table				
Sample ID	**Concentration (%)**	**Mean Survival (%)**	**Statistically Difference Compared to Control (yes/no)**	**LC_{50} (%)**
REF	0	98	---	>100
	10	98	---	
	50	98	---	
	100	98	No	
CDP-1	0	96	---	>100
	10	98	---	
	50	96	---	
	100	96	No	
CDP-2	0	100	---	>100
	10	98	---	
	50	96	---	
	100	98	No	
CDP-3	0	98	---	>100
	10	98	---	
	50	98	---	
	100	96	No	
CDP-4	0	96	---	>100
	10	98	---	
	50	98	---	
	100	94	No	
CDP-5	0	94	---	>100
	10	98	---	
	50	96	---	
	100	92	No	

Solid Phase Test Summary Table 10d Leptocheirus plumulosus				
Sample ID	**Total # of organisms loaded**	**10d Lp Survival %**	**10d Lp % Effect**	**10d Lp Significant Effect (>20% effect)**
Control	100	98	-5.38	---
REF	100	93	0.00	No
CDP-1	100	89	4.30	No
CDP-2	100	94	-1.08	No
CDP-3	100	85	8.60	No
CDP-4	100	91	2.15	No
CDP-5	100	88	5.38	No

	Solid Phase Test Summary Table 10d Americamysis bahia			
Sample ID	**Total # of organisms loaded**	**10d Mb Survival %**	**10d Mb Effect %**	**10d Mb Significant Effect >10% effect (yes/no)**
Control	100	96	3.03	---
REF	100	99	0.00	No
CDP-1	100	98	1.01	No
CDP-2	100	95	4.04	No
CDP-3	100	87	12.12	Yes
CDP-4	100	98	1.01	No
CDP-5	100	92	7.07	No

Bioaccumulation Test Summary Table 28d Mercenaria mercenaria		
Sample ID	**28d Mm Survival %**	**28d Mm Effect %**
REF	70	0.00
CDP-1	70	0.00
CDP-2	80	-14.29
CDP-3	78	-11.43
CDP-4	81	-15.71
CDP-5	87	-24.29

Bioaccumulation Test Summary Table 28d Nereis virens		
Sample ID	**28d Nv Survival %**	**28d Nv Effect %**
REF	83	0.00
CDP-1	70	15.66
CDP-2	80	3.61
CDP-3	67	19.28
CDP-4	81	2.41
CDP-5	68	18.07

Suspended Particulate Prep Summary							
Sample ID	**Original Salinity (ppt)**	**Salinity (ppt) after DI added**	**Water Volume (L)**	**Sediment Volume (L)**	**Date**	**Mix Time Start**	**Mix Time End**
REF	29.6	25	48	12	9-26-22	1130	1200
CDP-1	29.6	25	48	12	9-26-22	1205	1235
CDP-2	31.3	26	48	12	9-26-22	1240	1310
CDP-3	31.7	25	48	12	9-26-22	1315	1345
CDP-4	32.6	26	48	12	9-26-22	1355	1425
CDP-5	32.2	26	48	12	9-26-22	1435	1505

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-9717-5223	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 8:58	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	00-2999-2915	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	17-6229-1230	**Code:**	690A6E1E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	6.70%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	0.5774	1.86	0.105	8	CDF	0.2898	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	0.3333	0.5796	Non-Significant Effect
Error	0.0637424	0.0079678	8			
Total	0.0663983		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7993	0.7411	0.0142	Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9400	0.8720	1.0000	0.9000	0.9000	1.0000	0.0245	5.83%	2.08%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.314	1.203	1.425	1.249	1.249	1.412	0.03992	6.79%	2.42%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	0.9000
100		1.0000	0.9000	1.0000	0.9000	0.9000

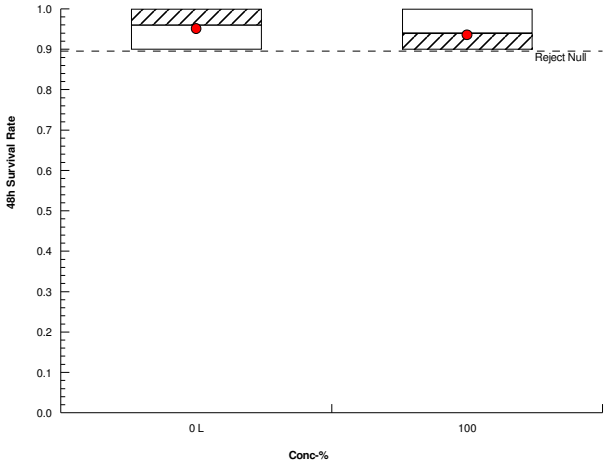
Angular (Corrected) Transformed Detail

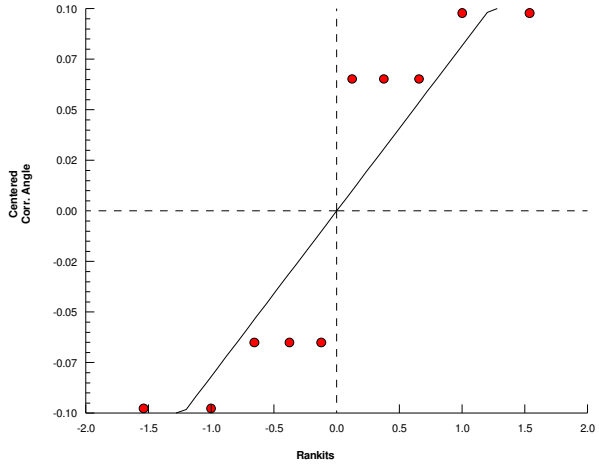
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.249	1.249
100		1.412	1.249	1.412	1.249	1.249

Mysidopsis 48-h Acute Survival Test | **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-9717-5223	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 8:58	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:10 (p 1 of 1)
Test Code/ID:	22G0514-REF / 12-9836-2238

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	18-0331-8400	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 8:58	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	00-2999-2915	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	17-6229-1230	**Code:**	690A6E1E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	987863	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

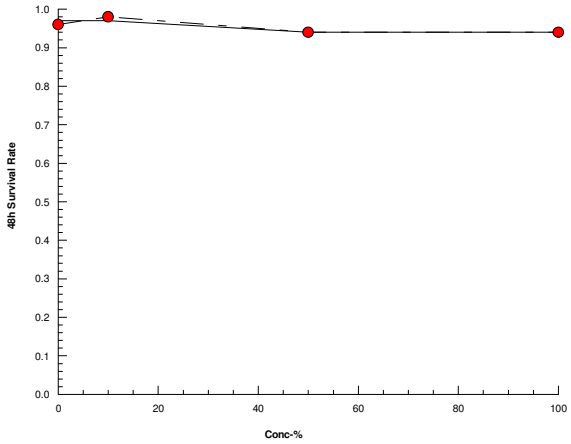
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%
50		5	0.9400	0.9000	1.0000	0.0548	5.83%	2.08%	47/50	0.94	3.09%
100		5	0.9400	0.9000	1.0000	0.0548	5.83%	2.08%	47/50	0.94	3.09%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	0.9000
10		1.0000	1.0000	1.0000	0.9000	1.0000
50		0.9000	0.9000	1.0000	0.9000	1.0000
100		1.0000	0.9000	1.0000	0.9000	0.9000

Graphics



Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-5423-6449	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	01-2084-9117	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	03-5294-0003	**Code:**	15096FE3	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	5.60%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27.5	n/a	2	8	Exact	0.7778	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0424949	0.0053119	8			
Total	0.0424949		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.5093	0.7411	4.7E-06	Non-Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	0.9000	1.0000

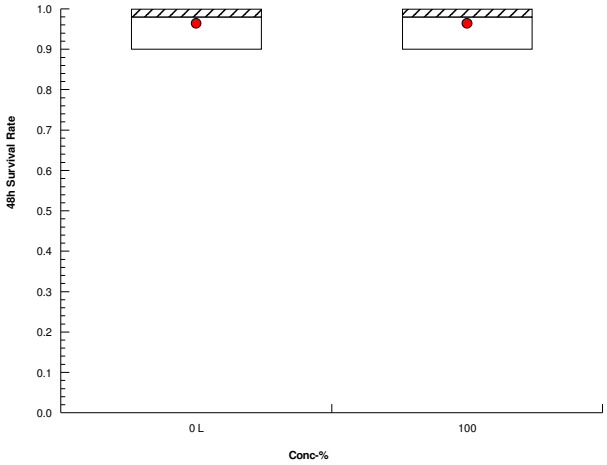
Angular (Corrected) Transformed Detail

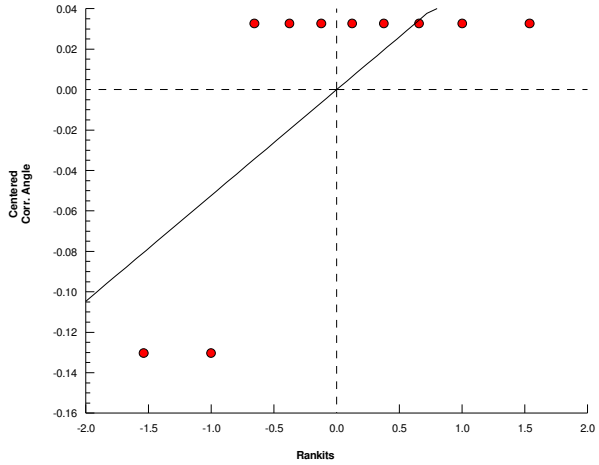
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.249
100		1.412	1.412	1.412	1.249	1.412

Mysidopsis 48-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-5423-6449	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:17 (p 1 of 1)
Test Code/ID:	22G0514-1 / 10-4740-7319

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	01-3020-4636	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	01-2084-9117	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	03-5294-0003	**Code:**	15096FE3	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1141714	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

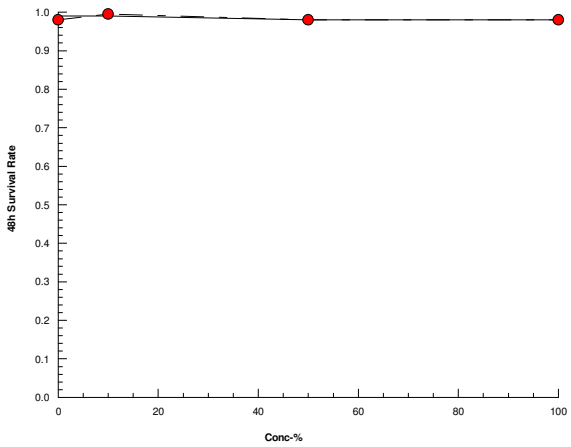
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.99	0.0%
10		5	1.0000	1.0000	1.0000	0.0000	0.00%	-2.04%	50/50	0.99	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	1.01%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	1.01%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	0.9000
10		1.0000	1.0000	1.0000	1.0000	1.0000
50		0.9000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	0.9000	1.0000

Graphics



Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	12-1417-9633	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:02	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	02-8896-5883	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	10-8777-9807	**Code:**	40D633DF	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	4.74%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	1	0.3466	Non-Significant Effect
Error	0.0212475	0.0026559	8			
Total	0.0239034		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.111	11.26	0.0285	Equal Variances
Variances	Mod Levene Equality of Variance Test	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6247	0.7411	1.1E-04	Non-Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	2.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	2.31%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	0.9000	1.0000

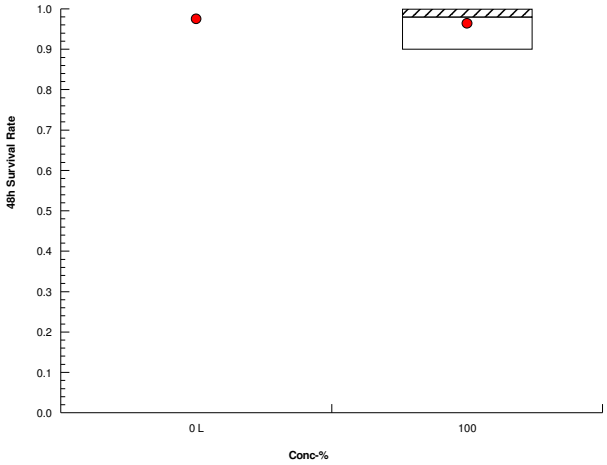
Angular (Corrected) Transformed Detail

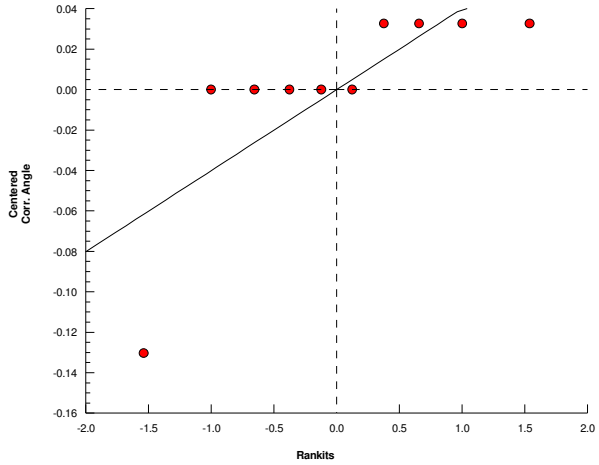
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.412	1.412	1.412	1.249	1.412

Mysidopsis 48-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	12-1417-9633	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:02	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:16 (p 1 of 1)
Test Code/ID:	22G0514-2 / 00-6368-6785

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	18-0925-4348	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:02	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	02-8896-5883	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	10-8777-9807	**Code:**	40D633DF	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 20h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2037454	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

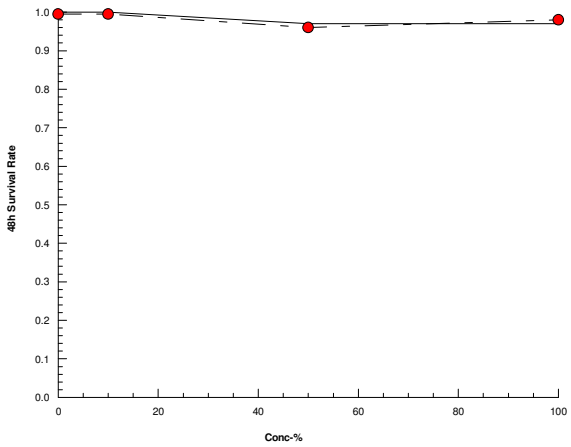
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	4.0%	48/50	0.97	3.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.97	3.0%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000	1.0000
50		0.9000	1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	0.9000	1.0000

Graphics



Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-3034-6466	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	06-0233-1951	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	00-1926-7887	**Code:**	126012F	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	6.70%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	0.5774	1.86	0.105	8	CDF	0.2898	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	0.3333	0.5796	Non-Significant Effect
Error	0.0637424	0.0079678	8			
Total	0.0663983		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7993	0.7411	0.0142	Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9400	0.8720	1.0000	0.9000	0.9000	1.0000	0.0245	5.83%	2.08%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.314	1.203	1.425	1.249	1.249	1.412	0.03992	6.79%	2.42%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	1.0000	0.9000
100		0.9000	0.9000	1.0000	0.9000	1.0000

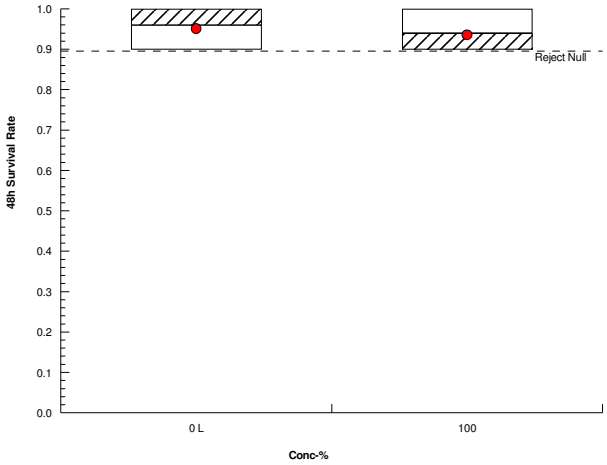
Angular (Corrected) Transformed Detail

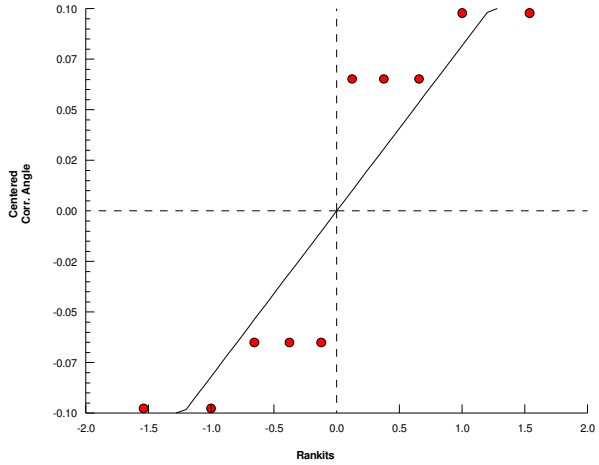
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.249	1.412	1.412	1.249
100		1.249	1.249	1.412	1.249	1.412

Mysidopsis 48-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-3034-6466	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:16 (p 1 of 1)
Test Code/ID:	22G0514-3 / 01-1217-9843

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	14-1072-8550	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:02	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	06-0233-1951	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	00-1926-7887	**Code:**	126012F	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1445711	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

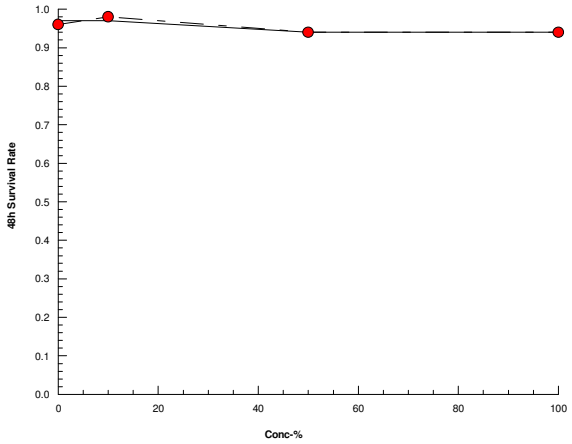
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%
50		5	0.9400	0.9000	1.0000	0.0548	5.83%	2.08%	47/50	0.94	3.09%
100		5	0.9400	0.9000	1.0000	0.0548	5.83%	2.08%	47/50	0.94	3.09%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	1.0000	0.9000
10		1.0000	1.0000	1.0000	0.9000	1.0000
50		1.0000	0.9000	1.0000	0.9000	0.9000
100		0.9000	0.9000	1.0000	0.9000	1.0000

Graphics



Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	06-1094-3224	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	19-4742-6472	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	19-1076-4885	**Code:**	71E3F555	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	5.33%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	1.633	1.86	0.074	8	CDF	0.0706	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0106237	0.0106237	1	2.667	0.1411	Non-Significant Effect
Error	0.0318712	0.0039839	8			
Total	0.0424949		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	96	11.26	9.9E-06	Unequal Variances
Variances	Mod Levene Equality of Variance Test	3	13.75	0.1340	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8142	0.7411	0.0215	Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	4.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	4.62%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.9000	1.0000	0.9000	1.0000	1.0000

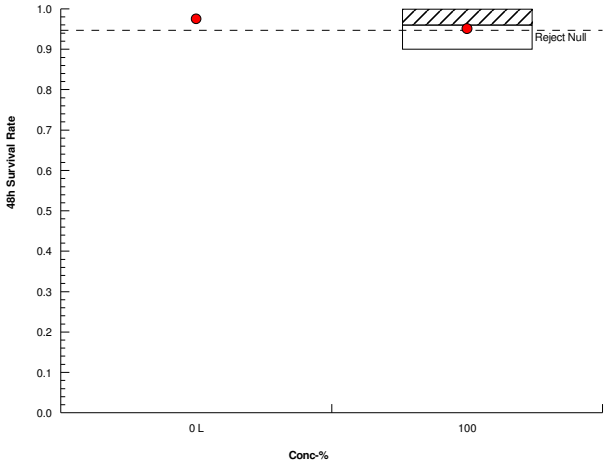
Angular (Corrected) Transformed Detail

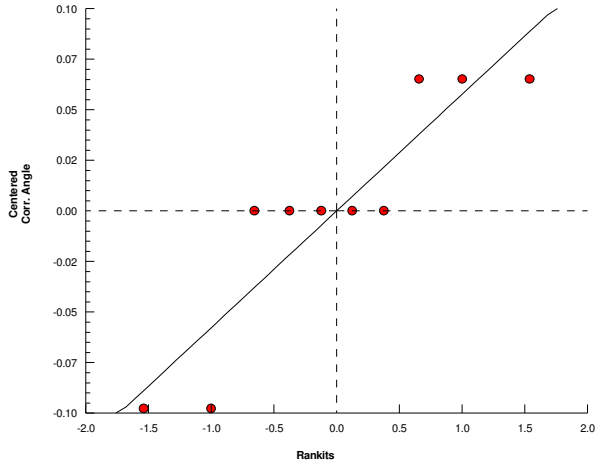
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.249	1.412	1.249	1.412	1.412

Mysidopsis 48-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	06-1094-3224	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:15 (p 1 of 1)
Test Code/ID:	22G0514-4 / 18-4582-7285

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	12-2224-6409	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	19-4742-6472	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	19-1076-4885	**Code:**	71E3F555	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2105093	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

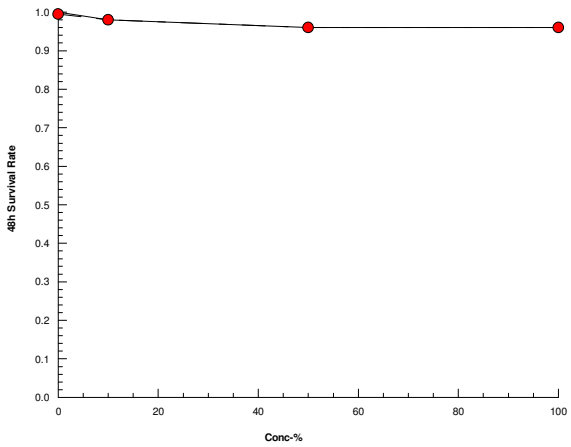
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	4.0%	48/50	0.96	4.0%
100		5	0.9600	0.9000	1.0000	0.0548	5.71%	4.0%	48/50	0.96	4.0%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	0.9000	1.0000	1.0000	0.9000
100		0.9000	1.0000	0.9000	1.0000	1.0000

Graphics



Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-3563-6899	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	01-3525-2214	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	11-3576-7240	**Code:**	43B26EC8	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 48h survival rate	6.70%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27.5	n/a	2	8	Exact	0.7381	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0637424	0.0079678	8			
Total	0.0637424		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6405	0.7411	1.7E-04	Non-Normal Distribution

48h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.9000	1.0000	0.9000
100		1.0000	1.0000	0.9000	0.9000	1.0000

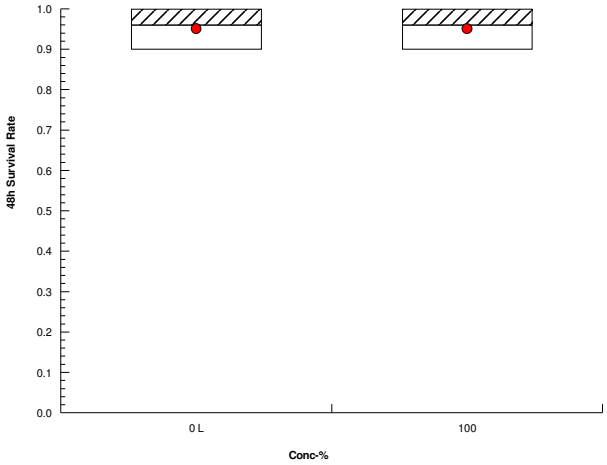
Angular (Corrected) Transformed Detail

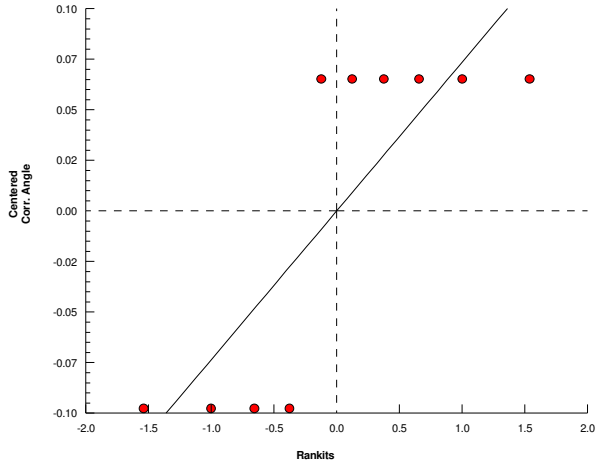
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.249	1.412	1.249
100		1.412	1.412	1.249	1.249	1.412

Mysidopsis 48-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-3563-6899	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:14 (p 1 of 1)
Test Code/ID:	22G0514-5 / 16-7189-4289

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-2456-2093	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:01	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	01-3525-2214	**Test Type:**	Survival (48h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 10:15	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	48h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	<24

Sample ID:	11-3576-7240	**Code:**	43B26EC8	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1612159	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

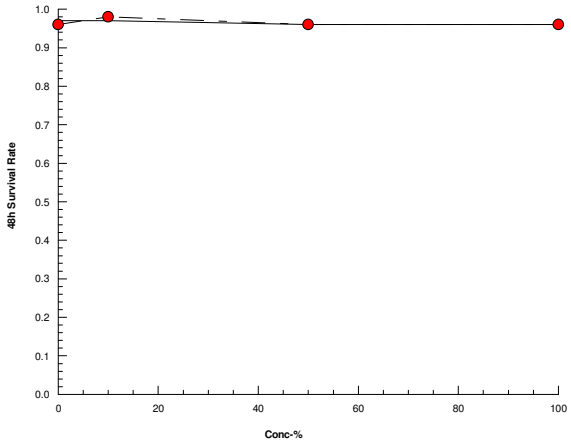
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.96	1.03%
100		5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.96	1.03%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.9000	1.0000	0.9000
10		1.0000	1.0000	0.9000	1.0000	1.0000
50		1.0000	1.0000	0.9000	1.0000	0.9000
100		1.0000	1.0000	0.9000	0.9000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	19-0450-1333	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	19-2976-5960	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	09-6581-1014	**Code:**	39911B46	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	6.15%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	2	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	0.4	0.5447	Non-Significant Effect
Error	0.0531187	0.0066398	8			
Total	0.0557746		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.5	23.15	0.7040	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7586	0.7411	0.0045	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%
100		5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	2.04%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%
100		5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	2.36%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	0.9000
100		0.9000	1.0000	0.9000	1.0000	1.0000

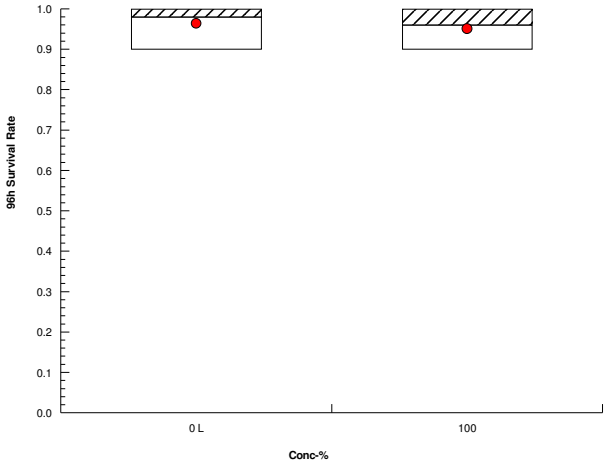
Angular (Corrected) Transformed Detail

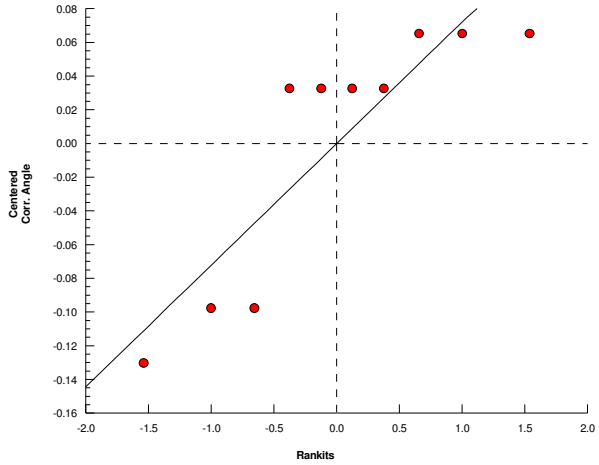
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.249
100		1.249	1.412	1.249	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	19-0450-1333	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:12 (p 1 of 1)
Test Code/ID:	22G0514-R / 14-4023-2988

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	08-3701-9213	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	19-2976-5960	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	09-6581-1014	**Code:**	39911B46	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	469078	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

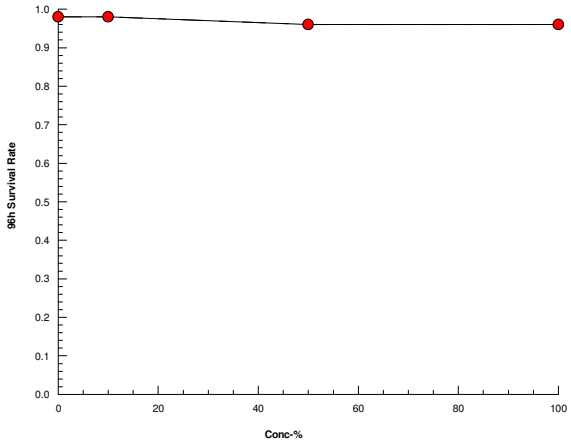
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	2.04%	48/50	0.96	2.04%
100		5	0.9600	0.9000	1.0000	0.0548	5.71%	2.04%	48/50	0.96	2.04%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	0.9000
10		1.0000	1.0000	0.9000	1.0000	1.0000
50		1.0000	0.9000	1.0000	1.0000	0.9000
100		0.9000	1.0000	0.9000	1.0000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	08-1354-5974	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	15-9944-3479	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	11-0297-1272	**Code:**	41BE0188	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	4.74%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	1	0.3466	Non-Significant Effect
Error	0.0212475	0.0026559	8			
Total	0.0239034		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.111	11.26	0.0285	Equal Variances
Variances	Mod Levene Equality of Variance Test	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6247	0.7411	1.1E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	2.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	2.31%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9000	1.0000	1.0000

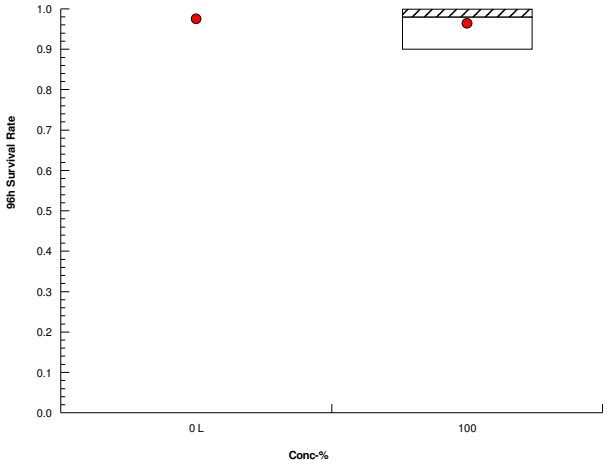
Angular (Corrected) Transformed Detail

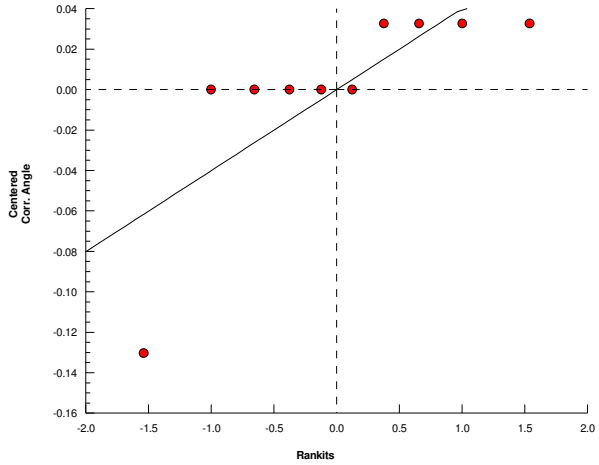
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.412	1.412	1.249	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	08-1354-5974	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date: 03 Nov-22 09:23 (p 1 of 1)
Test Code/ID: 22G0514-01 / 15-4921-4597

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	21-0144-5734	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	15-9944-3479	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	11-0297-1272	**Code:**	41BE0188	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	250083	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

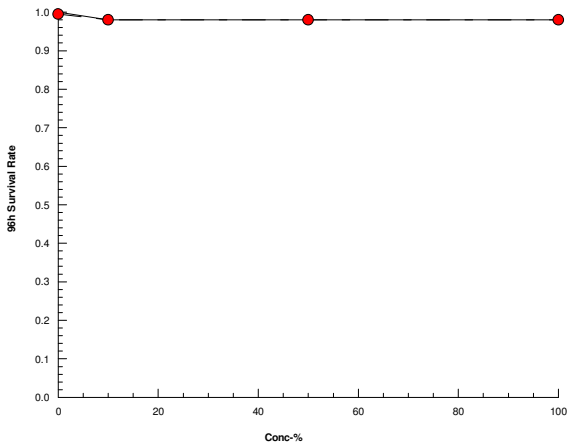
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000	1.0000
100		1.0000	1.0000	0.9000	1.0000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-1163-3684	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	14-3307-8610	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	20-0197-9460	**Code:**	7753C844	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	4.74%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	1	0.3466	Non-Significant Effect
Error	0.0212475	0.0026559	8			
Total	0.0239034		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.111	11.26	0.0285	Equal Variances
Variances	Mod Levene Equality of Variance Test	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6247	0.7411	1.1E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	2.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	2.31%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

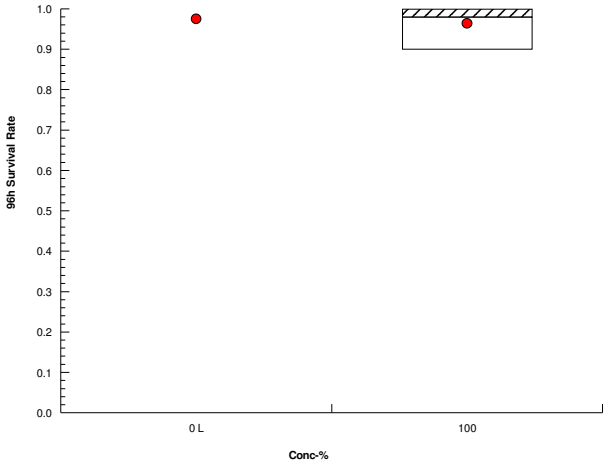
Angular (Corrected) Transformed Detail

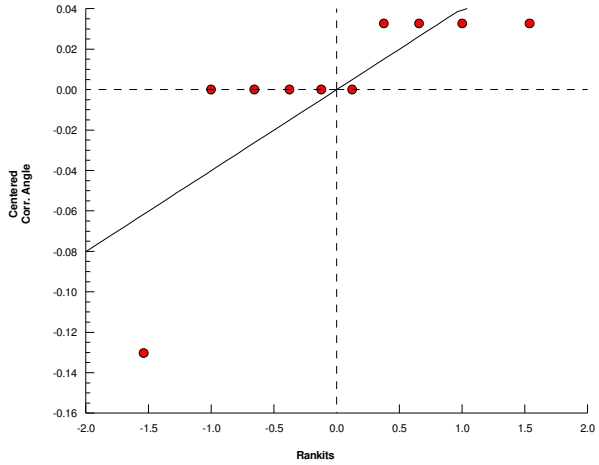
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.412	1.249	1.412	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-1163-3684	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:21 (p 1 of 1)
Test Code/ID:	22G0514-02 / 10-5150-1806

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	17-8214-8769	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	14-3307-8610	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	20-0197-9460	**Code:**	7753C844	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2022106	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

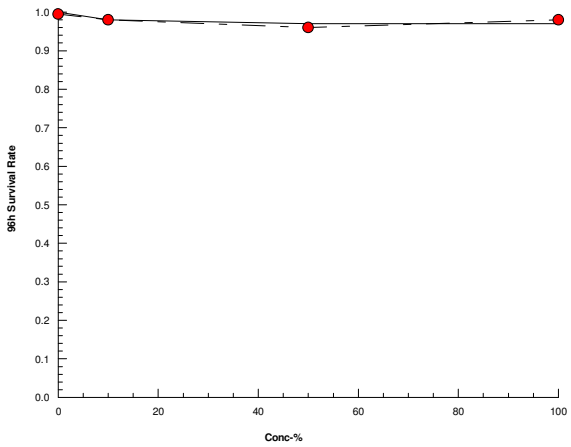
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	4.0%	48/50	0.97	3.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.97	3.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	0.9000	1.0000
50		1.0000	1.0000	0.9000	1.0000	0.9000
100		1.0000	0.9000	1.0000	1.0000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	03-9437-0694	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:04	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	15-6929-9754	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	14-0370-5076	**Code:**	53AAD6F4	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	8.05%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0020135	0.0020135	1	0.1685	0.6922	Non-Significant Effect
Error	0.0956028	0.0119503	8			
Total	0.0976162		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.499	23.15	0.2525	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6403	0.7411	1.7E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%
100		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	2.04%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%
100		5	1.351	1.182	1.52	1.412	1.107	1.412	0.06097	10.09%	2.06%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	1.0000	1.0000
100		1.0000	0.8000	1.0000	1.0000	1.0000

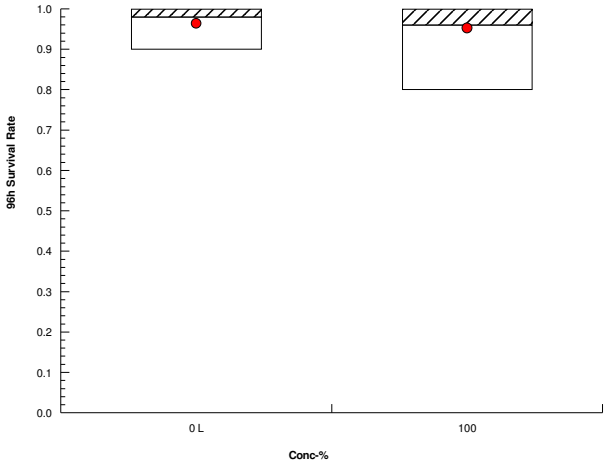
Angular (Corrected) Transformed Detail

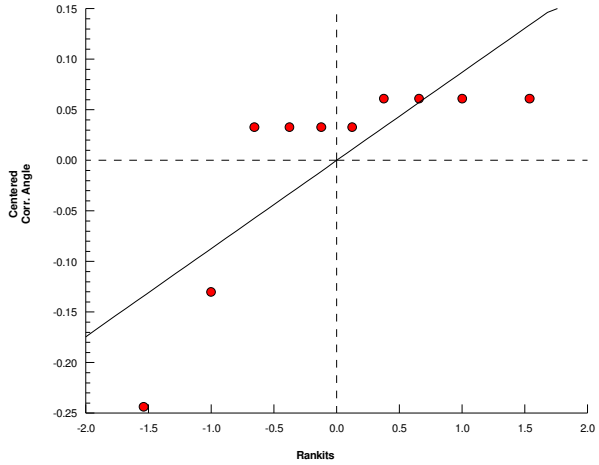
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.249	1.412	1.412	1.412
100		1.412	1.107	1.412	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	03-9437-0694	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:04	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date: 03 Nov-22 09:20 (p 1 of 1)
Test Code/ID: 22G0514-03 / 00-8625-7000

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	01-5595-8116	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	15-6929-9754	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	14-0370-5076	**Code:**	53AAD6F4	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	328569	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

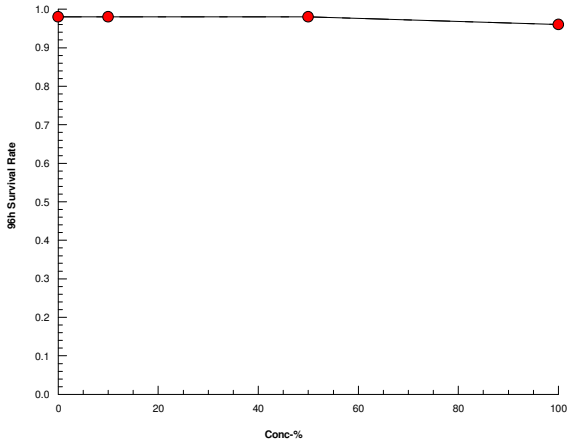
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
100		5	0.9600	0.8000	1.0000	0.0894	9.32%	2.04%	48/50	0.96	2.04%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	1.0000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000	1.0000
100		1.0000	0.8000	1.0000	1.0000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	00-9686-2102	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:04	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	18-1652-0444	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	17-2394-5399	**Code:**	66C151B7	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	7.23%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0092944	0.0092944	1	1	0.3466	Non-Significant Effect
Error	0.0743553	0.0092944	8			
Total	0.0836497		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.111	11.26	0.0285	Equal Variances
Variances	Mod Levene Equality of Variance Test	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6247	0.7411	1.1E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	4.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.351	1.182	1.52	1.412	1.107	1.412	0.06097	10.09%	4.32%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.8000	1.0000	1.0000	1.0000	1.0000

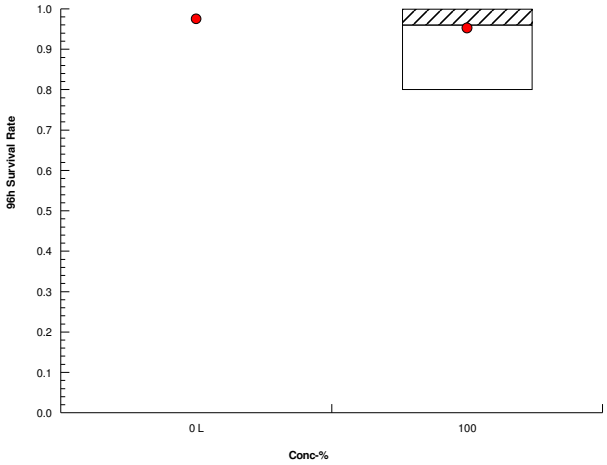
Angular (Corrected) Transformed Detail

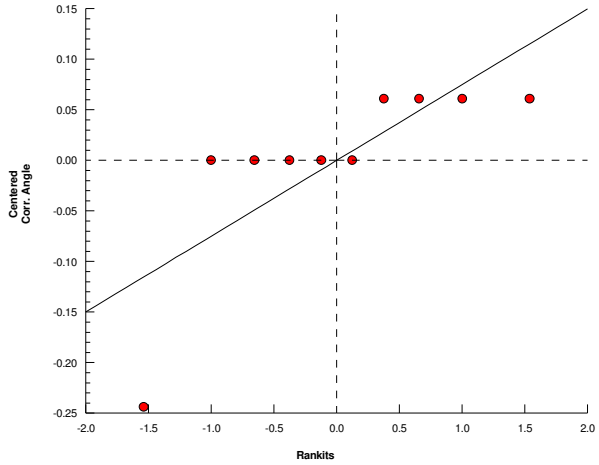
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.107	1.412	1.412	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	00-9686-2102	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:04	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:19 (p 1 of 1)
Test Code/ID:	22G0514-04 / 01-3871-7453

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	18-3283-3265	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:04	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	18-1652-0444	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	17-2394-5399	**Code:**	66C151B7	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1617415	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

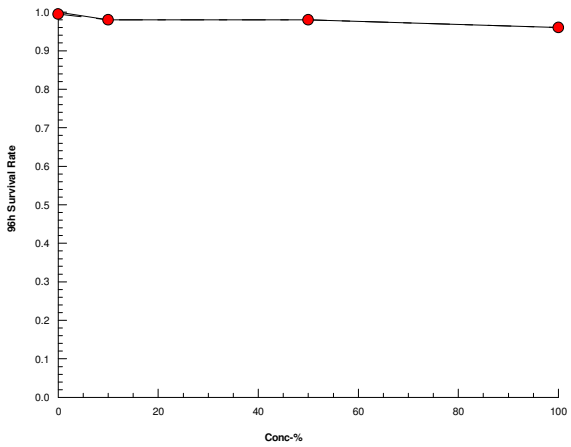
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
100		5	0.9600	0.8000	1.0000	0.0894	9.32%	4.0%	48/50	0.96	4.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		0.9000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	0.9000
100		0.8000	1.0000	1.0000	1.0000	1.0000

Graphics



Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	20-0292-3074	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	20-4950-3933	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	00-5774-8063	**Code:**	3712A5F	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	6.13%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	30	n/a	2	8	Exact	0.9167	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	0.4	0.5447	Non-Significant Effect
Error	0.0531187	0.0066398	8			
Total	0.0557746		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.5	23.15	0.7040	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7586	0.7411	0.0045	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	-2.08%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	-2.42%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	0.9000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

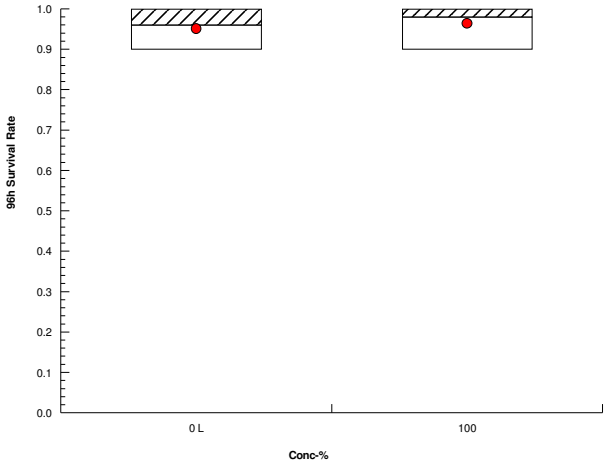
Angular (Corrected) Transformed Detail

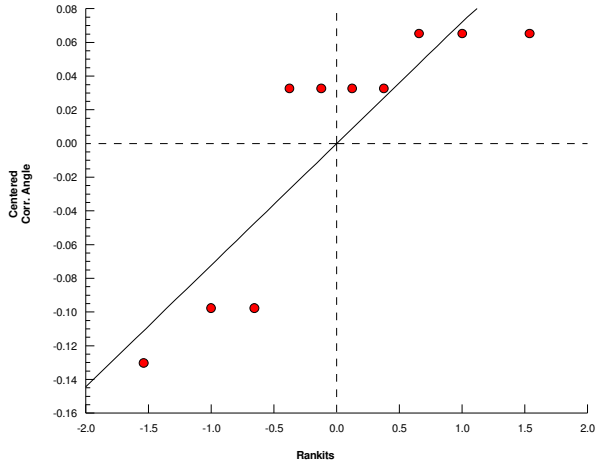
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.249	1.412	1.249	1.412
100		1.412	1.249	1.412	1.412	1.412

Mysidopsis 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	20-0292-3074	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:18 (p 1 of 1)
Test Code/ID:	22G0514-05 / 06-0409-3716

Mysidopsis 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-0235-9482	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:03	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	20-4950-3933	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 10:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 10:45	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	00-5774-8063	**Code:**	3712A5F	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 21h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1523331	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

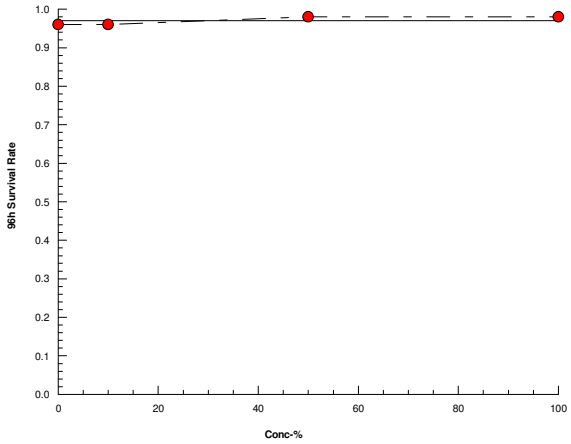
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
10		5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	1.0000	0.9000	1.0000
10		1.0000	1.0000	0.9000	1.0000	0.9000
50		1.0000	1.0000	0.9000	1.0000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-9527-5374	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	04-8022-0028	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	17-9949-0430	**Code:**	6B420B7E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	5.60%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27.5	n/a	2	8	Exact	0.7778	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0424949	0.0053119	8			
Total	0.0424949		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.5093	0.7411	4.7E-06	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	1.0000
100		1.0000	1.0000	0.9000	1.0000	1.0000

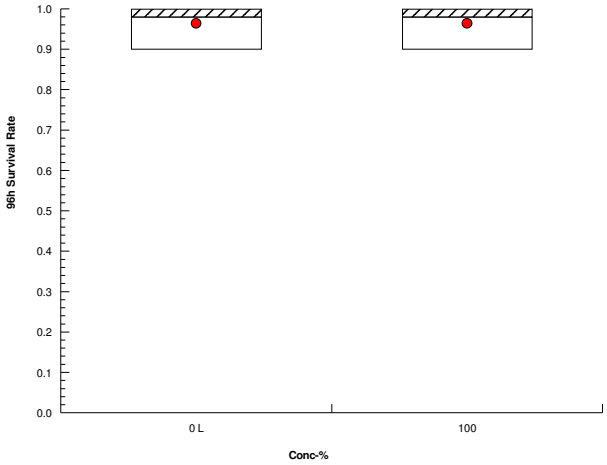
Angular (Corrected) Transformed Detail

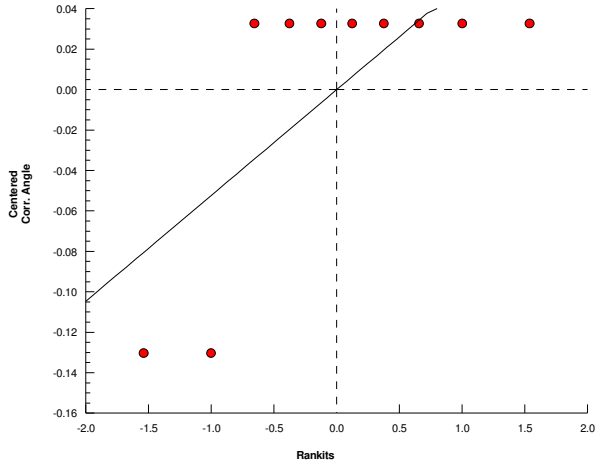
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.249	1.412
100		1.412	1.412	1.249	1.412	1.412

Inland Silverside 96-h Acute Survival Test | **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-9527-5374	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:10 (p 1 of 1)
Test Code/ID:	22G0514-RE / 21-4454-1943

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	12-4385-8631	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:00	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	04-8022-0028	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	17-9949-0430	**Code:**	6B420B7E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
REFERENCE

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2053747	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

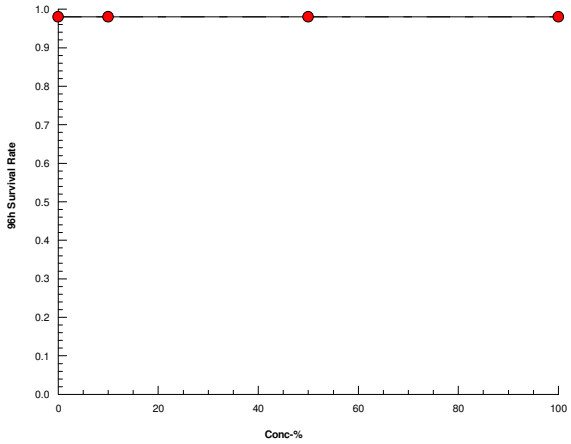
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000	1.0000
100		1.0000	1.0000	0.9000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	16-7892-6375	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	16-8896-8969	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	11-3458-4801	**Code:**	43A063E1	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	6.70%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27.5	n/a	2	8	Exact	0.7381	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0637424	0.0079678	8			
Total	0.0637424		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6405	0.7411	1.7E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.9000	0.9000	1.0000
100		0.9000	1.0000	0.9000	1.0000	1.0000

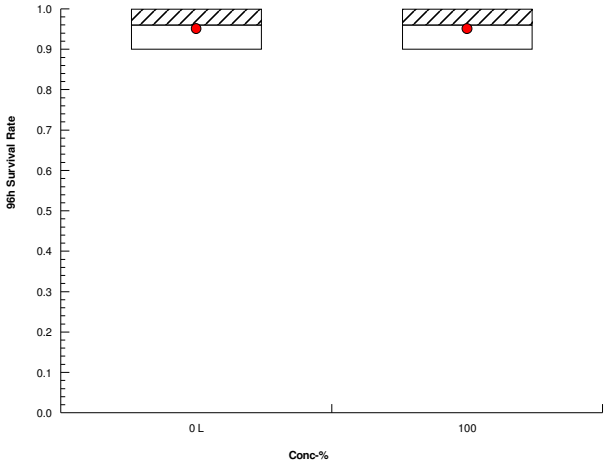
Angular (Corrected) Transformed Detail

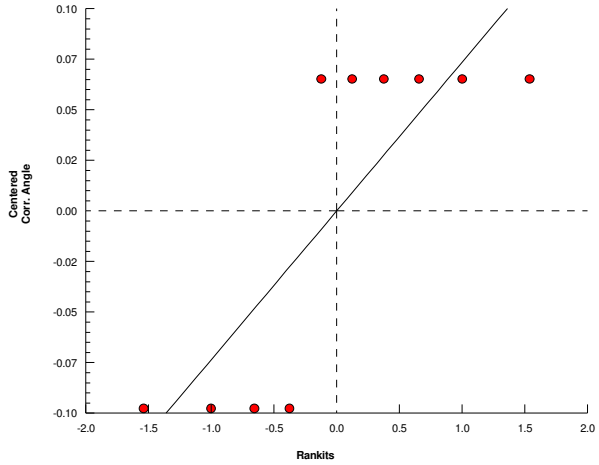
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.249	1.249	1.412
100		1.249	1.412	1.249	1.412	1.412

Inland Silverside 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	16-7892-6375	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:28 (p 1 of 1)
Test Code/ID:	22G0514-001 / 05-3134-0719

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	08-2931-5609	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	16-8896-8969	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	11-3458-4801	**Code:**	43A063E1	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-01

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1022705	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

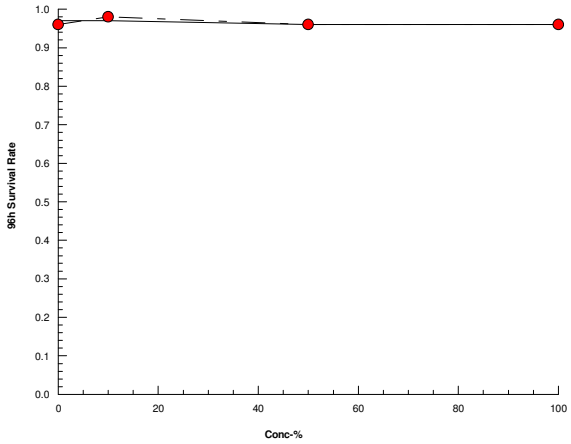
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.97	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.97	0.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.96	1.03%
100		5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.96	1.03%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.9000	0.9000	1.0000
10		1.0000	1.0000	0.9000	1.0000	1.0000
50		0.9000	1.0000	1.0000	1.0000	0.9000
100		0.9000	1.0000	0.9000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	06-1956-9325	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	03-8049-8289	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	04-4287-1518	**Code:**	1A65AEDE	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	4.74%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	25	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	1	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	1	0.3466	Non-Significant Effect
Error	0.0212475	0.0026559	8			
Total	0.0239034		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.111	11.26	0.0285	Equal Variances
Variances	Mod Levene Equality of Variance Test	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6247	0.7411	1.1E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	2.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	2.31%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

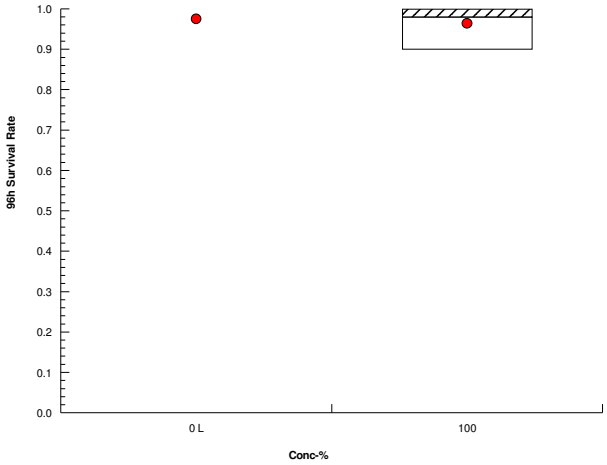
Angular (Corrected) Transformed Detail

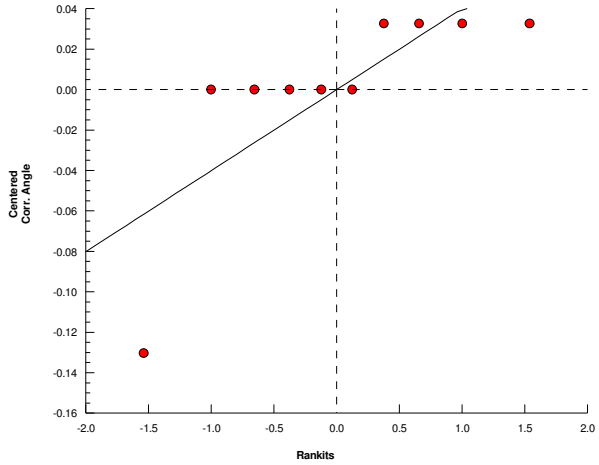
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.412	1.412
100		1.412	1.249	1.412	1.412	1.412

Inland Silverside 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	06-1956-9325	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:27 (p 1 of 1)
Test Code/ID:	22G0514-002 / 19-6134-0558

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	06-9519-7729	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	03-8049-8289	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:00	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	04-4287-1518	**Code:**	1A65AEDE	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-02

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1716619	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

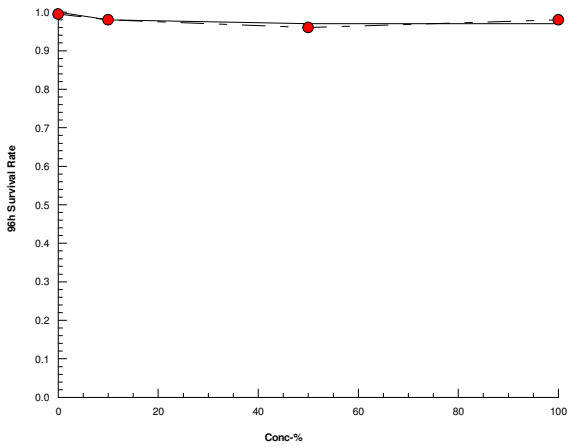
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.98	2.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	4.0%	48/50	0.97	3.0%
100		5	0.9800	0.9000	1.0000	0.0447	4.56%	2.0%	49/50	0.97	3.0%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	0.9000	1.0000	0.9000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	02-0432-5775	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Batch ID:	04-2699-4930	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	19-4685-0107	**Code:**	740A933B	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	8.05%

Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	27	n/a	1	8	Exact	0.5000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0020135	0.0020135	1	0.1685	0.6922	Non-Significant Effect
Error	0.0956028	0.0119503	8			
Total	0.0976162		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.499	23.15	0.2525	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.6403	0.7411	1.7E-04	Non-Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9800	0.9245	1.0000	1.0000	0.9000	1.0000	0.0200	4.56%	0.00%
100		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	2.04%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.00%
100		5	1.351	1.182	1.52	1.412	1.107	1.412	0.06097	10.09%	2.06%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	1.0000
100		1.0000	0.8000	1.0000	1.0000	1.0000

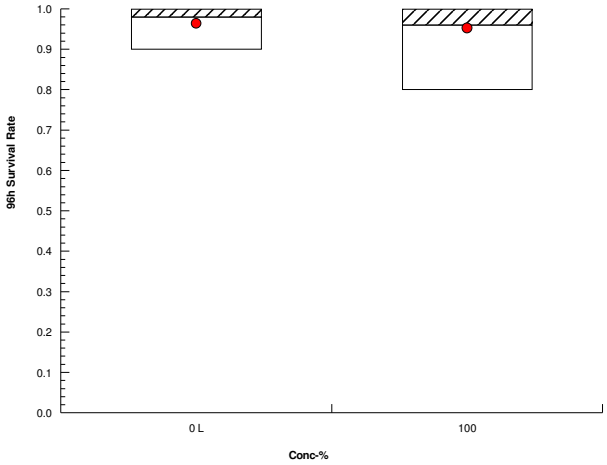
Angular (Corrected) Transformed Detail

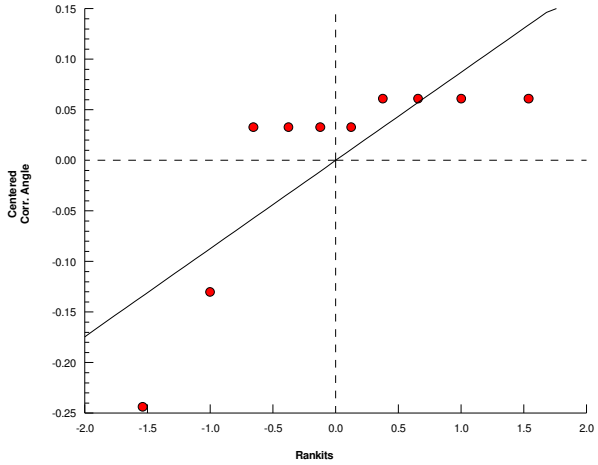
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.412	1.249	1.412
100		1.412	1.107	1.412	1.412	1.412

Inland Silverside 96-h Acute Survival Test | **NWDLS Environ. Toxicol. Lab**

Analysis ID:	02-0432-5775	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Nonparametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:26 (p 1 of 1)
Test Code/ID:	22G0514-003 / 18-4683-6906

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	00-5364-6416	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:07	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	04-2699-4930	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	19-4685-0107	**Code:**	740A933B	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-03

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1509237	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.98	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

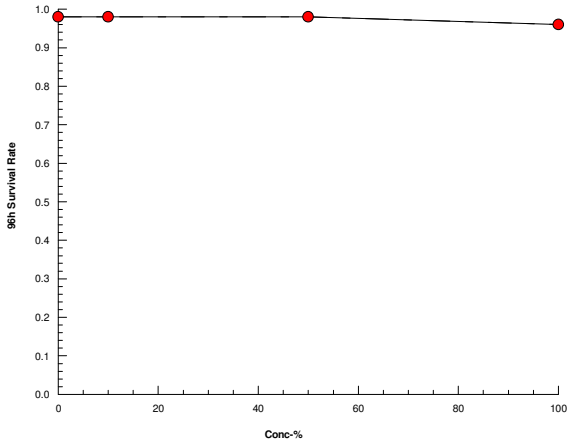
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	0.0%	49/50	0.98	0.0%
100		5	0.9600	0.8000	1.0000	0.0894	9.32%	2.04%	48/50	0.96	2.04%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	0.9000	1.0000
10		1.0000	1.0000	0.9000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	0.9000
100		1.0000	0.8000	1.0000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	18-7595-0547	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	11-7862-1395	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	14-2019-4702	**Code:**	54A6738E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	6.70%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	0.5774	1.86	0.105	8	CDF	0.2898	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026559	0.0026559	1	0.3333	0.5796	Non-Significant Effect
Error	0.0637424	0.0079678	8			
Total	0.0663983		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	23.15	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7993	0.7411	0.0142	Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9600	0.8920	1.0000	1.0000	0.9000	1.0000	0.0245	5.71%	0.00%
100		5	0.9400	0.8720	1.0000	0.9000	0.9000	1.0000	0.0245	5.83%	2.08%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	0.00%
100		5	1.314	1.203	1.425	1.249	1.249	1.412	0.03992	6.79%	2.42%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	0.9000	1.0000	1.0000
100		0.9000	0.9000	0.9000	1.0000	1.0000

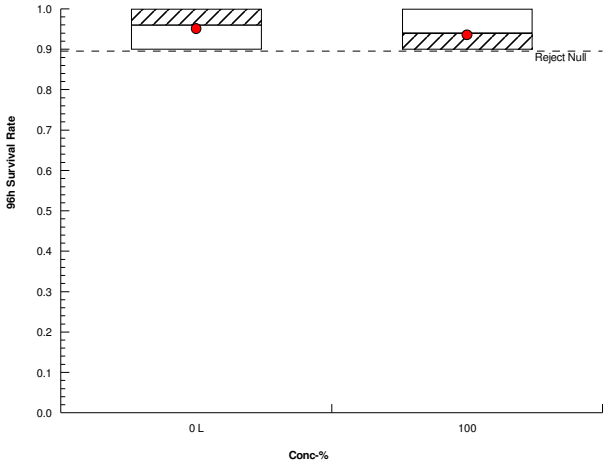
Angular (Corrected) Transformed Detail

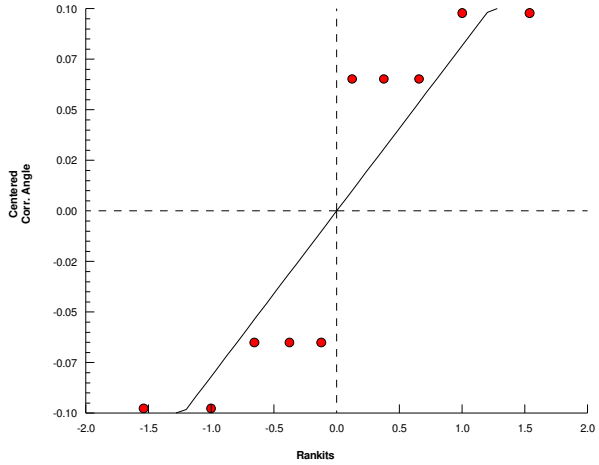
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.249	1.249	1.412	1.412
100		1.249	1.249	1.249	1.412	1.412

Inland Silverside 96-h Acute Survival Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	18-7595-0547	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:25 (p 1 of 1)
Test Code/ID:	22G0514-004 / 05-2959-4858

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-7162-9914	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	11-7862-1395	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	14-2019-4702	**Code:**	54A6738E	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-04

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1190938	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.96	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

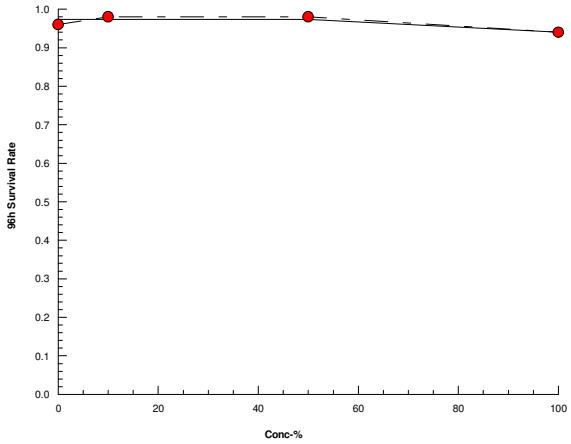
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9600	0.9000	1.0000	0.0548	5.71%	0.0%	48/50	0.9733	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.9733	0.0%
50		5	0.9800	0.9000	1.0000	0.0447	4.56%	-2.08%	49/50	0.9733	0.0%
100		5	0.9400	0.9000	1.0000	0.0548	5.83%	2.08%	47/50	0.94	3.43%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	0.9000	0.9000	1.0000	1.0000
10		1.0000	0.9000	1.0000	1.0000	1.0000
50		1.0000	0.9000	1.0000	1.0000	1.0000
100		0.9000	0.9000	0.9000	1.0000	1.0000

Graphics



Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-6568-1811	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	08-9886-5421	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	20-8910-6545	**Code:**	7C853C71	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 96h survival rate	8.39%

Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water		100	0.5286	1.86	0.13	8	CDF	0.3057	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits Lower	Upper	Overlap	Decision
Control Resp	0.94	0.9	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0033872	0.0033872	1	0.2794	0.6114	Non-Significant Effect
Error	0.0969765	0.0121221	8			
Total	0.100364		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.564	23.15	0.2460	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8803	0.7411	0.1314	Normal Distribution

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	0.9400	0.8289	1.0000	1.0000	0.8000	1.0000	0.0400	9.52%	0.00%
100		5	0.9200	0.8645	0.9755	0.9000	0.9000	1.0000	0.0200	4.86%	2.13%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	L	5	1.318	1.148	1.489	1.412	1.107	1.412	0.06153	10.44%	0.00%
100		5	1.282	1.191	1.372	1.249	1.249	1.412	0.03259	5.69%	2.79%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.8000	1.0000	0.9000
100		1.0000	0.9000	0.9000	0.9000	0.9000

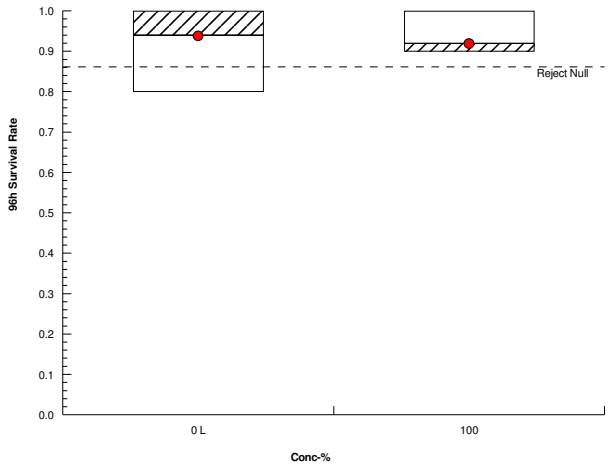
Angular (Corrected) Transformed Detail

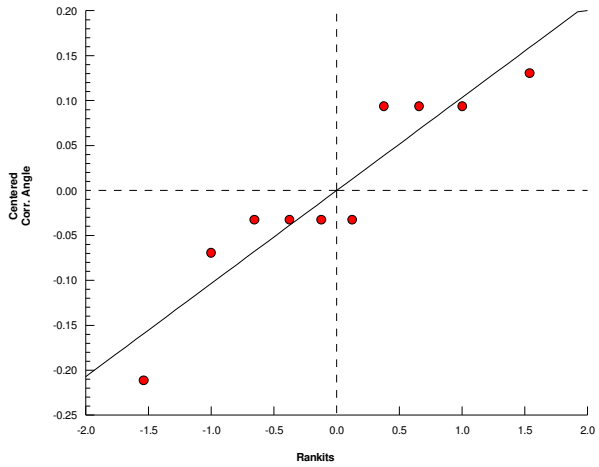
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.412	1.412	1.107	1.412	1.249
100		1.412	1.249	1.249	1.249	1.249

Inland Silverside 96-h Acute Survival Test | **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-6568-1811	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	03 Nov-22 09:24 (p 1 of 1)
Test Code/ID:	22G0514-005 / 13-0025-0699

Inland Silverside 96-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	10-0997-4054	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Nov-22 9:06	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	08-9886-5421	**Test Type:**	Survival (96h)	**Analyst:**	Theran Gay		
Start Date:	27 Sep-22 11:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	01 Oct-22 11:15	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	96h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	15d

Sample ID:	20-8910-6545	**Code:**	7C853C71	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	SPP	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	41d 22h	**Client:**	Terracon Consultants, Inc.		

Comments:
CDP-05

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1387112	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.94	0.9	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC50	>100	n/a	n/a	<1	n/a	n/a

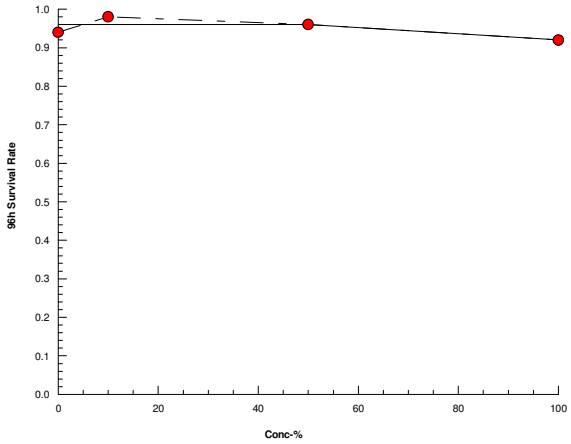
96h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	0.9400	0.8000	1.0000	0.0894	9.52%	0.0%	47/50	0.96	0.0%
10		5	0.9800	0.9000	1.0000	0.0447	4.56%	-4.26%	49/50	0.96	0.0%
50		5	0.9600	0.9000	1.0000	0.0548	5.71%	-2.13%	48/50	0.96	0.0%
100		5	0.9200	0.9000	1.0000	0.0447	4.86%	2.13%	46/50	0.92	4.17%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	0.8000	1.0000	0.9000
10		1.0000	1.0000	1.0000	0.9000	1.0000
50		1.0000	0.9000	1.0000	1.0000	0.9000
100		1.0000	0.9000	0.9000	0.9000	0.9000

Graphics



Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Nereis virens 28d Test Condition Summary - ASTM E 1688; NWDLS SOP No. 4FP2-12			
Test Material:	Sediment	Test Type:	28d Bioaccumulation Static Renewal
Temperature:	20 °C ± 2 °C	Photoperiod:	16L:8D
Test Chamber:	10 gal glass aquaria	No. Replicates:	5
Test Organism:	***Nereis virens***	Organism Source:	ARO
Organism Batch No.:	22-0850-Nv	Date Received:	9-15-22
Age Class:	3-15 g adults	No. Organisms/Rep:	20
Aeration:	Moderate, overnight before start of test and throughout duration of test; maintain ≥ 90% saturation of dissolved oxygen concentration	Control Sediment:	Clean Beach Sand or sediment from which the test organisms are collected
Feeding Schedule:	None	Food Type:	N/A
Water Type:	≥ 25 ppt Synthetic Seawater ± 2 ppt	Water Volume:	8-9 gal
Renewal Schedule:	48 h intervals, beginning on day 0 (min 3x per week)	Sediment Volume:	1 gal (2 gal for control sediment)

Comments:

Water Changes							
Day	0	2	4	6	8	10	12
Date	9-16-22	9-18-22	9-20-22	9-22-22	9-24-22	9-26-22	9-28-22
Time	1400	1300	1300	1430	1330	1440	1345
Initials	DRD	DRD	AOJ	DRD	DRD	AOJ	VJC/BMM
Day	14	16	18	20	22	24	26
Date	9-30-22	10-2-22	10-4-22	10-6-22	10-8-22	10-10-22	10-12-22
Time	0900	1000	1400	1200	1130	1110	1115
Initials	AOJ/VJC	DRD	AOJ	AOJ/VJC	VJC/BML	TRG	TRG

Initial Review Completed By: TRG

Final Review Completed By: TRL

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Initiation Date:	9-16-22	Termination Date:	10-14-22
Initiation Time:	1245	Termination Time:	1400
Initials:	AOS / VSC	Initials:	TRL / TM

***Nereis virens* - Survival**									
Treatment	Rep	Day 0	Day 28		Treatment	Rep	Day 0	Day28	
			1st Count	2nd Count				1st Count	2nd Count
CONT	A	20	20	20	CDP-03	A	20	12	12
	B	20	18	18		B	20	14	14
	C	20	18	18		C	20	15	15
	D	20	19	19		D	20	12	12
	E	20	18	18		E	20	14	14
CDP-REF	A	20	16	16	CDP-04	A	20	14	14
	B	20	16	16		B	20	16	16
	C	20	17	17		C	20	17	17
	D	20	17	17		D	20	18	18
	E	20	17	17		E	20	16	16
CDP-01	A	20	13	13	CDP-05	A	20	15	15
	B	20	15	15		B	20	16	16
	C	20	16	16		C	20	12	12
	D	20	13	13		D	20	13	13
	E	20	13	13		E	20	12	12
CDP-02	A	20	17	17		A			
	B	20	18	18		B			
	C	20	15	15		C			
	D	20	14	14		D			
	E	20	16	16		E			
Tech Initials		AOS/VSC	TRL	TM	Tech Initials:			TRL	TM

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Water Quality Characteristics

pH OLD/NEW															
Day	-1	0-Old	0-New	1-Old	2-Old	2-New	3-Old	4-Old	4-New	5-Old	6-Old	6-New	7-Old	8-Old	8-New
Control	8.2	8.3	8.3	8.0	8.1	8.1	8.1	8.1	8.3	7.9	8.0	8.1	8.1	8.0	8.0
CDP-REF	8.2	8.2		8.0	8.1		8.1	8.2		8.1	8.2		8.1	8.1	
CDP-01	8.2	8.2		8.1	8.1		8.2	8.2		8.1	8.2		8.1	8.3	
CDP-02	8.2	8.2		8.1	8.2		8.2	8.3		8.2	8.2		8.2	8.2	
CDP-03	8.2	8.2		8.2	8.2		8.2	8.3		8.2	8.3		8.3	8.3	
CDP-04	8.2	8.2		8.2	8.2		8.3	8.3		8.2	8.2		8.2	8.3	
CDP-05	8.2	8.2		8.2	8.3		8.3	8.3		8.1	8.1		8.1	8.2	
Meter #	737	737		737	737		737	737		737	737		737	737	
DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	8.1	8.3	8.2	8.8	8.9	8.9	8.7	9.0	9.2	8.0	8.4	8.1	8.7	8.8	8.8
CDP-REF	8.1	8.4		8.7	8.9		8.6	9.0		8.5	8.6		8.7	8.9	
CDP-01	8.1	8.5		8.6	8.8		8.7	9.0		8.6	8.7		8.8	9.0	
CDP-02	8.1	8.0		8.3	8.9		8.7	8.9		8.7	8.6		8.8	9.0	
CDP-03	8.1	7.8		8.3	8.9		8.6	9.0		8.7	8.7		8.8	9.0	
CDP-04	8.1	8.0		8.3	8.8		8.5	9.0		8.7	8.6		8.8	9.0	
CDP-05	8.1	8.3		8.3	8.8		8.6	9.0		8.6	8.6		8.9	9.0	
Meter #	YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6	
Salinity (ppt)															
Control	24	24	24	24	24	24	24	24	25	25	24	24	24	24	24
CDP-REF	24	24		25	25		25	25		25	25		25	26	
CDP-01	24	24		25	25		25	25		25	25		25	25	
CDP-02	24	24		24	24		24	25		25	25		25	28	
CDP-03	24	24		24	24		24	25		25	25		25	25	
CDP-04	24	25		25	25		24	26		25	26		26	26	
CDP-05	24	24		25	25		25	26		26	25		25	26	
Meter #	948	948		948	948		948	948		948	948		948	948	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)															
Day	-1	0-Old	0-New	1-Old	2-Old	2-New	3-Old	4-Old	4-New	5-Old	6-Old	6-New	7-Old	8-Old	8-New
Control	22	22	22	21	22	21	22	22	21	22	21	22	21	21	21
CDP-REF	22	22		21	21		22	21		22	21		21	21	
CDP-01	22	22		21	21		22	21		22	21		21	20	
CDP-02	22	22		21	21		22	21		22	21		21	20	
CDP-03	22	22		21	21		22	21		22	21		21	20	
CDP-04	22	22		21	21		22	21		22	21		21	20	
CDP-05	22	22		21	21		22	21		22	21		21	20	
Therm#	4WS	4WS		4WS	4WS		4WS	4WS		4WS	4WS		4WS	4WS	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	TRJ	AOJ SRJ		DPD	DPD		AOJ DPD	AOJ DPD		VJC	DPD		DPD	DPD	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Water Quality Characteristics

pH OLD/NEW															
Day	9-O	10-O	10-N	11-O	12-O	12-N	13-O	14-O	14-N	15-O	16-O	16-N	17-O	18-O	18-N
Control	8.0	8.1	8.1	8.2	8.0	8.0	8.0	8.1	8.2	8.1	8.2	8.2	8.2	8.1	8.1
CDP-REF	8.2	8.1		8.2	8.1		8.1	8.2		8.1	8.2		8.2	8.1	
CDP-01	8.3	8.1		8.2	8.1		8.1	8.3		8.1	8.3		8.1	8.2	
CDP-02	8.2	8.1		8.2	8.2		8.1	8.3		8.1	8.2		8.1	8.1	
CDP-03	8.2	8.2		8.3	8.2		8.2	8.3		8.2	8.3		8.2	8.1	
CDP-04	8.1	8.1		8.3	8.2		8.1	8.2		8.2	8.3		8.2	8.1	
CDP-05	8.2	8.2		8.3	8.2		8.1	8.2		8.2	8.2		8.2	8.2	
Meter #	737	737		737	737		737	737		737	737		737	737	
DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	8.9	8.9	8.8	8.9	9.0	8.6	8.9	8.6	8.6	8.9	9.0	9.0	9.2	9.0	8.7
CDP-REF	8.9	9.0		8.9	9.0		8.8	8.8		9.0	9.1		9.2	9.0	
CDP-01	9.0	9.0		8.5	9.0		9.0	8.9		9.1	9.1		9.2	9.1	
CDP-02	9.0	9.0		8.9	9.1		8.9	8.9		8.9	9.1		9.2	9.1	
CDP-03	9.0	9.0		9.0	9.1		8.9	8.9		9.0	9.1		9.1	9.1	
CDP-04	8.9	9.0		8.9	9.0		8.9	8.9		9.0	9.1		9.1	9.1	
CDP-05	8.8	9.0		8.9	8.9		8.9	8.9		9.0	9.1		9.1	9.1	
Meter #	YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6	
Salinity (ppt)															
Control	25	25	24	25	25	24	25	25	24	25	25	24	24	25	24
CDP-REF	26	25		26	25		26	26		25	25		25	25	
CDP-01	25	25		25	25		25	25		24	25		24	24	
CDP-02	25	25		25	25		25	25		24	25		24	24	
CDP-03	25	25		25	25		25	25		24	25		24	24	
CDP-04	25	25		26	26		26	26		25	25		25	25	
CDP-05	26	25		26	25		26	25		25	25		25	25	
Meter #	948	948		948	948		948	948		948	948		948	948	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)															
Day	9-O	10-O	10-N	11-O	12-O	12-N	13-O	14-O	14-N	15-O	16-O	16-N	17-O	18-O	18-N
Control	20	20	21	20	21	20	21	20	22	20	20	20	18	18	19
CDP-REF	20	20		20	20		20	20		19	20		18	18	
CDP-01	20	20		20	20		20	20		19	20		18	18	
CDP-02	20	20		20	20		20	20		19	20		18	18	
CDP-03	20	20		20	20		20	20		20	20		18	19	
CDP-04	20	20		21	21		20	20		20	20		19	18	
CDP-05	20	20		20	20		20	20		20	20		19	18	
Therm#	T-152	4WS		4WS	4WS		T-152	T-152		4WS	4WS		4WS	4WS	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	PPD/KRI	ABH/AOJ		VJC/AOJ	ABH/VJC		PPD/KRI	AOJ/KRI		KRI/VJC	PPD		AOJ/KRI	ABH/AOJ	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Water Quality Characteristics

pH OLD/NEW															
Day	19-O	20-O	20-N	21-O	22-O	22-N	23-O	24-O	24-N	25-O	26-O	26-N	27-O	28-O	28-N
Control	7.9	8.1	8.1	8.0	8.1	8.1	8.2	8.0	8.1	8.1	8.0	8.1	8.0	8.0	8.1
CDP-REF	8.0	8.1		8.1	8.2		8.2	8.0		8.1	8.1		8.0	8.0	
CDP-01	8.0	8.1		8.1	8.2		8.2	8.1		8.1	8.1		8.0	8.1	
CDP-02	8.0	8.1		8.1	8.1		8.1	8.1		8.1	8.1		8.0	8.0	
CDP-03	8.0	8.2		8.1	8.2		8.2	8.0		8.0	8.1		8.0	8.0	
CDP-04	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.1		8.0	8.0	
CDP-05	8.1	8.1		8.1	8.2		8.2	8.1		7.9	8.1		8.0	8.0	
Meter #	737	737		737	737		737	737		737	737		737	737	
DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	9.1	9.0	8.7	9.3	9.1	9.0	9.2	8.9	8.9	9.0	9.0	8.9	8.9	8.8	8.9
CDP-REF	9.1	9.1		9.3	9.2		9.2	8.7		9.0	9.0		9.0	8.9	
CDP-01	9.1	9.1		9.3	9.3		9.2	8.7		9.1	9.1		9.0	8.8	
CDP-02	9.0	9.1		9.3	9.3		9.1	8.9		9.1	9.0		9.0	8.9	
CDP-03	8.9	9.0		9.3	9.3		9.1	8.7		8.7	9.0		9.0	8.9	
CDP-04	9.0	9.1		9.3	9.3		9.1	8.7		8.6	9.0		9.0	8.8	
CDP-05	9.0	9.1		9.3	9.3		9.1	8.9		8.7	9.0		9.0	8.8	
Meter #	YS16	YS16		YS16	YS16		YS16	YS16		YS16	YS16		YS16	YS16	
Salinity (ppt)															
Control	25	25	24	24	24	24	24	24	24	24	25	25	25	25	25
CDP-REF	25	25		25	24		25	24		25	25		25	25	
CDP-01	24	24		25	25		25	24		25	25		25	25	
CDP-02	24	24		25	25		25	25		25	25		25	25	
CDP-03	24	24		25	25		25	25		25	25		25	25	
CDP-04	25	25		25	25		25	25		25	25		25	25	
CDP-05	25	25		25	25		25	25		25	25		25	25	
Meter # ①	~~4W5~~	948		948	948		948	948		948	948		948	948	

① IE ADJ 10-5-22 → [948]

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)															
Day	19-O	20-O	20-N	21-O	22-O	22-N	23-O	24-O	24-N	25-O	26-O	26-N	27-O	28-O	28-N
Control	19	21	21	20	20	22	21	20	22	21	20	20	19	20	20
CDP-REF	19	21		19	19		21	20		21	20		19	20	
CDP-01	19	21		20	19		21	20		21	21		19	20	
CDP-02	19	21		20	19		21	20		21	21		20	20	
CDP-03	19	21		20	19		21	20		21	21		19	20	
CDP-04	19	21		20	19		20	20		21	21		19	20	
CDP-05	19	21		20	20		20	20		21	21		19	20	
Therm#	4WS	8384		8384	8384		8384	8384		8384	8384		8384	8384	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	AOJ	VJC		VJC	VJC / Bim R		PPD	AOJ		VJC / AOJ	VJC		AOJ	[illegible]	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	W.O #:	22G0514

Daily Water Quality Characteristics

Ammonia - Old/New															
Day	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Cont-O	.001	.001													
CDP-REF		.014													
CDP-01		.032													
CDP-02		.009													
CDP-03		.009													
CDP-04		.013													
CDP-05		.021													
Cont-N															
Date	9/15	9/16													
Time	1400														
Initials	TRL	TRL													
Meter #	566	566													
Day	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Cont-O															0.001
CDP-REF															0.009
CDP-01															0.004
CDP-02															0.003
CDP-03															0.009
CDP-04															0.014
CDP-05															0.016
Cont-N															0.001
Date															10/14
Time															0800
Initials															TRL
Meter #	566														566

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Tissue Weight - *N. virens*

Treatment/Site (%)	REP	TOTAL WT (g)	Treatment/Site (%)	REP	TOTAL WT (g)
ARCHIVES	A	60.1	CDP-05	A	54.2
	B	58.8		B	51.4
	C	82.5		C	65.9
	D	61.7		D	55.5
	E	70.2		E	44.8
CDP-REF	A	84.3	CONTROL	A	75.8
	B	96.8		B	84.2
	C	61.2		C	64.6
	D	91.3		D	89.0
	E	86.8		E	66.2
CDP-01	A	44.2		A	
	B	43.5		B	
	C	49.1		C	
	D	40.4		D	
	E	45.6		E	
CDP-02	A	61.3			
	B	68.1			
	C	56.0			
	D	71.8			
	E	51.9			
CDP-03	A	48.5			
	B	49.2			
	C	45.0			
	D	43.4			
	E	55.4			
CDP-04	A	84.6			
	B	65.8			
	C	68.1			
	D	81.2			
	E	72.2			

DATE	11-8-22
TIME	1200
BALANCE ID#	296
INITIALS	TRL

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Mercenaria mercenaria 28d Test Condition Summary - ASTM E 1688; NWDLS SOP No. 4CB-113			
Test Material:	Sediment	Test Type:	28d Bioaccumulation Static Renewal
Temperature:	12 - 16 °C	Photoperiod:	16L:8D
Test Chamber:	10 gal glass aquaria	No. Replicates:	5
Test Organism:	***Mercenaria mercenaria***	Organism Source:	ARO
Organism Batch No.:	22-0850-Mm	Date Received:	9-14-22
Age Class:	mixed ages	No. Organisms/Rep:	25
Aeration:	Moderate, overnight before start of test and throughout duration of test; maintain ≥ 90% saturation of dissolved oxygen concentration	Control Sediment:	Clean Beach Sand or sediment from which the test organisms are collected
Feeding Schedule:	None	Food Type:	N/A
Water Type:	≥ 25 ppt Synthetic Seawater ± 2 ppt	Water Volume:	8-9 gal
Renewal Schedule:	48 h intervals, beginning on day 0 (min 3x per week)	Sediment Volume:	1 gal (2 gal for control sediment)

Comments:

Water Changes							
Day	0	2	4	6	8	10	12
Date	9-16-22	9-18-22	9-20-22	9-22-22	9-24-22	9-26-22	9-28-22
Time	1200	1100	1100	1500	1400	1400	1445
Initials	AOJ / VJC	DPO	AOJ	DPO	DPO	AOJ	VJC
Day	14	16	18	20	22	24	26
Date	9-30-22	10-2-22	10-4-22	10-6-22	10-8-22	10-10-22	10-12-22
Time	0930	1100	1130	1100	1215	1000	1015
Initials	AOJ / KRI	DPO	AOJ	VJC	VJC / BMR	TRL	TRL

Initial Review Completed By: TRL

Final Review Completed By: TRL

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Initiation Date:	9-16-22	Termination Date:	10-14-22
Initiation Time:	1200	Termination Time:	1130
Initials:	AOT / MLL	Initials:	MLL / MLL

Mercenaria mercenaria - Survival

Treatment	Rep	Day 0	Day 28 1st Count	Day 28 2nd Count	Treatment	Rep	Day 0	Day28 1st Count	Day28 2nd Count
CONT	A	20	14	14	CDP-03	A	20	~~14~~ ①	17
	B	20	11	11		B	20	~~17~~ ②	16
	C	20	16	16		C	20	17	17
	D	20	18	18		D	20	14	14
	E	20	16	16		E	20	14	14
CDP-REF	A	20	14	14	CDP-04	A	20	16	16
	B	20	12	12		B	20	17	17
	C	20	14	14		C	20	17	17
	D	20	15	15		D	20	16	16
	E	20	15	15		E	20	15	15
CDP-01	A	20	12	12	CDP-05	A	20	18	18
	B	20	16	16		B	20	18	18
	C	20	15	15		C	20	19	19
	D	20	14	14		D	20	15	15
	E	20	13	13		E	20	17	17
CDP-02	A	20	15	15		A			
	B	20	14	14		B			
	C	20	17	17		C			
	D	20	16	16		D			
	E	20	18	18		E			
Tech Initials		AOT/MLL	MLL	MLL	Tech Initials:		AOT/MLL	MLL	

① IE MLL 10-14-22 → [17]

② IE MLL 10-14-22 → [16]

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	W.O.#:	22G0514

Daily Water Quality Characteristics

pH OLD/NEW															
Day	-1	0-Old	0-New	1-Old	2-Old	2-New	3-Old	4-Old	4-New	5-Old	6-Old	6-New	7-Old	8-Old	8-New
Control	8.2	8.2	8.3	8.2	8.2	8.3	8.1	8.2	8.3	8.0	8.3	8.2	8.1	8.1	8.2
CDP-REF	8.2	8.2		8.2	8.2		8.0	8.1		8.0	8.1		8.2	8.2	
CDP-01	8.2	8.2		8.2	8.2		8.1	8.0		8.0	8.0		8.1	8.1	
CDP-02	8.2	8.2		8.2	8.2		8.1	8.0		8.1	8.1		8.2	8.2	
CDP-03	8.2	8.1		8.2	8.3		8.2	8.1		8.1	8.0		8.1	8.2	
CDP-04	8.2	8.2		8.2	8.3		8.1	8.1		8.1	8.0		8.1	8.2	
CDP-05	8.2	8.2		8.3	8.3		8.0	8.2		8.1	8.1		8.2	8.2	
Meter #	737	737		737	737		737	737		737	737		737	737	
DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	8.4	8.9	8.4	9.5	9.6	9.3	9.3	9.1	9.2	9.5	9.2	8.9	9.8	9.6	9.5
CDP-REF	8.4	9.0		9.4	9.7		9.4	9.7		9.5	9.4		9.8	9.8	
CDP-01	8.4	8.8		9.4	9.6		9.3	9.1		9.6	9.3		9.8	9.9	
CDP-02	8.4	8.9		9.4	9.5		9.4	9.0		9.6	9.3		9.8	9.8	
CDP-03	8.4	8.8		9.4	9.6		9.5	9.0		9.6	9.5		9.9	9.9	
CDP-04	8.4	8.8		9.5	9.7		9.6	9.4		9.6	9.4		9.9	9.8	
CDP-05	8.4	8.9		9.7	9.7		9.5	9.6		9.7	9.5		9.9	9.9	
Meter #	YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6	
Salinity (ppt)															
Control	24	24	25	24	24	24	24	25	25	25	~~25~~	25	24	25	25
CDP-REF	24	24		25	25		25	25		25	26		26	26	
CDP-01	24	24		24	25		25	25		25	25		25	26	
CDP-02	24	24		24	25		25	25		25	26		26	26	
CDP-03	24	24		25	25		25	25		25	25		25	25	
CDP-04	24	24		25	25		25	25		26	26		26	26	
CDP-05	24	24		25	25		25	26		26	26		26	26	
Meter #	948	948		948	948		948	948		948	948		948	948	

OTE DRD 9-22-22 → [25]

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)

Day	-1	0-Old	0-New	1-Old	2-Old	2-New	3-Old	4-Old	4-New	5-Old	6-Old	6-New	7-Old	8-Old	8-New
Control	16	16	16	16	16	16	16	16	16	15	16	17	16	16	17
CDP-REF	16	16		16	16		16	16		15	16		15	16	
CDP-01	16	16		16	16		16	16		15	16		15	16	
CDP-02	16	16		16	16		16	16		16	16		15	15	
CDP-03	16	16		16	16		16	16		16	16		15	15	
CDP-04	16	16		16	16		16	16		16	16		15	15	
CDP-05	16	16		16	16		16	16		16	15		15	15	
Therm#	4WS	4WS		4WS	4WS		4WS	4WS		4WS	4WS		4WS	4WS	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	M	ADJ / ABH		DPD	DPD		ADJ / DPD	ADJ / NDH		WC / ADJ	DPD		DPD	DPD	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Water Quality Characteristics

pH OLD/NEW															
Day	9-O	10-O	10-N	11-O	12-O	12-N	13-O	14-O	14-N	15-O	16-O	16-N	17-O	18-0	18-N
Control	8.0	8.1	8.1	8.1	8.1	8.2	8.1	8.2	8.2	8.1	8.4	8.3	8.1	8.0	7.8
CDP-REF	8.2	8.1		8.2	8.2		8.1	8.2		8.2	8.4		8.2	8.1	
CDP-01	8.2	8.1		8.2	8.2		8.1	8.3		8.2	8.3		8.2	8.1	
CDP-02	8.1	8.1		8.2	8.2		8.2	8.3		8.1	8.3		8.2	8.1	
CDP-03	8.2	8.2		8.2	8.2		8.2	8.3		8.1	8.3		8.2	8.2	
CDP-04	8.2	8.1		8.2	8.2		8.2	8.2		8.2	8.3		8.2	8.2	
CDP-05	8.2	8.2		8.2	8.2		8.2	8.2		8.2	8.3		8.2	8.2	
Meter #	737	737		737	737		737	737		737	737		737	737	
DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	9.8	9.5	9.4	9.9	10.0	9.5	9.6	9.7	9.7	9.6	9.9	9.8	9.8	9.0	9.6
CDP-REF	9.9	9.9		9.9	10.1		9.6	9.8		9.7	9.9		9.9	9.7	
CDP-01	9.8	10.0		9.9	10.1		9.7	9.8		9.8	9.9		9.8	9.7	
CDP-02	9.8	9.9		10.0	10.1		9.7	9.9		9.8	9.9		9.8	9.8	
CDP-03	9.8	9.9		10.0	10.1		9.7	9.8		9.8	9.9		9.9	9.8	
CDP-04	9.9	9.9		10.0	10.1		9.8	9.8		9.8	9.9		9.9	9.8	
CDP-05	10.0	9.8		10.0	10.1		9.8	9.8		9.7	10.1		9.9	9.8	
Meter #	YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6		YSI6	YSI6	
Salinity (ppt)															
Control	25	26	25	25	25	25	25	26	25	24	25	24	25	24	23
CDP-REF	26	26		26	26		26	26		25	25		25	24	
CDP-01	25	25		26	26		26	26		25	25		25	25	
CDP-02	25	26		26	26		26	26		25	26		25	26	
CDP-03	25	25		26	26		26	26		25	25		25	25	
CDP-04	26	26		26	26		26	26		25	25		25	25	
CDP-05	26	26		26	26		26	26		26	26		25	25	
Meter #	948	948		948	948		948	948		948	948		948	948	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)

Day	9-O	10-O	10-N	11-O	12-O	12-N	13-O	14-O	14-N	15-O	16-O	16-N	17-O	18-0	18-N
Control	15	16	16	14	14	17	17	15	15	15	17	17	16	16	16
CDP-REF	15	16		14	14		16	15		14	16		16	16	
CDP-01	15	16		14	14		16	15		14	16		16	16	
CDP-02	15	16		14	14		16	15		15	16		15	16	
CDP-03	15	16		14	14		16	15		14	16		16	16	
CDP-04	15	16		14	13		16	15		15	16		16	16	
CDP-05	16	16		14	13		16	15		15	16		16	16	
Therm#	T-153	4WS		4WS	4WS		T-153	T-153		4WS	4WS		4WS	4WS	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	DPD	ABH / AOJ		VJC	BHM / VJC		DPD/BMF	AOJ / KRI		KRI / VJC	DPD		AOJ / KRI	ABH / AOJ	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

pH OLD/NEW															
Day	19-O	20-O	20-N	21-O	22-O	22-N	23-O	24-O	24-N	25-O	26-O	26-N	27-O	28-O	28-N
Control	8.1	8.1	8.0	8.1	8.2	8.1	8.2	8.2	8.2	7.9	8.1	8.2	8.1	8.1	8.1
CDP-REF	8.1	8.1		8.1	8.2		8.2	8.2		8.1	8.1		8.1	8.1	
CDP-01	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.0		8.1	8.1	
CDP-02	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.0		8.1	8.1	
CDP-03	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.1		8.1	8.0	
CDP-04	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.1		8.1	8.1	
CDP-05	8.1	8.1		8.1	8.2		8.2	8.1		8.1	8.1		8.1	8.1	
Meter #	737	737		737	737		737	737		737	737		737	737	

DISSOLVED OXYGEN (mg/L) OLD/NEW															
Control	9.8	9.9	9.5	10.1	10.0	10.0	9.9	9.8	9.2	8.6	9.8	8.9	9.8	9.6	9.0
CDP-REF	9.9	9.9		10.2	10.1		9.9	9.7		9.4	9.9		9.8	9.6	
CDP-01	9.9	9.9		10.2	10.2		10.0	9.7		9.6	9.9		9.8	9.6	
CDP-02	9.9	9.9		10.2	10.2		10.0	9.7		9.6	9.9		9.8	9.5	
CDP-03	10.0	9.9		10.2	10.2		9.9	9.7		9.7	9.9		9.8	9.6	
CDP-04	10.0	9.9		10.2	10.2		10.0	9.7		9.7	9.9		9.8	9.7	
CDP-05	10.0	10.0		10.2	10.2		10.0	9.7		9.8	9.9		9.8	9.7	
Meter #	YS16	YS16		YS16	YS16		YS16	YS16		YS16	YS16		YS16	YS16	

Salinity (ppt)															
Control	25	24	24	25	25	24	24	26	25	25	25	25	25	25	25
CDP-REF	25	25		25	25		25	26		25	25		25	25	
CDP-01	25	25		25	25		25	26		25	25		25	25	
CDP-02	25	25		25	25		25	26		25	25		25	25	
CDP-03	25	25		25	25		25	26		25	25		25	25	
CDP-04	25	25		25	25		25	26		25	25		25	25	
CDP-05	25	26		25	25		25	26		25	25		25	25	
Meter #	948	948		948	948		948	948		948	948		948	948	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

TEMPERATURE (°C) OLD/NEW (Actual / Corrected)															
Day	19-O	20-O	20-N	21-O	22-O	22-N	23-O	24-O	24-N	25-O	26-O	26-N	27-O	28-O	28-N
Control	15	15	16	16	15	16	17	16	16	16	15	16	14	15	15
CDP-REF	15	15		15	15		17	16		16	15		15	15	
CDP-01	15	15		15	15		17	16		16	15		15	15	
CDP-02	16	15		16	15		17	16		16	15		15	15	
CDP-03	16	15		15	15		17	16		15	15		14	15	
CDP-04	16	15		15	15		17	16		15	15		14	15	
CDP-05	15	14		16	15		17	16		15	15		14	15	
Therm#	4WS	4WS		8384	8384		8384	8384		8384	8384		8384	8384	
Offset#	0	0		0	0		0	0		0	0		0	0	
Initials	AOJ	VJC BMR		AOJ / VJC	VJC		DPO	AOJ		VJC / AOJ	VJC		VJC / AOJ	TRJ	

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Water Quality Characteristics

Ammonia - Old/New

Day	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Cont-O	0.001	.001													
CDP-REF		.014													
CDP-01		.029													
CDP-02		.006													
CDP-03		.003													
CDP-04		.009													
CDP-05		.014													
Cont-N															
Date	9/15	9/16													
Time	1400														
Initials	TR	MR													
Meter #	566	566													

Day	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Cont-O															.001
CDP-REF															.006
CDP-01															.020
CDP-02															.002
CDP-03															.004
CDP-04															.006
CDP-05															.008
Cont-N															.001
Date															10/14
Time															0700
Initials															TMR
Meter #															566

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Tissue Weight - *M. mercenaria*

Treatment/Site (%)	REP	TOTAL WT (g)	Treatment/Site (%)	REP	TOTAL WT (g)
ARCHIVES	A	210.8	CDP-05	A	186.1
	B	228.3		B	164.4
	C	228.6		C	206.6
	D	167.3		D	154.3
	E	161.2		E	189.8
CDP-REF	A	143.1	CONTROL	A	142.7
	B	129.0		B	122.5
	C	162.8		C	180.8
	D	138.6		D	165.1
	E	109.2		E	171.4
CDP-01	A	175.5		A	
	B	236.1		B	
	C	227.4		C	
	D	228.2		D	
	E	153.5		E	
CDP-02	A	218.6			
	B	207.8			
	C	237.9			
	D	217.5			
	E	243.7			
CDP-03	A	187.2			
	B	163.8			
	C	143.8			
	D	148.2			
	E	111.6			
CDP-04	A	152.2			
	B	161.4			
	C	179.9			
	D	168.2			
	E	133.8			

DATE	11-8-22
TIME	1400
BALANCE ID#	296
INITIALS	TRG

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Leptocheirus plumulosus 10d Test Condition Summary - ASTM E 1367; NWDLS SOP No. 4151			
Test Material:	Sediment	Test Type:	10d Whole Sediment
Temperature:	20 °C ± 2 °C	Photoperiod:	24L:0D
Test Chamber:	1L glass beaker	No. Replicates:	5
Test Organism:	***Leptocheirus plumulosus***	Organism Source:	ARO
Organism Batch No.:	22-0838-Lp	Date Received:	9-8-22
Age Class:	3-5 mm	No. Organisms/Rep:	20
Aeration:	Aerate water in each chamber overnight before start of test, and throughout test, at rate that maintains ≥40% saturation of dissolved oxygen concentration	Control Sediment:	control sediment from supplier
Feeding Schedule:	None	Food Type:	N/A
Water Type:	25 ppt Synthetic seawater ± 2 ppt	Water Volume:	800 mL
Renewal Schedule:	Project specific	Sediment Volume:	~175 - 200 mL (2cm depth)

Comments:

Final Review Completed By: mh

Initial Review Completed By: mh

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Initiation Date:	9-12-22	Termination Date:	9-22-22
Initiation Time:	1100	Termination Time:	1000
Initials:	LBU / TRG	Initials	TRG

***Leptocheirus plumulosus* - Survival**									
Treatment	Rep	Day 0	Day 10		Treatment	Rep	Day 0	Day10	
			1st Count	2nd Count				1st Count	2nd Count
CONTROL	A	20	19	19	CDP-03	A	20	16	16
	B	20	20	20		B	20	16	16
	C	20	20	20		C	20	17	17
	D	20	19	19		D	20	18	18
	E	20	20	20		E	20	18	18
CDP-REF	A	20	16	16	CDP-04	A	20	20	20
	B	20	20	20		B	20	18	18
	C	20	19	19		C	20	17	17
	D	20	18	18		D	20	20	20
	E	20	20	20		E	20	16	16
CDP-01	A	20	19	19	CDP-05	A	20	18	18
	B	20	18	18		B	20	18	18
	C	20	20	20		C	20	19	19
	D	20	15	15		D	20	16	16
	E	20	17	17		E	20	17	17
CDP-02	A	20	18	18		A			
	B	20	19	19		B			
	C	20	20	20		C			
	D	20	18	18		D			
	E	20	19	19		E			
Tech Initials		LBU	TRG	TRG 1400	Tech Initials:		LBU	TRG	TRG 1405

Final Review Completed By: TRL

Initial Review Completed By: TRG

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Observations

Treatment / Site	Rep.	Day 0	1	2	3	4	5	6	7	8	9	10
CONTROL	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDP-REF	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDP-01	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDP-02	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDP-03	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Technician Initials:		AOJ	AOJ	AOJ	VJC	DRD	DRD	DRD	AOJ	AOJ	AOJ	TRL

Key: E = Emergent
D = Dead
✓ = All organisms burrowed

Final Review Completed By: TRL

Initial Review Completed By: TRL

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Daily Observations

Treatment / Site	Rep.	Day 0	1	2	3	4	5	6	7	8	9	10
CDP-04	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDP-05	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	A											
	B											
	C											
	D											
	E											
	A											
	B											
	C											
	D											
	E											
	A											
	B											
	C											
	D											
	E											
Technician Initials:		AOJ	AOJ	V	VJC	DPD	DPD	DPD	AOJ	AOJ	AOJ	TCL

Key: E = Emergent
D = Dead
✓ = All organisms burrowed

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-11-22	CONTROL - NEW Day -1	21	8.0	8.3	25	0.001	AOJ
9-12-22	CONTROL - NEW Day 0	21	8.3	8.8	24	0.001	AOJ/DPD
	CONTROL - OLD Day 0	21	8.1	8.5	25	0.003	
	CDP-REF Day 0	21	8.2	8.8	25	0.003	
	CDP-01 Day 0	21	8.1	8.8	25	0.004	
	CDP-02 Day 0	21	8.1	8.8	25	0.005	
	CDP-03 Day 0	21	8.1	8.8	25	0.004	
	CDP-04 Day 0	21	8.1	8.8	25	0.006	
	CDP-05 Day 0	21	8.1	8.9	25	0.004	
	Day 0						
9-13-22	CONTROL Day 1	21	7.9	8.7	24	0.002	AOJ
	CDP-REF Day 1	21	8.0	8.8	25	0.002	
	CDP-01 Day 1	21	8.1	8.8	25	0.002	
	CDP-02 Day 1	21	8.1	8.8	25	0.002	
	CDP-03 Day 1	21	8.2	8.8	25	0.004	
	CDP-04 Day 1	21	8.2	8.8	25	0.002	
	CDP-05 Day 1	21	8.2	8.8	25	0.003	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 566

Final Review Completed By: mh

Initial Review Completed By: m

QAU Form # 3340

10 d L. plumulosus Whole Sediment 5 of 10

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-14-22	CONTROL - NEW Day 2	21	8.1	7.5	24	0.001	AOJ/Bem
	CONTROL - OLD Day 2	21	8.1	8.0	24	0.003	
	CDP-REF Day 2	21	8.1	8.3	25	0.003	
	CDP-01 Day 2	21	8.2	8.5	25	0.003	
	CDP-02 Day 2	21	8.1	8.5	25	0.002	
	CDP-03 Day 2	21	8.2	8.5	25	0.003	
	CDP-04 Day 2	21	8.2	8.5	25	0.002	
	CDP-05 Day 2	21	8.2	8.6	26	0.004	
9-15-22	CONTROL Day 3	22	8.0	8.6	24	0.002	VJC/BMR
	CDP-REF Day 3	22	8.2	8.5	25	0.001	
	CDP-01 Day 3	22	8.2	8.6	25	0.001	
	CDP-02 Day 3	22	8.2	8.6	25	0.001	
	CDP-03 Day 3	22	8.2	8.7	24	0.001	
	CDP-04 Day 3	22	8.2	8.7	25	0.001	
	CDP-05 Day 3	22	8.2	8.6	25	0.002	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 506

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-16-22	CONTROL - NEW Day 4	21	7.7	8.7	24	0.001	[illegible] /DPO
	CONTROL - OLD Day 4	21	8.1	8.6	24	0.002	
	CDP-REF Day 4	21	8.3	8.6	25	0.002	
	CDP-01 Day 4	21	8.2	8.6	25	0.002	
	CDP-02 Day 4	21	8.2	8.6	25	0.002	
	CDP-03 Day 4	21	8.2	8.6	24	0.002	
	CDP-04 Day 4	21	8.2	8.6	25	0.002	
	CDP-05 Day 4	21	8.2	8.6	26	0.003	
9-17-22	CONTROL Day 5	21	8.1	8.4	24	0.001	DPP
	CDP-REF Day 5	21	8.4	8.5	25	0.001	
	CDP-01 Day 5	21	8.4	8.5	25	0.001	
	CDP-02 Day 5	21	8.3	8.5	25	0.001	
	CDP-03 Day 5	21	8.3	8.5	25	0.001	
	CDP-04 Day 5	21	8.3	8.5	25	0.001	
	CDP-05 Day 5	21	8.3	8.7	26	0.002	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 561

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-18-22	CONTROL - NEW Day 6	21	8.1	8.9	24	0.001	DPD/KRS
	CONTROL - OLD Day 6	21	8.2	8.8	24	0.002	
	CDP-REF Day 6	21	8.3	8.8	25	0.002	
	CDP-01 Day 6	21	8.4	8.9	25	0.002	
	CDP-02 Day 6	21	8.3	8.9	25	0.002	
	CDP-03 Day 6	21	8.3	8.9	24	0.002	
	CDP-04 Day 6	21	8.3	8.9	25	0.002	
	CDP-05 Day 6	21	8.3	8.9	26	0.003	
9-19-22	CONTROL Day 7	21	8.1	8.8	24	0.001	AOJ/DPD
	CDP-REF Day 7	21	8.3	8.7	24	0.001	
	CDP-01 Day 7	21	8.3	8.8	24	0.001	
	CDP-02 Day 7	21	8.2	8.8	24	0.001	
	CDP-03 Day 7	21	8.2	8.8	24	0.001	
	CDP-04 Day 7	21	8.2	8.8	24	0.001	
	CDP-05 Day 7	21	8.2	8.8	24	0.002	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 566

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-20-22	CONTROL - NEW Day 8	21	8.3	9.2	25	0.001	AOJ / WCH
	CONTROL - OLD Day 8	21	8.2	8.8	24	0.002	
	CDP-REF Day 8	21	8.4	8.8	25	0.002	
	CDP-01 Day 8	21	8.4	8.8	25	0.002	
	CDP-02 Day 8	21	8.3	8.8	25	0.002	
	CDP-03 Day 8	21	8.3	8.9	24	0.002	
	CDP-04 Day 8	21	8.3	8.8	25	0.001	
	CDP-05 Day 8	21	8.2	8.9	25	0.002	
9-21-22	CONTROL - NEW Day 9	22	8.0	8.7	24	0.001	VJC/AOJ
	CDP-REF Day 9	22	8.2	8.7	24	0.001	
	CDP-01 Day 9	22	8.2	8.7	24	0.001	
	CDP-02 Day 9	22	8.2	8.6	24	0.001	
	CDP-03 Day 9	22	8.1	8.6	24	0.001	
	CDP-04 Day 9	22	8.1	8.4	24	0.001	
	CDP-05 Day 9	22	8.1	8.5	25	0.001	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 564

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D L. Plumulosus

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
11-22-22	CONTROL - OLD Day 10	21	8.2	8.8	24	0.002	TCL
	CDP-REF Day 10	21	8.2	8.8	24	0.002	
	CDP-01 Day 10	21	8.2	8.7	24	0.002	
	CDP-02 Day 10	21	8.2	8.7	24	0.002	
	CDP-03 Day 10	21	8.1	8.6	24	0.002	
	CDP-04 Day 10	21	8.2	8.6	25	0.002	
	CDP-05 Day 10	21	8.2	8.4	25	0.002	

Comments:

Thermometer #: 973

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI L

Ammonia meter #: 56L

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Mysidopsis bahia 10d Test Condition Summary - EPA 832 B-98 004 ; NWDLS SOP No. 4026			
Test Material:	Sediment	Test Type:	10d Whole Sediment
Temperature:	20 ± 2 °C	Photoperiod:	16L:8D
Test Chamber:	1L glass beaker	No. Replicates:	5
Test Organism:	***Mysidopsis bahia***	Organism Source:	NWDLS
Organism Batch No.:	22-0838-ML	DOB/Age:	9-7-22 15 Days
Age Class:	1-5 days old	No. Organisms/Rep:	20
Aeration:	Aerate water in each chamber overnight before start of test, and throughout test, at rate that maintains ≥40% saturation of dissolved oxygen concentration	Control Sediment:	Clean beach sand
Feeding Schedule:	Twice daily (AM and PM)	Food Type:	2 drops of Artemia nauplii per feeding
Water Type:	25 ppt ± 2 ppt Synthetic seawater	Water Volume:	800 mL
Renewal Schedule:	Project specific	Sediment Volume:	~175 (2cm depth)

Comments:

Daily Feeds

Day	0	1		2		3		4		5		6		7		8		9		10
Hour	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM
Date	9/12	9/13		9/14		9/15		9-16		9-17		9-18		9-19		9-20		9-21		9/22
Time	1621	0827	1543	0812	1544	0817	1621	0955	1541	0813	1455	0815	1456	0806	1528	0805	1538	0758	1555	0815
Initials	AB	SKW	AD	AB	DB	SKW	KRO	AOJ	AM	KRO	KRO	KRO	KRO	SKW	AB	SKW	SKW	SKW	AB	TRG

Water Renewals

Day	0	2	4	6	8
Date	9-12-22	9-14-22	9-16-22	9-18-22	9-20-22
Time	1100	1200	1200	1200	1100
Initials	AOJ	AOJ / TRG	DPO	DPO	AOJ

Final Review Completed By: TRG

Initial Review Completed By: TRG

QAU Form # 3350

10 d M. bahia Whole Sediment 1 of 10

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Initiation Date:	9-12-22	Termination Date:	9-22-22
Initiation Time:	1200	Termination Time:	1200
Initials:	ISR / AOJ	Initials	TRG / TRG

***Mysidopsis bahia* - Survival**							
Treatment	Replicate	Day 0	Day 10	Treatment	Replicate	Day 0	Day 10
CONTROL	A	20	19	CDP-03	A	20	18
	B	20	18		B	20	18
	C	20	19		C	20	18
	D	20	20		D	20	14
	E	20	20		E	20	19
CDP-REF	A	20	20	CDP-04	A	20	19
	B	20	20		B	20	20
	C	20	20		C	20	20
	D	20	20		D	20	19
	E	20	19		E	20	20
CDP-01	A	20	18	CDP-05	A	20	20
	B	20	20		B	20	18
	C	20	20		C	20	20
	D	20	20		D	20	19
	E	20	20		E	20	15
CDP-02	A	20	19		A		
	B	20	20		B		
	C	20	19		C		
	D	20	20		D		
	E	20	17		E		
Technician Initials				Technician Initials			

Client / Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

Dry Tissue Weight - *Mysidopis bahia*

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
CONT.	A	1 *	.00460	.01042
	B	2	.00466	.01040
	C	3	.00447	.01085
	D	4	.00478	.01135
	E	5	.00442	.01098
CDP-REF	A	6	.00463	.01183
	B	7	.00454	.01112
	C	8	.00473	.01125
	D	9	.00444	.01146
	E	10	.00455	.01148
CDP-01	A	11	.00475	.01029
	B	12	.00443	.01145
	C	13	.00447	.01143
	D	14	.00406	.01053
	E	15 *	.00431	.01099
CDP-02	A	16	.00407	.01135
	B	17	.00394	.01039
	C	18	.00394	.01018
	D	19	.00394	.01167
	E	20	.00427	.01090
CDP-03	A	21	.00418	.00997
	B	22	.00419	.01016
	C	23	.00428	.01040
	D	24	.00414	.00895
	E	25	.00431	.01038

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
CDP-04	A	26	.00460	.01110
	B	27 *	.00471	.01061
	C	28	.00470	.01074
	D	29	.00455	.01026
	E	30	.00455	.01086
QA/QC (pans)		1	.00461	.01044
		15	.00432	.01102
		27	.00472	.01063
		33	.00442	.01014

BALANCE ID#	852
BALANCE VERIFICATION INITIALS	DPD
DATE /TARE WEIGHT INITIALS	9-12-22 / DPD
DATE DRYING INITIATED	9-22-22
TIME DRYING INITIATED	1300
OVEN TEMPERATURE (°C)	103/103
INITIALS	TRL
DATE/ TIME DRYING TERMINATED	9-23-22
OVEN TEMPERATURE (°C)	105/105
BALANCE VERIFICATION INITIALS	DPD
TOTAL WEIGHT DATE/ INITIALS	9-26-22 / DPD

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

Client / Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
CDP-05	A	31	.00519	.01090
	B	32	.00415	.00983
	C	33 *	.00402	.01015
	D	34	.00525	.01113
	E	35	.00440	.00808
	A	36		
	B	37		
	C	38		
	D	39		
	E	40		
	A			
	B			
	C			
	D			
	E			
	A			
	B			
	C			
	D			
	E			
	A			
	B			
	C			
	D			
	E			

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
	A			
	B			
	C			
	D			
	E			
QA/QC (pans)				

BALANCE ID#	852
BALANCE VERIFICATION INITIALS	DPD
DATE /TARE WEIGHT INITIALS	9-12-22 / DPD
DATE DRYING INITIATED	9-22-22
TIME DRYING INITIATED	1300
OVEN TEMPERATURE (°C)	103 / 103
INITIALS	TRG
DATE DRYING TERMINATED	9-23-22
OVEN TEMPERATURE (°C)	105 / 105
BALANCE VERIFICATION INITIALS	DPD
TOTAL WEIGHT DATE/ INITIALS	9-26-22 / DPD

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9.11-22	CONTROL - NEW Day -1	21	8.0	8.3	25	0.001	AOJ
9-12-22	CONTROL - NEW Day 0	21	8.0	8.8	25	0.001	AOJ / DBM
	CONTROL - OLD Day 0	21	8.0	8.7	25	0.003	
	CDP-REF Day 0	21	8.0	8.8	25	0.004	
	CDP-01 Day 0	21	8.0	8.7	25	0.002	
	CDP-02 Day 0	21	8.0	8.5	25	0.003	
	CDP-03 Day 0	21	8.1	8.4	25	0.002	
	CDP-04 Day 0	21	8.0	8.3	25	0.006	
	CDP-05 Day 0	21	8.0	8.3	25	0.004	
9-13-22	CONTROL Day 1	21	8.0	8.5	24	0.002	AOJ
	CDP-REF Day 1	21	8.0	8.2	25	0.002	
	CDP-01 Day 1	21	8.1	8.3	25	0.002	
	CDP-02 Day 1	21	8.1	8.4	25	0.002	
	CDP-03 Day 1	21	8.2	8.3	25	0.002	
	CDP-04 Day 1	21	8.2	8.4	25	0.002	
	CDP-05 Day 1	21	8.2	8.5	25	0.004	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 566

QAU Form # 3350

10 d M. Bahia Whole Sediment 5 of 10

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-14-22	CONTROL - NEW Day 2	21	8.1	7.5	24	0.001	AOJ/BRM
	CONTROL - OLD Day 2	21	7.9	8.5	24	0.003	
	CDP-REF Day 2	21	8.1	8.3	25	0.003	
	CDP-01 Day 2	21	8.1	8.4	25	0.003	
	CDP-02 Day 2	21	8.1	8.5	25	0.003	
	CDP-03 Day 2	21	8.2	8.5	25	0.003	
	CDP-04 Day 2	21	8.2	8.5	25	0.003	
	CDP-05 Day 2	21	8.2	8.6	25	0.005	
			~~8.2~~	~~8.4~~	~~25~~ ①		
9-15-22	CONTROL Day 3	22	8.1	8.5	24	0.001	VJC/BMR
	CDP-REF Day 3	22	8.2	8.5	25	0.002	
	CDP-01 Day 3	22	8.2	8.5	24	0.002	
	CDP-02 Day 3	22	8.2	8.6	24	0.002	
	CDP-03 Day 3	22	8.2	8.6	25	0.001	
	CDP-04 Day 3	22	8.2	8.6	25	0.002	
	CDP-05 Day 3	22	8.2	8.7	26	0.002	

Comments:

① IE AOJ 9-14-22 → [N/A]

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 506

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-16-22	CONTROL - NEW Day 4		7.7	8.7	24	0.001	CBR / DPD
	CONTROL - OLD Day 4		8.0	8.4	24	0.002	
	CDP-REF Day 4		8.3	8.4	25	0.002	
	CDP-01 Day 4		8.1	8.2	24	0.002	
	CDP-02 Day 4		8.1	8.2	24	0.002	
	CDP-03 Day 4		8.2	8.3	25	0.002	
	CDP-04 Day 4		8.2	8.4	25	0.00	
	CDP-05 Day 4		8.2	8.5	26	0.003	
9-17-22	CONTROL Day 5		8.2	8.7	24	0.001	DPD
	CDP-REF Day 5		8.5	8.7	24	0.001	
	CDP-01 Day 5		8.4	8.7	25	0.001	
	CDP-02 Day 5		8.3	8.7	25	0.001	
	CDP-03 Day 5		8.3	8.7	26	0.001	
	CDP-04 Day 5		8.3	8.7	25	0.001	
	CDP-05 Day 5		8.3	8.7	25	0.002	

Comments:

Thermometer #: 4W5

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 506

QAU Form # 3350

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-18-22	CONTROL - NEW Day 6		8.1	8.9	24	0.001	DPO/KRF
	CONTROL - OLD Day 6		8.2	8.9	24	0.002	
	CDP-REF Day 6		8.5	8.7	25	0.002	
	CDP-01 Day 6		8.4	8.7	25	0.002	
	CDP-02 Day 6		8.3	8.8	25	0.002	
	CDP-03 Day 6		8.3	8.8	25	0.002	
	CDP-04 Day 6		8.3	8.8	25	0.002	
	CDP-05 Day 6		8.3	8.8	25	0.002	
			8.3	8.8	26	0.002	
9-19-22	CONTROL Day 7	21	8.1	8.6	24	0.001	AOJ/DPO
	CDP-REF Day 7	21	8.4	8.6	24	0.001	
	CDP-01 Day 7	21	8.3	8.6	24	0.001	
	CDP-02 Day 7	21	8.2	8.6	24	0.001	
	CDP-03 Day 7	21	8.2	8.7	24	0.001	
	CDP-04 Day 7	21	8.2	8.7	25	0.001	
	CDP-05 Day 7	21	8.2	8.7	25	0.001	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 506

QAU Form # 3350

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9.20-22	CONTROL - NEW Day 8	21	8.3	9.2	25	0.001	AWJ/KSH
	CONTROL - OLD Day 8	21	8.0	7.9	24	0.002	
	CDP-REF Day 8	21	8.3	7.9	25	0.002	
	CDP-01 Day 8	21	8.3	8.1	25	0.002	
	CDP-02 Day 8	21	8.2	8.3	24	0.002	
	CDP-03 Day 8	21	8.2	8.4	24	0.002	
	CDP-04 Day 8	21	8.2	8.5	25	0.002	
	CDP-05 Day 8	21	8.2	8.6	26	0.002	
9-21-22	CONTROL Day 9	22	8.1	8.6	24	0.001	VJC/AWJ
	CDP-REF Day 9	22	8.2	8.6	24	0.001	
	CDP-01 Day 9	22	8.1	8.5	24	0.001	
	CDP-02 Day 9	22	8.1	8.6	24	0.001	
	CDP-03 Day 9	22	8.1	8.6	25	0.001	
	CDP-04 Day 9	22	8.1	8.6	25	0.001	
	CDP-05 Day 9	22	8.1	8.6	26	0.001	

Comments:

Thermometer #: 4WS

pH meter #: 737

Sal meter #: 948

D.O. meter#: 45I6

Ammonia meter #: 506

Client/Project Name:	Terracon Houston - PCCA CDP 2022 - PHASE II	WO #:	22G0514

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
9-22-22	CONTROL - Day 10	21	8.1	8.7	24	0.002	MG
	CDP-REF Day 10	21	8.2	8.7	24	0.002	
	CDP-01 Day 10	21	8.1	8.7	24	0.002	
	CDP-02 Day 10	21	8.1	8.7	24	0.002	
	CDP-03 Day 10	21	8.1	8.7	25	0.002	
	CDP-04 Day 10	21	8.1	8.7	25	0.002	
	CDP-05 Day 10	21	8.1	8.7	26	0.002	

Comments:

Thermometer #: 973

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI 6

Ammonia meter #: 506

QAU Form # 3350

10 d M. bahia Whole Sediment 10 of 10

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	W.O No.	22G0514

48 h Acute *Mysidopsis bahia* Toxicity Test Condition Summary Test Method EPA821-R-02-012-2007.0; NWDLS SOP No. 4017; EPA 503/8-91/001; NWDLS SOP No. 4046			
Test Organism:	*Mysidopsis bahia*	Age Class:	<24hrs old
Test Type:	SPP	Test Duration:	48 h
Temperature:	20 ± 2°C	Photoperiod:	16:8 h; ambient light; 50-100 ft-c
Test Chamber size:	500 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per Replicate:	10
Test Solution Volume	375 mL (minimum)	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Twice daily	Food Type:	*Artemia nauplii*
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	SIte:	REF, CDP-1, CDP-2

Test Organism Batch #	22-0890-48SPP	DOB	9-27-22
Source	NWDLS	Age (days)	<24h

Sample Date/Time:	9-27-22 / 0800	Sediment : Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16L

Test Initiation Date/Time:	9-27-22	1000	Test Initiation Initials:	TRL
24h Counts Date/Time:	9-28-22	0900	24h Counts Initials:	TRL
48h Termination Date/Time:	9-29-22	1000	48h Termination Initials:	TRL

1st Feed Date/Time/Initials:	9-27-22	1530	TRL	2nd Feed Date/Time/Initials:	9-28-22	0800	DB
3rd Feed Date/Time/Initials:	9-28-22	1530	DB	4th Feed Date/Time/Initials:	9-29-22	0815	TRL

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

Final Review Signature

TRL
Initial Review

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	W.O No.	22G0514

Acute Toxicity Test with *Mysidopsis bahia*

Conc. (%)	Rep.	No. of Surviving Organisms			Conc. (%)	Rep.	No. of Surviving Organisms		
		0 hr	24 hr	48 hr			0 hr	24 hr	48 hr
REF-Cont	A	10	10	10	CDP-1 50	A	10	9	9
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	9	9		D	10	10	10
	E	10	9	9		E	10	10	10
REF 10	A	10	10	10	CDP-1 100	A	10	10	10
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	9	9		D	10	9	9
	E	10	10	10		E	10	10	10
REF 50	A	10	9	9	CDP-2 Cont	A	10	10	10
	B	10	9	9		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	10	9		D	10	10	10
	E	10	10	10		E	10	10	10
REF 100	A	10	10	10	CDP-2 ~~50~~ 10	A	10	10	9
	B	10	10	9		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	9	9		D	10	10	10
	E	10	9	9		E	10	10	9
CDP-1 Cont	A	10	10	10	CDP-2 50	A	10	10	10
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	10	10		D	10	10	10
	E	10	9	9		E	10	10	10
CDP-1 10	A	10	10	10	CDP-2 100	A	10	10	10
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	10
	D	10	10	10		D	10	9	9
	E	10	10	10		E	10	10	10

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

TRL
Initial Review

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	W.O No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Conc. (%)	pH		
	0 hr	24 hr	48 hr
REF Cont	8.2	8.1	8.1
REF 10	8.2	8.1	8.1
REF 50	8.2	8.2	8.2
REF 100	8.3	8.2	8.2
CDP-1 Cont	8.2	8.1	8.1
CDP-1 10	8.2	8.1	8.2
CDP-1 50	8.3	8.2	8.2
CDP-1 100	8.3	8.2	8.2
CDP-2 Cont	8.2	8.1	8.1
CDP-2 10	8.2	8.1	8.2
CDP-2 50	8.3	8.2	8.2
CDP-2 100	8.4	8.3	8.3
Meter No.	732	732	732

Conc. (%)	Temperature °C		
	0 hr	24 hr	48 hr
REF Cont	20	20	20
REF 10	20	20	20
REF 50	20	20	20
REF 100	20	20	20
CDP-1 Cont	20	20	20
CDP-1 10	20	20	20
CDP-1 50	20	20	20
CDP-1 100	20	20	20
CDP-2 Cont	20	20	20
CDP-2 10	20	20	20
CDP-2 50	20	20	20
CDP-2 100	20	20	20
Therm. No.	973	973	973

Conc. (%)	Dissolved Oxygen (mg/L)		
	0 hr	24 hr	48 hr
REF Cont	8.1	8.0	7.9
REF 10	8.1	8.0	7.9
REF 50	8.0	7.9	7.8
REF 100	8.0	7.8	7.6
CDP-1 Cont	8.1	8.0	7.9
CDP-1 10	8.1	8.0	7.9
CDP-1 50	8.0	7.9	7.7
CDP-1 100	8.0	7.8	7.5
CDP-2 Cont	8.1	8.0	7.9
CDP-2 10	8.1	7.9	7.7
CDP-2 50	8.0	7.8	7.7
CDP-2 100	7.9	7.6	7.4
Meter No.	4516	4516	4516

Conc. (%)	Salinity (‰)		
	0 hr	24 hr	48 hr
REF Cont	25	25	25
REF 10	25	25	25
REF 50	25	25	25
REF 100	26	26	26
CDP-1 Cont	25	25	25
CDP-1 10	25	25	25
CDP-1 50	26	26	26
CDP-1 100	26	26	26
CDP-2 Cont	25	25	25
CDP-2 10	25	25	25
CDP-2 50	25	25	25
CDP-2 100	26	26	26
Meter No.	948	948	948

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

tnL
Initial Review

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Ammonia		
Concentration	Day 0 (Initiation)	Day 2 (48h) Termination
REF Control	0.001	0.002
REF10%	0.46	0.42
REF 50%	2.56	2.34
REF 100%	5.44	4.67
CDP-1 Control	0.001	0.002
CDP-1 10%	0.19	0.16
CDP-1 50%	1.12	0.94
CDP-1 100%	2.02	1.87
CDP-2 Control	0.001	0.002
CDP-2 10%	0.26	0.18
CDP-2 50%	1.67	1.22
CDP-2 100%	2.36	1.96
Date	9-27-22	9-29-22
Time	0915	1215
Initials	TRL	TRL
Meter #	566	566

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

TRL
Initial Review

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

48 h Acute *Mysidopsis bahia* Toxicity Test Condition Summary Test Method EPA821-R-02-012-2007.0; NWDLS SOP No. 4017; EPA 503/8-91/001; NWDLS SOP No. 4046			
Test Organism:	*Mysidopsis bahia*	Age Class:	<24hrs old
Test Type:	SPP	Test Duration:	48 h
Temperature:	20 ± 2°C	Photoperiod:	16:8 h; ambient light; 50-100 ft-c
Test Chamber size:	500 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per Replicate:	10
Test Solution Volume	375 mL (minimum)	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Twice daily	Food Type:	*Artemia nauplii*
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	SItes:	CDP-3, CDP-4, CDP-5

Test Organism Batch #	22-0840-4RSPP	DOB	9-27-22
Source	NWDLS	Age (days)	<24h

Sample Date/Time:	9-27-22 / 0900	Sediment : Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16L

Test Initiation Date/Time:	9-27-22	1015	Test Initiation Initials:	TRL
24h Counts Date/Time:	9-28-22	0915	24h Counts Initials:	TRL
48h Termination Date/Time:	9-29-22	1015	48h Termination Initials:	TRL

1st Feed Date/Time/Initials:	9-27-22	1530	TRL	2nd Feed Date/Time/Initials:	9-28-22	0800	DB
3rd Feed Date/Time/Initials:	9-28-22	1530	DB	4th Feed Date/Time/Initials:	9-29-22	0815	TRL

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

Final Review Signature

TRL
Initial Review

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Acute Toxicity Test with *Mysidopsis bahia*

Conc. (%)	Rep.	No. of Surviving Organisms			Conc. (%)	Rep.	No. of Surviving Organisms		
		0 hr	24 hr	48 hr			0 hr	24 hr	48 hr
CDP-3-Cont	A	10	10	10	CDP-4 50	A	10	10	10
	B	10	9	9		B	10	10	9
	C	10	10	10		C	10	10	10
	D	10	10	10		D	10	10	10
	E	10	10	9		E	10	9	9
CDP-3 10	A	10	10	10	CDP-4 100	A	10	10	9
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	9
	D	10	10	9		D	10	10	10
	E	10	10	10		E	10	10	10
CDP-3 50	A	10	10	10	CDP-5 Cont	A	10	10	10
	B	10	10	9		B	10	10	10
	C	10	10	10		C	10	10	9
	D	10	9	9		D	10	10	10
	E	10	9	9		E	10	9	9
CDP-3 100	A	10	9	9	CDP-5 ~~50~~ 10	A	10	10	10
	B	10	10	9		B	10	10	10
	C	10	10	10		C	10	9	9
	D	10	9	9		D	10	10	10
	E	10	10	10		E	10	10	10
CDP-4 Cont	A	10	10	10	CDP-5 50	A	10	10	10
	B	10	10	10		B	10	10	10
	C	10	10	10		C	10	10	9
	D	10	10	10		D	10	10	10
	E	10	10	10		E	10	10	9
CDP-4 10	A	10	10	10	CDP-5 100	A	10	10	10
	B	10	9	9		B	10	10	10
	C	10	10	10		C	10	9	9
	D	10	10	10		D	10	9	9
	E	10	10	10		E	10	10	10

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

TRL
Initial Review

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Conc. (%)	pH		
	0 hr	24 hr	48 hr
CDP-3 Cont	8.2	8.1	8.1
CDP-3 10	8.2	8.1	8.1
CDP-3 50	8.3	8.2	8.2
CDP-3 100	8.4	8.3	8.2
CDP-4 Cont	8.2	8.1	8.1
CDP-4 10	8.2	8.1	8.1
CDP-4 50	8.3	8.2	8.2
CDP-4 100	8.3	8.2	8.2
CDP-5 Cont	8.2	8.1	8.1
CDP-5 10	8.2	8.1	8.1
CDP-5 50	8.3	8.2	8.1
CDP-5 100	8.4	8.2	8.2
Meter No.	737	737	737

Conc. (%)	Temperature °C		
	0 hr	24 hr	48 hr
CDP-3 Cont	20	20	20
CDP-3 10	20	20	20
CDP-3 50	20	20	20
CDP-3 100	20	20	20
CDP-4 Cont	20	20	20
CDP-4 10	20	20	20
CDP-4 50	20	20	20
CDP-4 100	20	20	20
CDP-5 Cont	20	20	20
CDP-5 10	20	20	20
CDP-5 50	20	20	20
CDP-5 100	20	20	20
Therm. No.	973	973	973

Conc. (%)	Dissolved Oxygen (mg/L)		
	0 hr	24 hr	48 hr
CDP-3 Cont	8.1	8.0	7.9
CDP-3 10	8.1	7.9	7.9
CDP-3 50	8.0	7.9	7.8
CDP-3 100	7.9	7.7	7.6
CDP-4 Cont	8.1	8.0	7.9
CDP-4 10	8.1	8.0	7.9
CDP-4 50	8.0	7.8	7.7
CDP-4 100	7.9	7.7	7.6
CDP-5 Cont	8.1	8.0	7.9
CDP-5 10	8.1	7.9	7.8
CDP-5 50	8.0	7.8	7.7
CDP-5 100	7.8	7.6	7.5
Meter No.	YSI6	YSI6	YSI6

Conc. (%)	Salinity (‰)		
	0 hr	24 hr	48 hr
CDP-3 Cont	25	25	25
CDP-3 10	25	25	25
CDP-3 50	25	25	25
CDP-3 100	25	25	25
CDP-4 Cont	25	25	25
CDP-4 10	25	25	25
CDP-4 50	26	26	26
CDP-4 100	26	26	26
CDP-5 Cont	25	25	25
CDP-5 10	25	25	25
CDP-5 50	26	26	26
CDP-5 100	26	26	26
Meter No.	945	945	945

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

TRL
Initial Review

Client	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Ammonia		
Concentration	Day 0 (Initiation)	Day 2 (48h) Termination
CDP-3 Control	0.001	0.002
CDP-310%	0.34	0.22
CDP-3 50%	1.66	1.27
CDP-3 100%	3.22	2.96
CDP-4 Control	0.001	0.002
CDP-4 10%	0.31	0.28
CDP-4 50%	1.36	1.89
CDP-4 100%	2.84	2.69
CDP-5 Control	0.001	.002
CDP-5 10%	0.21	0.17
CDP-5 50%	1.11	0.88
CDP-5 100%	1.97	1.76
Date	9-27-22	9-29-22
Time	0915	1215
Initials	TRL	TRL
Meter #	566	566

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

TRL
Initial Review

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

96 h Acute *Mysidopsis bahia* Toxicity Test Condition Summary
Test Method EPA-821-R-02-012-2007.0; NWDLS SOP No. 4017; EPA 503/8-91/001; NWDLS SOP No. 4046

Test Organism:	*Mysidopsis bahia*	Age Class:	~~1-5~~ 6-7 days old
Test Type:	SPP	Test Duration:	96 h
Temperature:	20 ± 2 °C	Photoperiod:	16:8 h; ambient light;
Test Chamber size:	1000 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per	10
Test Solution Volume	750 mL	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Twice daily	Food Type:	Artemia nauplii
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	Sites:	REF, CDP-1, CDP-2

Test Organism Batch #	22-0890-95SPP	DOB	9-20-22
Source	NMRS	Age (days)	7d

Sample Date/Time :	9-27-22 / 0800	Sediment : Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16

Hour	Date	Time	Initials	Hour	Date	Time	Initials
0 h Initiation	9-27-22	1030	TRL	72 h Counts	9-30-22	1000	TRL
24 h Counts	9-28-22	0930	TRL	96 h Termination	10-1-22	1030	TRL
48 h Counts	9-29-22	1030	TRL				

Day	0		1		2		3		4	
	Time	Init	Time	Init	Time	Init	Time	Init	Time	Init
AM Feed	NA	NA	0800	DB	0815	TRL	0830	TRL	0830	TRL
PM Feed	1530	TRL	1530	DB	1545	TRL	1545	TRL	NA	NA

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

Final review signature

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	W.O No.	22G0514

Acute Toxicity Test with *Mysidopsis bahia*

Conc. (%)	Rep.	No. of Surviving Organisms					Conc. (%)	Rep.	No. of Surviving Organisms				
		0 hr	24 hr	48 hr	72 hr	96 hr			0 hr	24 hr	48 hr	72 hr	96 hr
REF Control	A	10	10	10	10	10	CDP-1 50	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	9	9	9	9
	E	10	10	10	9	9		E	10	10	10	10	10
REF 10	A	10	10	10	10	10	CDP-1 100	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	9	9		C	10	10	10	9	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
REF 50	A	10	10	10	10	10	CDP-2 Control	A	10	10	10	10	10
	B	10	10	9	9	9		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	9		E	10	10	10	10	10
REF 100	A	10	10	10	10	9	CDP-2 10	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	9	9	9		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	9	9
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-1 Control	A	10	10	10	10	10	CDP-2 50	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	9	9	9
CDP-1 10	A	10	10	10	10	10	CDP-2 100	A	10	10	10	10	10
	B	10	10	10	10	9		B	10	10	10	10	9
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Conc. (%)	pH				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	8.2	8.1	8.1	8.1	8.0
REF 10	8.2	8.1	8.1	8.1	8.0
REF 50	8.2	8.2	8.2	8.1	8.1
REF 100	8.3	8.2	8.2	8.2	8.1
CDP-1 Cont	8.2	8.1	8.1	8.1	8.0
CDP-1 10	8.2	8.1	8.2	8.2	8.1
CDP-1 50	8.3	8.2	8.2	8.2	8.1
CDP-1 100	8.3	8.2	8.2	8.2	8.1
CDP-2 Cont	8.2	8.1	8.1	8.1	8.1
CDP-2 10	8.2	8.1	8.1	8.2	8.1
CDP-2 50	8.3	8.2	8.2	8.2	8.1
CDP-2 100	8.4	8.3	8.2	8.2	8.1
Meter No.	737	737	737	737	737

Conc. (%)	Temperature °C				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	20	20	20	20	20
REF 10	20	20	20	20	20
REF 50	20	20	20	20	20
REF 100	20	20	20	20	20
CDP-1 Cont	20	20	20	20	20
CDP-1 10	20	20	20	20	20
CDP-1 50	20	20	20	20	20
CDP-1 100	20	20	20	20	20
CDP-2 Cont	20	20	20	20	20
CDP-2 10	20	20	20	20	20
CDP-2 50	20	20	20	20	20
CDP-2 100	20	20	20	20	20
Therm. No.	973	973	973	973	973

Conc. (%)	Dissolved Oxygen (mg/L)				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	8.1	8.0	7.9	7.9	7.8
REF 10	8.1	8.0	7.9	7.8	7.7
REF 50	8.0	7.9	7.8	7.8	7.7
REF 100	8.0	7.9	7.7	7.6	7.5
CDP-1 Cont	8.1	8.0	7.9	7.8	7.7
CDP-1 10	8.0	7.9	7.8	7.8	7.7
CDP-1 50	8.0	7.9	7.7	7.7	7.6
CDP-1 100	8.1	7.8	7.6	7.7	7.5
CDP-2 Cont	8.1	8.0	7.9	7.8	7.7
CDP-2 10	8.1	7.9	7.8	7.8	7.7
CDP-2 50	8.0	7.8	7.7	7.7	7.6
CDP-2 100	7.9	7.7	7.6	7.5	7.4
Meter No.	YSI6	YSI6	YSI6	YSI6	YSI6

Conc. (%)	Salinity (‰)				
	0 hr	24 hr	48hr	72 hr	96 hr
REF Cont	25	25	25	25	25
REF 10	25	25	25	25	25
REF 50	25	25	25	25	25
REF 100	26	26	26	26	26
CDP-1 Cont	25	25	25	25	25
CDP-1 10	25	25	25	25	25
CDP-1 50	26	26	26	26	26
CDP-1 100	26	26	26	26	26
CDP-2 Cont	25	25	25	25	25
CDP-2 10	25	25	25	25	25
CDP-2 50	25	25	25	25	25
CDP-2 100	26	26	26	26	26
Meter No.	948	948	948	948	948

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Ammonia		
Concentration	0hr	96h
REF CONT	0.001	0.002
REF 10%	0.46	0.44
REF 50%	2.56	2.37
REF 100%	5.44	4.46
CDP-1 CONT	0.001	0.002
CDP-1 10%	0.19	0.24
CDP-1 50%	1.12	1.04
CDP-1 100%	2.02	1.98
CDP-2 CONT	0.001	0.002
CDP-2 10%	0.26	0.24
CDP-2 50%	1.67	1.56
CDP-2 100%	2.36	2.29
Date	9-27-22	10-1-22
Time	0915	1215
Initials	TRG	TRG
Meter #	566	566

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

96 h Acute *Mysidopsis bahia* Toxicity Test Condition Summary
Test Method EPA-821-R-02-012-2007.0; NWDLS SOP No. 4017; EPA 503/8-91/001; NWDLS SOP No. 4046

Test Organism:	*Mysidopsis bahia*	Age Class:	~~1-5~~ days old 6-7d.o.
Test Type:	SPP	Test Duration:	96 h
Temperature:	20 ± 2 °C	Photoperiod:	16:8 h; ambient light;
Test Chamber size:	1000 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per	10
Test Solution Volume	750 mL	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Twice daily	Food Type:	Artemia nauplii
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	Sites:	CDP-3, CDP-4, CDP-5

Test Organism Batch #	22-0890-96SPP	DOB	9-20-22
Source	NWDLS	Age (days)	7d

Sample Date/Time :	9-27-22 / 0900	Sediment : Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16L

Hour	Date	Time	Initials	Hour	Date	Time	Initials
0 h Initiation	9-27-22	1045	TRL	72 h Counts	9-30-22	1015	TRL
24 h Counts	9-28-22	0945	TRL	96 h Termination	10-1-22	1045	TRL
48 h Counts	9-29-22	1045	TRL				

Day	0		1		2		3		4	
	Time	Init	~~Time~~ ①	~~Init~~ ②	Time	Init	Time	Init	Time	Init
AM Feed	NA	NA	DB	0800	0815	TRL	0830	TRL	0830	TRL
PM Feed	1530	TRL	DB	1545	1545	TRL	1545	TRL	NA	NA

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

① IE TRL 9-29-22 → [Init]

② IE TRL 9-29-22 → [Time]

Final review signature

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Acute Toxicity Test with *Mysidopsis bahia*

Conc. (%)	Rep.	No. of Surviving Organisms					Conc. (%)	Rep.	No. of Surviving Organisms				
		0 hr	24 hr	48 hr	72 hr	96 hr			0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Control	A	10	10	10	10	10	CDP-4 50	A	10	10	10	10	10
	B	10	9	9	9	9		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	9	9	9
CDP-3 10	A	10	10	10	10	10	CDP-4 100	A	10	10	8	8	8
	B	10	10	10	9	9		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-3 50	A	10	10	10	10	10	CDP-5 Control	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	9	9
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	9	9	9	9		D	10	9	9	9	9
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-3 100	A	10	10	10	10	10	CDP-5 10	A	10	10	10	10	10
	B	10	9	9	8	8		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	9	9	9	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	9	9
CDP-4 Control	A	10	10	10	10	10	CDP-5 50	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	9	9	9	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-4 10	A	10	10	9	9	9	CDP-5 100	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	9	9	9	9
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Conc. (%)	pH				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	8.2	8.1	8.1	8.0	8.0
CDP-3 10	8.2	8.2	8.2	8.1	8.0
CDP-3 50	8.3	8.2	8.2	8.1	8.1
CDP-3 100	8.4	8.3	8.3	8.2	8.1
CDP-4 Cont	8.2	8.1	8.1	8.0	8.0
CDP-4 10	8.2	8.1	8.2	8.1	8.1
CDP-4 50	8.3	8.2	8.2	8.1	8.1
CDP-4 100	8.3	8.2	8.3	8.2	8.1
CDP-5 Cont	8.2	8.1	8.1	8.0	8.0
CDP-5 10	8.2	8.1	8.1	8.0	8.0
CDP-5 50	8.3	8.2	8.1	8.1	8.1
CDP-5 100	8.4	8.3	8.2	8.1	8.1
Meter No.	737	737	737	737	737

Conc. (%)	Temperature °C				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	20	20	20	20	20
CDP-3 10	20	20	20	20	20
CDP-3 50	20	20	20	20	20
CDP-3 100	20	20	20	20	20
CDP-4 Cont	20	20	20	20	20
CDP-4 10	20	20	20	20	20
CDP-4 50	20	20	20	20	20
CDP-4 100	20	20	20	20	20
CDP-5 Cont	20	20	20	20	20
CDP-5 10	20	20	20	20	20
CDP-5 50	20	20	20	20	20
CDP-5 100	20	20	20	20	20
Therm. No.	973	973	973	973	973

Conc. (%)	Dissolved Oxygen (mg/L)				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	8.1	8.0	7.9	7.9	7.9
CDP-3 10	8.1	8.0	7.9	7.8	7.8
CDP-3 50	8.0	7.9	7.8	7.8	7.7
CDP-3 100	7.9	7.8	7.6	7.7	7.5
CDP-4 Cont	8.1	8.0	7.9	7.9	7.8
CDP-4 10	8.1	8.0	7.9	7.8	7.8
CDP-4 50	8.0	7.9	7.8	7.7	7.6
CDP-4 100	7.9	7.8	7.7	7.6	7.4
CDP-5 Cont	8.1	8.0	7.9	7.8	7.7
CDP-5 10	8.1	7.9	7.8	7.7	7.7
CDP-5 50	8.0	7.9	7.7	7.6	7.6
CDP-5 100	7.8	7.7	7.6	7.6	7.5
Meter No.	YSI6	YSI6	YSI6	YSI6	YSI6

Conc. (%)	Salinity (‰)				
	0 hr	24 hr	48hr	72 hr	96 hr
CDP-3 Cont	25	25	25	25	25
CDP-3 10	25	25	25	25	25
CDP-3 50	25	25	25	25	25
CDP-3 100	25	25	25	25	25
CDP-4 Cont	25	25	25	25	25
CDP-4 10	25	25	25	25	25
CDP-4 50	26	26	26	26	26
CDP-4 100	26	26	26	26	26
CDP-5 Cont	25	25	25	25	25
CDP-5 10	25	25	25	25	25
CDP-5 50	26	26	26	26	26
CDP-5 100	26	26	26	26	26
Meter No.	948	948	948	948	948

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Mysidopsis bahia*

Ammonia		
Concentration	0hr	96h
CDP-3 CONT	0.001	0.003
CDP-3 10%	0.34	0.36
CDP-3 50%	1.61	1.54
CDP-3 100%	3.22	3.39
CDP-4 CONT	0.001	0.002
CDP-4 10%	0.31	0.39
CDP-4 50%	2.36	2.02
CDP-4 100%	2.84	3.11
CDP-5 CONT	0.001	0.002
CDP-5 10%	0.21	0.26
CDP-5 50%	1.11	1.04
CDP-5 100%	1.97	1.86
Date	9-27-22	10-1-22
Time	0915	1215
Initials	TRL	TRL
Meter #	566	566

Comments:

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

96 h Acute *Menidia beryllina* Toxicity Test Condition Summary Test Method EPA-821-R-02-012-2006.0; NWDLS SOP No. 4018; EPA 503/8-91/001; NWDLS SOP No. 4046			
Test Organism:	*Menidia beryllina*	Age Class:	~~9-14~~ days old 15-60 d.o
Test Type:	SPP	Test Duration:	96 h
Temperature:	20 ± 2	Photoperiod:	16:8 h; ambient light; 50-100 ft-c
Test Chamber size:	1000 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per Replicate:	10
Test Solution Volume	750 mL	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Once at 48 hrs	Food Type:	*Artemia nauplii*
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	Sites:	REF, CDP-1, CDP-2

Test Organism Batch #	22-0890-965P	DOB	9-12-22
Source	NWDLS	Age (days)	15d

Sample Date/Time :	9-27-22 / 0800	Sediment: Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16L

Hour	Date	Time	Initials	Hour	Date	Time	Initials
0 h Initiation	9-27-22	1100	TRG	72 h Counts	9-30-22	1030	TRG
24 h Counts	9-28-22	1000	TRG	96 h Termination	10-1-22	1100	TRG
48 h Counts	9-29-22	1100	TRG	48 h Feed	9-29-22	0830	TRG

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

Final review signature

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	W.O No.	22G0514

Acute Toxicity Test with *Menidia beryllina*

Conc. (%)	Rep.	No. of Surviving Organisms					Conc. (%)	Rep.	No. of Surviving Organisms				
		0 hr	24 hr	48 hr	72 hr	96 hr			0 hr	24 hr	48 hr	72 hr	96 hr
REF Control	A	10	10	10	10	10	CDP-1 50	A	10	9	9	9	9
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	9	9		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	9	9	9
REF 10	A	10	10	10	10	10	CDP-1 100	A	10	10	9	9	9
	B	10	9	9	9	9		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
REF 50	A	10	10	10	10	10	CDP-2 Control	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	9	9	9	9		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
REF 100	A	10	10	10	10	10	CDP-2 10	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	9
	C	10	10	10	9	9		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-1 Control	A	10	10	10	10	10	CDP-2 50	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	9	9	9
	C	10	10	9	9	9		C	10	10	10	10	10
	D	10	10	9	9	9		D	10	10	10	10	9
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-1 10	A	10	10	10	10	10	CDP-2 100	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	9	9	9
	C	10	10	10	10	9		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Menidia beryllina*

Conc. (%)	pH				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	8.2	8.1	8.1	8.1	8.0
REF 10	8.2	8.1	8.1	8.1	8.1
REF 50	8.2	8.1	8.2	8.2	8.1
REF 100	8.3	8.2	8.2	8.2	8.0
CDP-1 Cont	8.2	8.1	8.1	8.1	8.1
CDP-1 10	8.2	8.1	8.1	8.1	8.1
CDP-1 50	8.3	8.2	8.1	8.2	8.2
CDP-1 100	8.3	8.2	8.2	8.2	8.1
CDP-2 Cont	8.2	8.1	8.1	8.1	8.0
CDP-2 10	8.2	8.1	8.1	8.1	8.1
CDP-2 50	8.3	8.2	8.2	8.2	8.2
CDP-2 100	8.4	8.2	8.2	8.3	8.2
Meter No.	737	737	737	737	737

Conc. (%)	Temperature °C				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	20	20	20	20	20
REF 10	20	20	20	20	20
REF 50	20	20	20	20	20
REF 100	20	20	20	20	20
CDP-1 Cont	20	20	20	20	20
CDP-1 10	20	20	20	20	20
CDP-1 50	20	20	20	20	20
CDP-1 100	20	20	20	20	20
CDP-2 Cont	20	20	20	20	20
CDP-2 10	20	20	20	20	20
CDP-2 50	20	20	20	20	20
CDP-2 100	20	20	20	20	20
Therm. No.	973	973	973	972	973

Conc. (%)	Dissolved Oxygen (mg/L)				
	0 hr	24 hr	48 hr	72 hr	96 hr
REF Cont	8.1	8.0	8.0	7.9	7.9
REF 10	8.1	8.0	8.0	7.9	7.9
REF 50	8.0	8.0	7.9	7.9	7.9
REF 100	8.0	7.9	7.9	7.9	7.8
CDP-1 Cont	8.1	8.0	8.0	7.9	7.9
CDP-1 10	8.0	8.0	8.0	7.9	7.7
CDP-1 50	8.0	8.0	7.9	7.9	7.7
CDP-1 100	8.1	8.0	7.9	7.8	7.6
CDP-2 Cont	8.1	8.0	7.9	7.8	7.9
CDP-2 10	8.1	8.0	7.9	7.8	7.9
CDP-2 50	8.0	7.9	7.9	7.8	7.7
CDP-2 100	7.9	7.9	7.9	7.8	7.6
Meter No.	YSI6	YSI6	YSI6	YSI6	YSI6

Conc. (%)	Salinity (‰)				
	0 hr	24 hr	48hr	72 hr	96 hr
REF Cont	25	25	25	25	25
REF 10	25	25	25	25	25
REF 50	25	25	25	25	25
REF 100	26	26	26	26	26
CDP-1 Cont	25	25	25	25	25
CDP-1 10	25	25	25	25	25
CDP-1 50	26	26	26	26	26
CDP-1 100	26	26	26	26	26
CDP-2 Cont	25	25	25	25	25
CDP-2 10	25	25	25	25	25
CDP-2 50	25	25	25	25	26
CDP-2 100	26	26	26	26	26
Meter No.	945	945	945	945	945

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Menidia beryllina*

Ammonia		
Concentration	0hr	96h
REF CONT	0.001	0.002
REF10%	0.46	0.39
REF 50%	2.56	2.44
REF 100%	5.44	3.91
CDP-1 CONT	0.001	0.002
CDP-1 10%	0.19	0.16
CDP-1 50%	1.12	0.89
CDP-1 100%	2.02	1.92
CDP-2 CONT	0.001	0.002
CDP-2 10%	0.26	0.21
CDP-2 50%	1.67	1.39
CDP-2 100%	2.36	2.02
Date	9-27-22	10-1-22
Time	0915	1215
Initials	TRL	TRL
Meter #	566	566

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

96 h Acute *Menidia beryllina* Toxicity Test Condition Summary
Test Method EPA-821-R-02-012-2006.0; NWDLS SOP No. 4018; EPA 503/8-91/001; NWDLS SOP No. 4046

Test Organism:	*Menidia beryllina*	Age Class:	~~9-14~~ days old 15-60 d.o.
Test Type:	SPP	Test Duration:	96 h
Temperature:	20 ± 2	Photoperiod:	16:8 h; ambient light; 50-100 ft-c
Test Chamber size:	1000 mL cups	Cleaning:	Daily during test counts
No. of Replicates:	5	No. organisms per Replicate:	10
Test Solution Volume	750 mL	Dilution Water:	LAB-W
Renewal of test solution:	None	Aeration:	None
Feeding:	Once at 48 hrs	Food Type:	*Artemia nauplii*
Acceptability Criteria	≥ 90% survival in control	Sample Holding Time Requirements:	24 h maximum for first use.

Test Concentrations (%):	Control, 10, 50, 100	Sites:	CDP-3, CDP-4, CDP-5

Test Organism Batch #	22-0890-96 SPP	DOB	9.12-22
Source	NWDLS	Age (days)	15d

Sample Date/Time :	9-27-22 / 0900	Sediment: Water ratio	1 : 4
Sediment Volume	4L	Water Volume	16L

Hour	Date	Time	Initials	Hour	Date	Time	Initials
0 h Initiation	9-27-22	1115	TRL	72 h Counts	9-30-22	1045	TRL
24 h Counts	9-28-22	1015	TRL	96 h Termination	10-1-22	1115	TRL
48 h Counts	9-29-22	1115	TRL	48 h Feed	9-29-22	0830	TRL

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments:

Final review signature

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Acute Toxicity Test with *Menidia beryllina*

Conc. (%)	Rep.	No. of Surviving Organisms					Conc. (%)	Rep.	No. of Surviving Organisms				
		0 hr	24 hr	48 hr	72 hr	96 hr			0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Control	A	10	10	10	10	10	CDP-4 50	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	9	9	9	9
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	9	9		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-3 10	A	10	10	10	10	10	CDP-4 100	A	10	10	10	9	9
	B	10	10	10	10	10		B	10	9	9	9	9
	C	10	10	9	9	9		C	10	9	9	9	9
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-3 50	A	10	10	10	10	10	CDP-5 Control	A	10	10	10	10	10
	B	10	10	10	10	10		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	8	8	8
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	9	9	9	9		E	10	10	9	9	9
CDP-3 100	A	10	10	10	10	10	CDP-5 10	A	10	10	10	10	10
	B	10	10	10	10	8		B	10	10	10	10	10
	C	10	10	10	10	10		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	9	9	9	9
	E	10	10	10	10	10		E	10	10	10	10	10
CDP-4 Control	A	10	10	10	10	10	CDP-5 50	A	10	10	10	10	10
	B	10	10	10	9	9		B	10	9	9	9	9
	C	10	9	9	9	9		C	10	10	10	10	10
	D	10	10	10	10	10		D	10	10	10	10	10
	E	10	10	10	10	10		E	10	10	9	9	9
CDP-4 10	A	10	10	10	10	10	CDP-5 100	A	10	10	10	10	10
	B	10	10	10	9	9		B	10	9	9	9	9
	C	10	10	10	10	10		C	10	9	9	9	9
	D	10	10	10	10	10		D	10	10	10	9	9
	E	10	10	10	10	10		E	10	10	10	9	9

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Menidia beryllina*

Conc. (%)	pH				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	8.2	8.1	8.1	8.1	8.1
CDP-3 10	8.2	8.1	8.1	8.1	8.1
CDP-3 50	8.3	8.2	8.3	8.1	8.1
CDP-3 100	8.4	8.3	8.3	8.2	8.2
CDP-4 Cont	8.2	8.1	8.1	8.1	8.1
CDP-4 10	8.2	8.2	8.2	8.1	8.1
CDP-4 50	8.3	8.2	8.3	8.2	8.2
CDP-4 100	8.3	8.2	8.3	8.2	8.2
CDP-5 Cont	8.2	8.1	8.1	8.1	8.1
CDP-5 10	8.2	8.2	8.1	8.1	8.1
CDP-5 50	8.3	8.3	8.2	8.2	8.2
CDP-5 100	8.4	8.3	8.3	8.2	8.3
Meter No.	737	737	737	737	737

Conc. (%)	Temperature °C				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	20	20	20	20	20
CDP-3 10	20	20	20	20	20
CDP-3 50	20	20	20	20	20
CDP-3 100	20	20	20	20	20
CDP-4 Cont	20	20	20	20	20
CDP-4 10	20	20	20	20	20
CDP-4 50	20	20	20	20	20
CDP-4 100	20	20	20	20	20
CDP-5 Cont	20	20	20	20	20
CDP-5 10	20	20	20	20	20
CDP-5 50	20	20	20	20	20
CDP-5 100	20	20	20	20	20
Therm. No.	973	973	973	973	973

Conc. (%)	Dissolved Oxygen (mg/L)				
	0 hr	24 hr	48 hr	72 hr	96 hr
CDP-3 Cont	8.1	8.0	8.0	7.9	7.9
CDP-3 10	8.1	8.0	8.0	7.9	7.9
CDP-3 50	8.0	7.9	7.9	7.9	7.8
CDP-3 100	7.9	7.8	7.7	7.8	7.7
CDP-4 Cont	8.1	8.0	7.9	7.9	7.9
CDP-4 10	8.1	8.0	7.9	7.9	7.9
CDP-4 50	8.0	7.9	7.8	7.7	7.6
CDP-4 100	7.9	7.9	7.8	7.7	7.5
CDP-5 Cont	8.1	8.0	7.9	7.9	7.8
CDP-5 10	8.1	8.0	7.9	7.9	7.8
CDP-5 50	8.0	8.0	7.9	7.9	7.7
CDP-5 100	7.8	7.9	7.7	7.8	7.6
Meter No.	45I6	45I6	45I6	45I6	45I6

Conc. (%)	Salinity (‰)				
	0 hr	24 hr	48hr	72 hr	96 hr
CDP-3 Cont	25	25	25	25	25
CDP-3 10	25	25	25	25	25
CDP-3 50	25	25	25	25	25
CDP-3 100	25	25	25	25	25
CDP-4 Cont	25	25	25	25	25
CDP-4 10	25	25	25	25	25
CDP-4 50	26	26	26	26	26
CDP-4 100	26	26	26	26	26
CDP-5 Cont	25	25	25	25	25
CDP-5 10	25	25	25	25	25
CDP-5 50	26	26	26	26	26
CDP-5 100	26	26	26	26	26
Meter No.	945	945	945	945	945

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

Client/Project:	Terracon_Houston - PCCA CDP 2022 - Phase II	WO No.	22G0514

Water Quality Parameters - *Menidia beryllina*

Ammonia		
Concentration	0hr	96h
CDP-3 CONT	0.001	0.002
CDP-310%	0.34	0.26
CDP-3 50%	1.66	1.44
CDP-3 100%	3.22	2.96
CDP-4 CONT	0.001	0.002
CDP-4 10%	0.31	0.29
CDP-4 50%	2.36	1.87
CDP-4 100%	2.84	2.36
CDP-5 CONT	0.001	0.002
CDP-5 10%	0.21	0.16
CDP-5 50%	1.11	1.04
CDP-5 100%	1.97	1.78
Date	9-27-22	10-1-22
Time	0915	1215
Initials	TRG	TRG
Meter #	566	566

Comments:

Data correction codes: IE-incorrect entry; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible

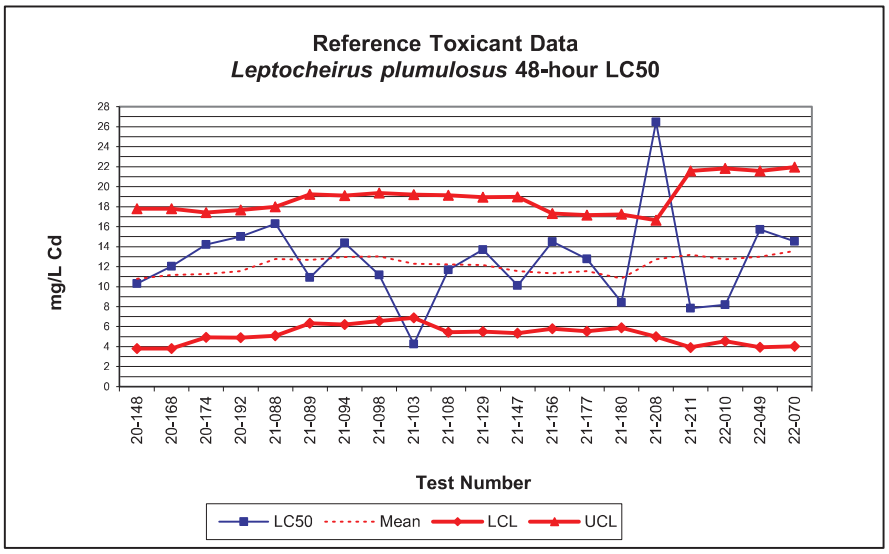
Aquatic Research Organisms
PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM

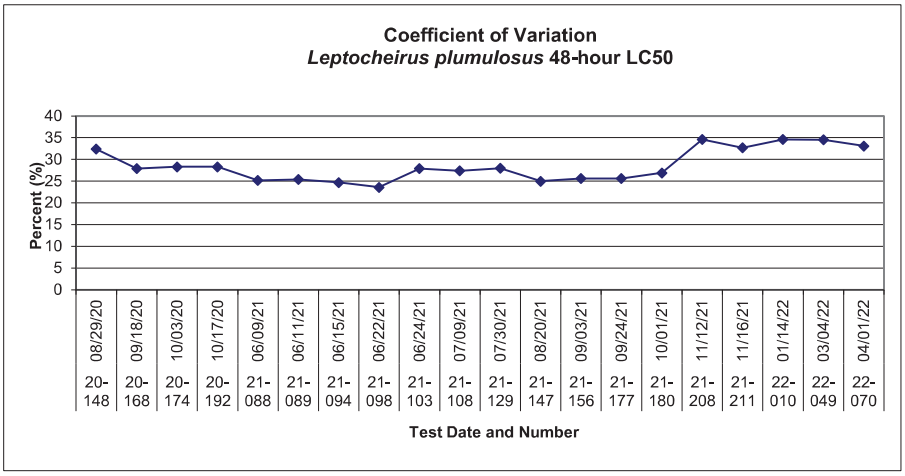
Reference Toxicant Data - Cadmium chloride ($CdCl_2$)

Leptocheirus plumulosus (amphipod)

48-hour LC50 (mg/L Cd)

Test #	Test Date	LC50	Mean	Std. Dev.	LCL	UCL	CV
20-148	08/29/20	10.3	10.792	3.493	3.806	17.778	32.4
20-168	09/18/20	12.0	11.178	3.493	3.806	17.778	27.9
20-174	10/03/20	14.2	11.275	3.121	4.937	17.420	28.3
20-192	10/17/20	15.0	11.538	3.190	4.895	17.654	28.3
21-088	06/09/21	16.3	12.781	3.220	5.097	17.978	25.2
21-089	06/11/21	10.9	12.660	3.222	6.337	19.226	25.4
21-094	06/15/21	14.4	12.974	3.222	6.217	19.103	24.7
21-098	06/22/21	11.2	13.031	3.200	6.574	19.374	23.6
21-103	06/24/21	4.3	12.276	3.080	6.871	19.190	27.9
21-108	07/09/21	11.7	12.232	3.424	5.428	19.124	27.4
21-129	07/30/21	13.7	12.168	3.357	5.518	18.946	28
21-147	08/20/21	10.1	11.556	3.405	5.358	18.979	25
21-156	09/03/21	14.5	11.334	2.883	5.789	17.323	25.6
21-177	09/24/21	12.8	11.565	2.902	5.530	17.137	25.6
21-180	10/01/21	8.4	10.825	2.834	5.897	17.233	26.9
21-208	11/12/21	26.5	12.738	2.913	4.999	16.650	34.6
21-211	11/16/21	7.8	13.185	4.409	3.920	21.555	32.7
22-010	01/14/22	8.2	12.750	4.313	4.559	21.810	34.6
22-049	03/04/22	15.7	13.004	4.414	3.921	21.578	34.5
22-070	04/01/22	14.5	13.555	4.481	4.042	21.965	33.1



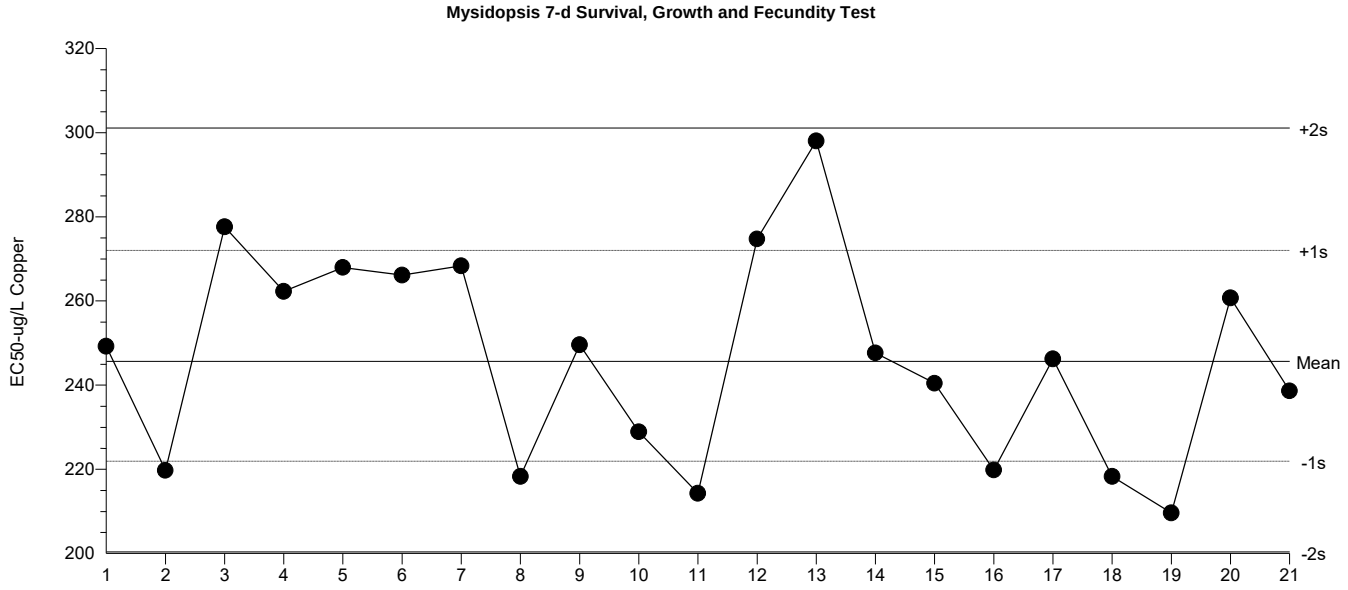


CETIS QC Plot

Report Date: 14 Oct-22 13:09 (1 of 1)

Mysidopsis 7-d Survival, Growth and Fecundity Test — **All Matching Labs**

Test Type:	Growth-Survival-Fec (7d)	**Organism:**	Mysidopsis bahia (Atlantic Mysid)	**Material:**	Copper
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	7d Survival Rate	**Source:**	Reference Toxicant-REF



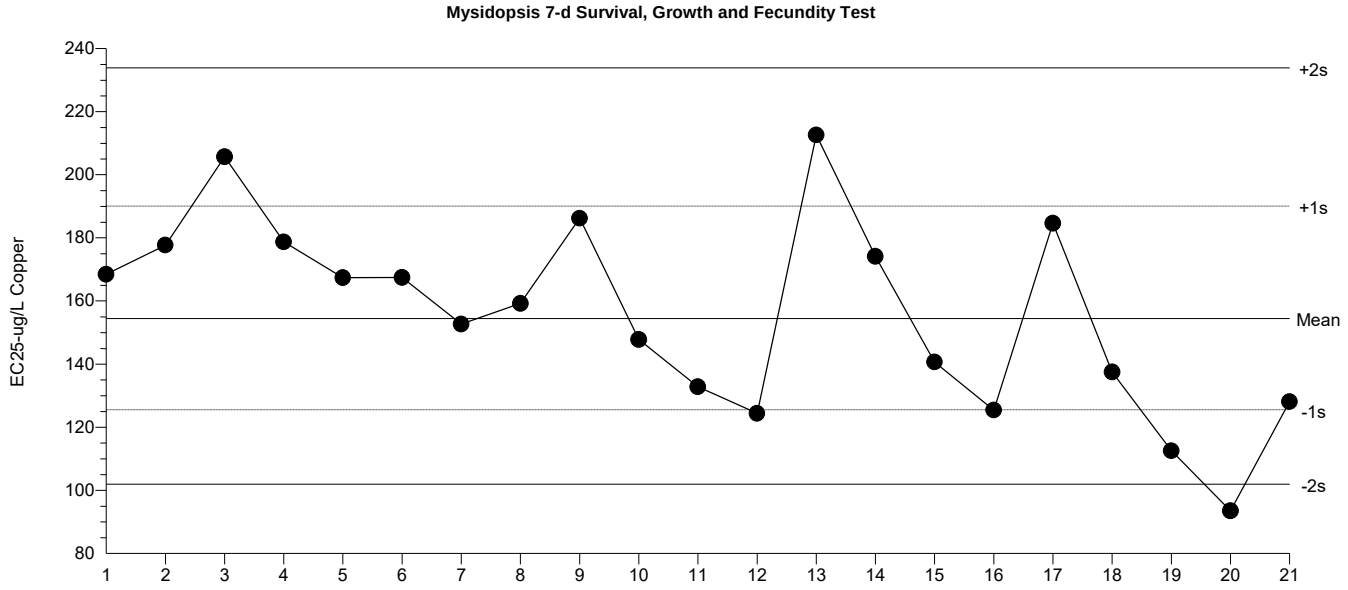
Mean:	245.7	**Count:**	20	**-1s Warning Limit:**	221.9	**-2s Action Limit:**	200.4
Sigma:	n/a	**CV:**	10.20%	**+1s Warning Limit:**	272	**+2s Action Limit:**	301.1

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Apr	7	17:00	249.2	3.555	0.1411			19-6064-2436	01-0304-3427	NWDLS Environ. Toxicol.
2		May	20	14:30	219.7	-25.94	-1.096	(-)		14-6201-6744	01-6829-2395	NWDLS Environ. Toxicol.
3		Jun	3	12:00	277.6	31.96	1.201	(+)		16-5190-0226	03-1102-1147	NWDLS Environ. Toxicol.
4		Jul	6	14:36	262.3	16.59	0.6421			02-5459-6353	02-8769-4940	NWDLS Environ. Toxicol.
5		Aug	3	14:00	268	22.3	0.8534			07-4115-5990	16-2172-2342	NWDLS Environ. Toxicol.
6		Sep	7	10:30	266.1	20.47	0.7862			08-0819-8101	12-0660-4206	NWDLS Environ. Toxicol.
7		Oct	1	9:50	268.3	22.68	0.8672			06-6763-0892	02-0293-6999	NWDLS Environ. Toxicol.
8		Nov	17	15:15	218.3	-27.38	-1.161	(-)		02-7564-0424	02-4811-1177	NWDLS Environ. Toxicol.
9		Dec	20	13:15	249.6	3.919	0.1555			12-9085-3704	04-5280-3800	NWDLS Environ. Toxicol.
10	2022	Jan	7	12:00	228.9	-16.77	-0.6947			09-7824-2132	19-5290-7852	NWDLS Environ. Toxicol.
11		Feb	2	14:30	214.3	-31.4	-1.343	(-)		08-7070-1131	04-2971-6813	NWDLS Environ. Toxicol.
12		Mar	3	16:50	274.7	29.07	1.099	(+)		21-2022-6914	10-4405-5946	NWDLS Environ. Toxicol.
13		Apr	1	11:45	298	52.38	1.898	(+)		10-9273-3745	07-1870-5289	NWDLS Environ. Toxicol.
14			20	15:00	247.7	1.985	0.07907			06-4858-7523	10-6642-1452	NWDLS Environ. Toxicol.
15		May	4	14:15	240.4	-5.228	-0.2113			12-1858-3405	16-6015-0969	NWDLS Environ. Toxicol.
16		Jun	15	15:30	219.8	-25.85	-1.092	(-)		03-2445-7793	10-4889-3424	NWDLS Environ. Toxicol.
17		Jul	1	10:00	246.2	0.5495	0.02195			12-3923-1073	01-2993-9074	NWDLS Environ. Toxicol.
18		Aug	5	13:45	218.3	-27.38	-1.161	(-)		10-0343-3624	05-7350-3919	NWDLS Environ. Toxicol.
19		Sep	8	13:00	209.6	-36.05	-1.559	(-)		18-4311-0498	15-0673-3784	NWDLS Environ. Toxicol.
20			22	11:30	260.7	15.03	0.5835			08-7149-7523	10-8268-9600	NWDLS Environ. Toxicol.
21			22	15:30	238.6	-7.038	-0.2855			11-1398-4162	15-7406-5954	NWDLS Environ. Toxicol.

Mysidopsis 7-d Survival, Growth and Fecundity Test **All Matching Labs**

Test Type:	Growth-Survival-Fec (7d)	**Organism:**	Mysidopsis bahia (Atlantic Mysid)	**Material:**	Copper
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	Mean Dry Biomass-mg	**Source:**	Reference Toxicant-REF



Mean:	154.5	**Count:**	20	**-1s Warning Limit:**	125.5	**-2s Action Limit:**	102
Sigma:	n/a	**CV:**	21.00%	**+1s Warning Limit:**	190.1	**+2s Action Limit:**	233.9

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Apr	7	17:00	168.5	13.99	0.418			19-6064-2436	10-6743-6316	NWDLS Environ. Toxicol.
2		May	20	14:30	177.7	23.23	0.6756			14-6201-6744	05-5381-5466	NWDLS Environ. Toxicol.
3		Jun	3	12:00	205.7	51.22	1.381	(+)		16-5190-0226	03-1838-2648	NWDLS Environ. Toxicol.
4		Jul	6	14:36	178.7	24.25	0.7032			02-5459-6353	09-0315-4751	NWDLS Environ. Toxicol.
5		Aug	3	14:00	167.4	12.91	0.387			07-4115-5990	19-7716-0639	NWDLS Environ. Toxicol.
6		Sep	7	10:30	167.4	12.96	0.3885			08-0819-8101	05-4285-4798	NWDLS Environ. Toxicol.
7		Oct	1	9:50	152.7	-1.797	-0.05641			06-6763-0892	00-3098-5433	NWDLS Environ. Toxicol.
8		Nov	17	15:15	159.2	4.767	0.1466			02-7564-0424	06-0870-5824	NWDLS Environ. Toxicol.
9		Dec	20	13:15	186.2	31.74	0.901			12-9085-3704	17-3888-7616	NWDLS Environ. Toxicol.
10	2022	Jan	7	12:00	147.8	-6.678	-0.2131			09-7824-2132	18-9406-9090	NWDLS Environ. Toxicol.
11		Feb	2	14:30	132.8	-21.67	-0.7289			08-7070-1131	16-8447-9830	NWDLS Environ. Toxicol.
12		Mar	3	16:50	124.4	-30.09	-1.045	(-)		21-2022-6914	18-2966-6761	NWDLS Environ. Toxicol.
13		Apr	1	11:45	212.6	58.15	1.541	(+)		10-9273-3745	01-6504-1547	NWDLS Environ. Toxicol.
14			20	15:00	174.1	19.66	0.5776			06-4858-7523	10-7382-1607	NWDLS Environ. Toxicol.
15		May	4	14:15	140.7	-13.81	-0.4515			12-1858-3405	19-6615-1827	NWDLS Environ. Toxicol.
16		Jun	15	15:30	125.4	-29.04	-1.004	(-)		03-2445-7793	20-9600-4502	NWDLS Environ. Toxicol.
17		Jul	1	10:00	184.6	30.15	0.8596			12-3923-1073	17-5505-5702	NWDLS Environ. Toxicol.
18		Aug	5	13:45	137.5	-16.96	-0.5607			10-0343-3624	03-6755-1187	NWDLS Environ. Toxicol.
19		Sep	8	13:00	112.5	-41.94	-1.527	(-)		18-4311-0498	00-1638-2244	NWDLS Environ. Toxicol.
20			22	11:30	93.49	-60.98	-2.421	(-)	(-)	08-7149-7523	17-4251-3151	NWDLS Environ. Toxicol.
21			22	15:30	128.1	-26.37	-0.9025			11-1398-4162	17-2272-6669	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	04 Oct-22 11:10 (p 1 of 1)
Test Code/ID:	22-0605a / 11-1398-4162

Mysidopsis 7-d Survival, Growth and Fecundity Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	15-7406-5954	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Oct-22 14:10	**Analysis:**	Trimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	20-5239-9271	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	Willneisha Hutchinson		
Start Date:	22 Sep-22 15:30	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7

Sample ID:	11-9059-6731	**Code:**	46F7107B	**Project:**	047000100 0400.X
Sample Date:	22 Sep-22 15:00	**Material:**	Copper	**Source:**	DOC
Receipt Date:	22 Sep-22 15:00	**CAS (PC):**		**Station:**	
Sample Age:	30m	**Client:**	North Water District Laboratory Services, In		

Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0.02	2.04%	2.378	0.01404	238.6	223.7	254.6

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.06454	<<	0.4	Yes	Passes Criteria
Control Resp	0.98	0.8	>>	Yes	Passes Criteria

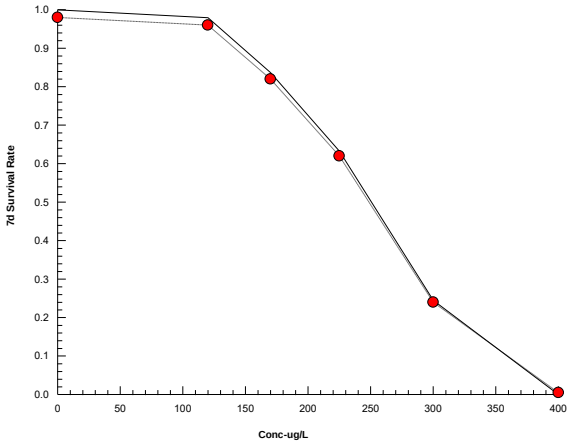
7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	10	0.9800	0.8000	1.0000	0.0633	6.45%	0.0%	49/50	0.98	0.0%
120		10	0.9600	0.8000	1.0000	0.0843	8.78%	2.04%	48/50	0.96	2.04%
170		10	0.8200	0.6000	1.0000	0.1135	13.85%	16.33%	41/50	0.82	16.33%
225		10	0.6200	0.4000	1.0000	0.2201	35.50%	36.73%	31/50	0.62	36.73%
300		10	0.2400	0.0000	0.4000	0.1265	52.70%	75.51%	12/50	0.24	75.51%
400		10	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%

7d Survival Rate Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	1.0000	1.0000	0.8000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
120		1.0000	1.0000	0.8000	1.0000	1.0000	1.0000	0.8000	1.0000	1.0000	1.0000
170		0.8000	0.6000	1.0000	0.8000	0.8000	0.8000	1.0000	0.8000	0.8000	0.8000
225		0.6000	0.8000	0.4000	0.4000	0.6000	0.8000	0.8000	1.0000	0.4000	0.4000
300		0.2000	0.4000	0.2000	0.2000	0.0000	0.2000	0.2000	0.4000	0.4000	0.2000
400		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Graphics



Mysidopsis 7-d Survival, Growth and Fecundity Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	17-2272-6669	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Oct-22 14:09	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	20-5239-9271	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	Willneisha Hutchinson		
Start Date:	22 Sep-22 15:30	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	29 Sep-22 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7

Sample ID:	11-9059-6731	**Code:**	46F7107B	**Project:**	047000100 0400.X
Sample Date:	22 Sep-22 15:00	**Material:**	Copper	**Source:**	DOC
Receipt Date:	22 Sep-22 15:00	**CAS (PC):**		**Station:**	
Sample Age:	30m	**Client:**	North Water District Laboratory Services, In		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	294626	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.1671	<<	0.4	Yes	Passes Criteria
Control Resp	0.4152	0.2	>>	Yes	Passes Criteria

Point Estimates

Level	ug/L	95% LCL	95% UCL
IC25	128.1	95.7	143

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	L	10	0.4152	0.312	0.51	0.06938	16.71%	0.0%	0.4152	0.0%
120		10	0.3276	0.256	0.43	0.05697	17.39%	21.1%	0.3276	21.1%
170		10	0.2276	0.166	0.296	0.04358	19.15%	45.18%	0.2276	45.18%
225		10	0.1604	0.066	0.244	0.05221	32.55%	61.37%	0.1604	61.37%
300		10	0.0578	0	0.094	0.02876	49.76%	86.08%	0.0578	86.08%
400		10	0	0	0	0		100.0%	0	100.0%

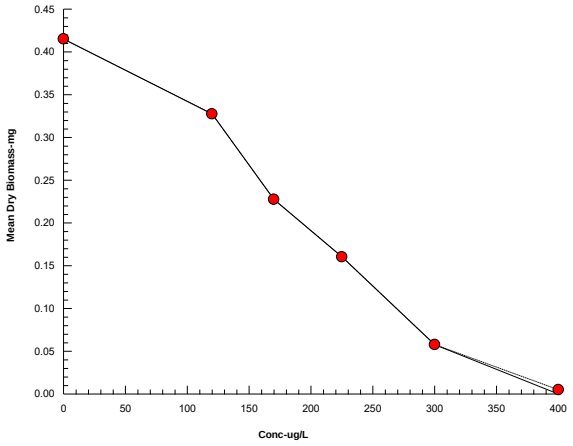
Mean Dry Biomass-mg Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	0.336	0.486	0.312	0.356	0.496	0.51	0.448	0.426	0.392	0.39
120		0.266	0.332	0.304	0.286	0.43	0.376	0.256	0.288	0.378	0.36
170		0.258	0.182	0.236	0.17	0.212	0.252	0.296	0.166	0.262	0.242
225		0.214	0.122	0.136	0.15	0.202	0.176	0.172	0.244	0.066	0.122
300		0.062	0.072	0.082	0.062	0	0.024	0.038	0.094	0.076	0.068
400		0	0	0	0	0	0	0	0	0	0

Mysidopsis 7-d Survival, Growth and Fecundity Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	17-2272-6669	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	03 Oct-22 14:09	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



Client:	NWDLS STOX - Mb7 WJH DOC	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605

Chronic *Mysidopsis bahia* Test Condition Summary - EPA-821-R-02-014 Test Method 1007.0 ; NWDLS SOP No. 4020			
Test Organism:	*Mysidopsis bahia*	Age Class:	7 d old
Test Type:	Static-renewal	Test Duration:	7 d
Temperature:	26 ± 1	Photoperiod:	16:8 h; ambient light, 50-100 ft-c
Test Chamber Size:	12 oz plastic disposable cups	Cleaning:	daily during test renewal
No. of Replicates:	10	No. Organisms per Replicate:	5
Test Solution Volume:	250 mL	Dilution Water:	LAB W
Renewal of Test Solution:	Daily	Aeration :	None, unless DO < 4.0 mg/L
Feeding:	One drop; twice daily	Food Type:	*Artemia nauplii*
Acceptability Criteria:	≥80% survival in control; ≥.20 mg average dry weight in control	Sample Holding Time Requirements:	36 h maximum for first use; 72 h maximum for subsequent use.

Test Concentrations (%):	Control , 120, 170, 225, 300, 400	DECHLOR:	N/A	Critical Dilution (%):	N/A

STOX 1 Prep Date/Time/Initials:	9/22/22	1500	WJH	Analytical Standard Record Number	2210250
STOX 2 Prep Date/Time/Initials:	—	—	—	Analytical Standard Record Number	—

Sample Use									
Day #	Date:	Sample ID	Diluent ID	Initials	Day #	Date:	Sample ID	Diluent ID	Initials
Day 0	9/22/22	22-0605 -1	2209981	WJH	Day 4	9-26-22	22-0605 -1	2210376	RPD
Day 1	9-23-22	22-0605 -1	2209981	AOJ	Day 5	9-27-22	22-0605 -1	2210376	BRM
Day 2	9-24-22	22-0605 -1	2209981	KRI	Day 6	9-28-22	22-0605 -1	2210376	BRM
Day 3	9-25-22	22-0605 -1	2209981	KRI	Day 7	—	22-0605	—	—

♦♦

This test was conducted in accordance with the method standard or according to the exception(s) as noted:

TDS entry - TRG

Comments:

① IE YG 10/3/2022-7 [a]

Data Sheet Preparation : Initials: WJH/RPD Date: 9-22-22 Arturo Ortiz Jr

End of Test Review : Initials: WJH/AOJ Date: 9/27/22 Final Review (signature)

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605 ②

Water Quality Parameters

DATE	9/22/22	9-23-22		9-24-22		9-25-22		9-26-22		9/27/22		9/28/22		9/29/22
TIME	1000	0830	0830	0815	0815	~~0810~~ ①	0810	0800	0800	0830	0830	0845	0910	0750
INITIALS	VJC NJH	NJH DPD	NJH DPD	DPD KRI	DPD KRI	CDF KRI	CDL KRI	DPD KRI	DPD KRI	NJH BEM	NJH BEM	BEM ABH	BEM ABH	DPD BEM
DAY	0	1		2		3		4		5		6		7
Solution	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
CONC. (%)	pH OLD/NEW SOLUTION													
Cont	8.0	8.1	8.2	7.7	8.3	8.2	8.3	8.5	8.3	7.8	8.3	7.6	8.3	7.9
120	8.1	8.0	8.1	7.8	8.1	8.1	8.2	8.0	8.1	7.9	8.2	7.8	8.1	8.0
170	8.1	8.0	8.1	7.8	8.1	8.0	8.1	7.9	8.1	7.9	8.2	7.8	8.2	8.0
225	8.1	8.0	8.1	7.8	8.1	8.0	8.1	8.0	8.1	7.9	8.1	7.7	8.2	8.0
300	8.1	8.0	8.1	7.9	8.1	8.0	8.1	8.0	8.1	7.9	8.2	7.9	8.2	8.0
400	8.0	8.0	8.1	7.9	8.0	8.0	8.1	8.0	8.1	7.9	8.1	7.9	8.1	8.1
METER No	737	737	737	737	737	737	737	737	737	737	737	737	737	737
CONC. (%)	DISSOLVED OXYGEN (mg/L) OLD/NEW SOLUTION													
Cont	8.0	8.1	8.2	7.3	8.1	8.6	8.2	8.2	8.1	7.3	8.2	7.1	8.3	7.4
120	8.3	7.8	8.2	7.3	8.0	8.5	8.3	8.2	8.0	7.3	8.2	7.8	8.3	7.4
170	8.3	7.7	8.1	7.3	8.0	8.3	8.2	8.1	8.0	7.4	8.2	7.5	8.2	7.5
225	8.3	7.7	8.1	7.4	8.0	8.3	8.1	7.9	8.0	7.5	8.2	7.4	8.2	7.6
300	8.2	7.8	8.1	7.5	8.0	8.3	8.1	8.0	8.0	7.5	8.2	7.5	8.2	7.7
400	8.2	7.8	8.1	7.5	8.0	8.2	8.1	7.9	8.0	7.4	8.2	7.4	8.2	7.8
METER No.	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6
CONC. (%)	TEMPERATURE (C) OLD/NEW SOLUTION (Actual)													
Cont	25	25	25	25	25	25	25	25	25	25	25	25	25	25
120	25	25	25	25	25	25	25	25	25	25	25	25	25	25
170	25	25	25	25	25	25	25	25	25	25	25	25	25	25
225	25	25	25	25	25	25	25	25	25	25	25	25	25	25
300	25	25	25	25	25	25	25	25	25	25	25	25	25	25
400	25	25	25	25	25	25	25	25	25	25	25	25	25	25
THERM No.	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118
Offset (±°C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments:

① IL AOJ 9-29-22 → [0810]

② IE YG 10/3/2022 → [a]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605

Water Quality Parameters (Cont'd.)

Salinity (‰)							
Conc (%)	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Cont	24						
120	24						
170	24						
225	24						
300	24						
400	24						
Meter No.:	948						

Biological Data

Test Organism Data			
Test Organism Batch #	22-0874	DOB	9/15/22
Source	NWDLS	Age	7 days

Feeding							
Day	AM Batch #	PM Batch #	Initials	Day	AM Batch #	PM Batch #	Initials
0		22018600	JKW	4	22018960	22018960	AD / JKW
1	22018600	22018600	JKW / AD	5	22018960	22018960	AD / AD
2	22018600	22018960	KRO / KRO	6	22018940	22083337	JKW / AD
3	22018960	22018960	KRO / KRO	7	22083337		JKW

Comments:

DIE YG 10/3/2022 → [a]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605 ~~4~~ 3

Test Organisms

Conc (%)	Rep	NUMBER OF SURVIVING ORGANISMS (DAY) 0	1	2	3	4	5	6	7
Cont	A	5		5	5	5	5	5	5
	B	5	5	5	5	5	5	5	5
	C	5	5	5	5	5	4	4	4
	D	5	5	5	5	5	5	5	5
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	5	5	5	5	5	5
	H	5	5	5	5	5	5	5	5
	I	5	5	5	5	5	5	5	5
	J	5	5	5	5	5	5	5	5
120	A	5	5	5	5	5	5	5	5
	B	5	5	5	5	5	5	5	5
	C	5	5	5	4	4	4	4	4
	D	5	5	5	5	5	5	5	5
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	4	4	4	4	4	4
	H	5	5	5	5	5	5	5	5
	I	5	5	5	5	5	5	5	5
	J	5	5	5	5	5	5	5	5
170	A	5	5	5	5	5	5	4	4
	B	5	5	5	5	5	4	3	3
	C	5	5	5	5	5	5	5	5
	D	5	5	5	5	5	5	5	4
	E	5	5	5	5	5	5	5	4
	F	5	5	5	4	4	4	4	4
	G	5	5	5	5	5	5	5	5
	H	5	5	5	5	5	5	4	4
	I	5	5	5	5	5	5	5	4
	J	5	5	4	4	4	4	4	4
225	A	5	5	5	4	4	3	3	3
	B	5	5	5	5	4	4	4	4
	C	5	5	3	3	3	2	2	2
	D	5	5	4	2	2	2	2	2
	E	5	5	4	4	4	3	3	3
	F	5	5	5	4	4	4	4	4
	G	5	5	4	4	4	4	4	4
	H	5	5	5	5	5	5	5	5
	I	5	5	3	3	3	2	2	2
	J	5	5	4	3	3	3	2	2

Conc (%)	Rep	NUMBER OF SURVIVING ORGANISMS (DAY) 0	1	2	3	4	5	6	7
300	A	5	5	3	2	2	1	1	1
	B	5	5	5	3	2	2	2	2
	C	5	~~4~~ ①	5	3	3	1	1	1
	D	5	4	4	4	2	1	1	1
	E	5	4	1	1	1	1	1	0
	F	5	5	5	5	3	2	1	1
	G	5	5	2	1	1	1	1	1
	H	5	5	5	4	3	3	2	2
	I	5	~~3~~ ②	3	3	2	2	2	2
	J	5	~~4~~ ①	5	3	2	2	1	1
400	A	5	5	4	3	2	1	1	0
	B	5	5	4	2	1	1	0	0
	C	5	4	2	1	0	0	0	0
	D	5	4	3	2	0	0	0	0
	E	5	4	3	3	0	0	0	0
	F	5	5	5	2	0	0	0	0
	G	5	5	5	1	0	0	0	0
	H	5	5	5	5	1	1	0	0
	I	5	3	3	3	2	1	0	0
	J	5	4	2	2	0	0	0	0
	A								
	B								
	C								
	D								
	E								
	F								
	G								
	H								
	I								
	J								
	A								
	B								
	C								
	D								
	E								
	F								
	G								
	H								
	I								
	J								

Date	9/22/22	9/23/22	9/24/22	9/25/22	9/26/22	9/27/22	9/28/22	9/29/22
Time	1530	0900	0945	1115	0830	0900	1600	1530
Init	~~WJH~~ DPO	~~WJH~~ ~~YG~~ ④	DPO	KRF	~~WJH~~ ~~YG~~ ④	~~WJH~~ ~~YG~~ ④	BKM	~~WJH~~ ~~YG~~ ④

Comments: ① IE WJH 9/23/22 -> [5]
② IE WJH 9/23/22 -> [5]
③ IE YG 10/3/2022 -> [a]
④ IE YG 10/4/2022 -> [N/A]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605X

Dry Tissue Weight

CONC (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT. (g)	CONC (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
Cont	A	1 *	.00455	.00623	225	A	31	.00404	.00511
	B	2	.00464	.00707		B	32	.00444	.00505
	C	3	.00456	.00612		C	33	.00442	.00510
	D	4	.00469	.00647		D	34 *	.00440	.00515
	E	5	.00452	.00700		E	35	.00453	.00554
	F	6	.00468	.00723		F	36	.00422	.00510
	G	7	.00474	.00698		G	37	.00454	.00540
	H	8	.00486	.00699		H	38	.00445	.00567
	I	9	.00475	.00671		I	39	.00452	.00485
	J	10	.00462	.00657		J	40	.00423	.00484
120	A	11	.00457	.00590	300	A	41	.00434	.00465
	B	12	.00468	.00634		B	42	.00441	.00477
	C	13 *	.00443	.00595		C	43	.00427	.00468
	D	14	.00456	.00599		D	44	.00437	.00468
	E	15	.00469	.00684		E	45	.00455	—
	F	16	.00457	.00645		F	46	.00448	.00460
	G	17	.00475	.00603		G	47	.00431	.00450
	H	18	.00460	.00604		H	48	.00447	.00494
	I	19	.00472	.00661		I	49 *	.00438	.00476
	J	20	.00434	.00614		J	50	.00427	.00461
170	A	21	.00459	.00588	400	A	51	.00423	—
	B	22	.00464	.00555		B	52	.00431	—
	C	23	.00457	.00575		C	53	.00432	—
	D	24	.00450	.00535		D	54	.00440	—
	E	25	.00460	.00566		E	55	.00452	—
	F	26 *	.00468	.00594		F	56	.00451	—
	G	27	.00464	.00612		G	57	.00428	—
	H	28	.00457	.00540		H	58	.00435	—
	I	29	.00460	.00591		I	59	.00436	—
	J	30	.00441	.00562		J	60 *	.00419	—

Comments:

① IE YG 10/3/2022 → (a)

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605

Dry Tissue Weight (cont'd)

CONC (%)	REP	PAN NO.	TARE WT. (g)	TOTAL WT. (g)
	A	61		
	B	62		
	C	63		
	D	64		
	E	65		
	F	66		
	G	67		
	H	68		
	I	69		
	J	70		
	A	71		
	B	72		
	C	73		
	D	74		
	E	75		
	F	76		
	G	77		
	H	78		
	I	79		
	J	80		
QA/QC (pans)		1	.00451	.00624
		13	.00441	.00597
		26	.00470	.00594
		34	.00441	.00510
		49	.00439	.00478
		60	.00421	—

BALANCE ID#	852
OVEN ID#	SW1
BALANCE VERIFICATION INITIALS	DPD
DATE/ TARE WEIGHT INITIALS	9-23-22, DPD
DATE DRYING INITIATED	9/29/22
TIME DRYING INITIATED	1400
OVEN TEMP(Act/Corr) (°C)	105 , 105
INITIALS	WJH / AOJ
DATE/TIME DRYING TERMINATED	9-30-22
OVEN TEMP (Act/Corr) (°C)	105 , 105
BALANCE VERIFICATION INITIALS	CBR
TOTAL WEIGHT DATE/ INITIALS	9-30-22 , CBR

COMMENTS:
D JE YG 10/3/2022 -> [a]

TREAT = Treatment REP = Replicate CONT = Control No. = Number ORG. = Organism

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0605-10

Test Notes

Comments	Date	Time	Initials
① IE YG 10/3/2022 → [a]			

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Analytical Standard Record

2210250

Description:	Mysid STOX Working Solution (1 mg/L)	Expires:	03/22/2023
Standard Type:	Analyte Spike	Prepared:	09/22/2022
Solvent:	-	Prepared By:	Willneisha Hutchinson
Final Volume (mls):	20000	Department:	Toxicology
Vials:	1	Last Edit:	09/21/2022 15:01 by WJH

Comments: Dispense 20 mL 1000 mg/L copper standard into 1-L volumetric flask and bring to volume with reconstituted seawater (HMM). Pour into 20-L cubitainer. Add 19000 mL HMM to cubitainer. See attached PDF-file for dilution scheme.

Analyte	Parent	CAS Number	Concentration	Units
Copper	2113304	7440-47-3	1	mg/L

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
2113304	Copper, 1000 ppm	12/21/2021	Aqua Solutions	026915	04/01/2026	12/21/2021 09:54 by AOJ	20
2209981	Lab Saltwater	09/01/2022	-	-	03/01/2023	09/06/2022 16:23 by AOJ	19980

Reviewed By

9-22-22
Date

Inland Silverside 7-d Larval Survival and Growth Test **All Matching Labs**

Test Type:	Growth-Survival (7d)	**Organism:**	Menidia beryllina (Inland Silverside)	**Material:**	Copper
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	7d Survival Rate	**Source:**	Reference Toxicant-REF

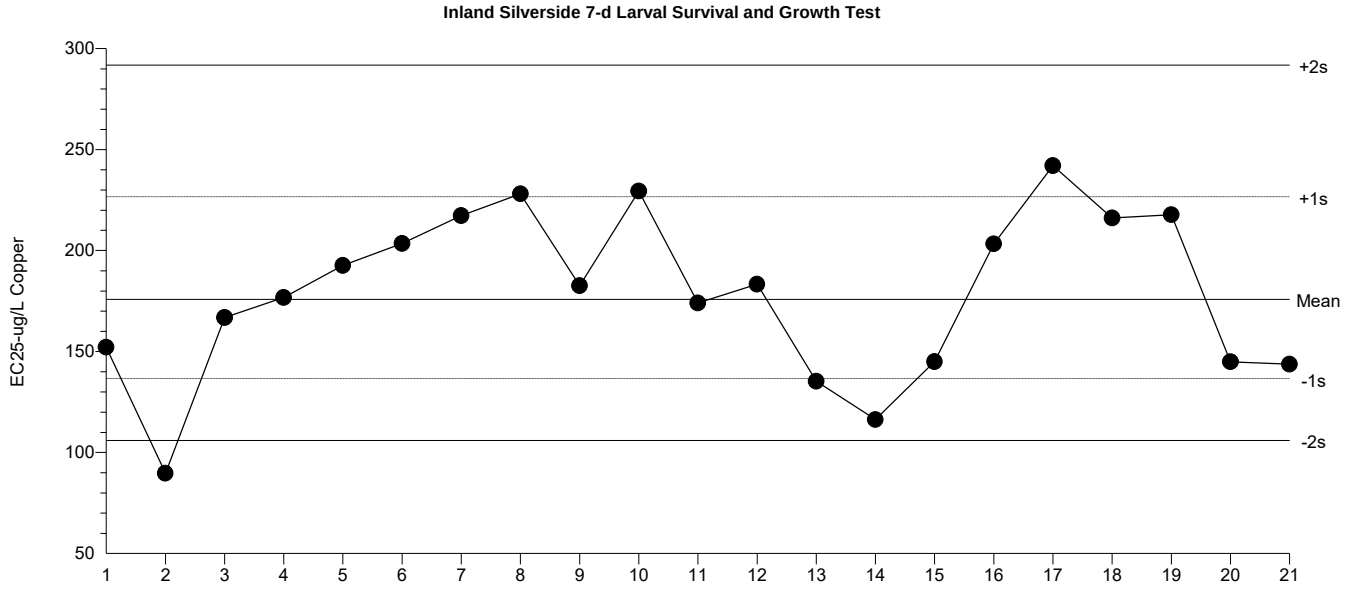
Mean:	236.7	**Count:**	20	**-1s Warning Limit:**	189.2	**-2s Action Limit:**	151.2
Sigma:	n/a	**CV:**	22.70%	**+1s Warning Limit:**	296.2	**+2s Action Limit:**	370.6

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Jan	7	14:30	204.8	-31.92	-0.6463			11-8669-1134	15-7346-5259	NWDLS Environ. Toxicol.
2		Feb	10	12:00	129.4	-107.3	-2.694	(-)	(-)	19-0426-1634	11-0292-5070	NWDLS Environ. Toxicol.
3		Mar	18	12:00	248.5	11.72	0.2156			19-2942-0562	19-3228-2714	NWDLS Environ. Toxicol.
4		Apr	7	17:00	263.6	26.88	0.4799			09-6023-9668	00-7899-7098	NWDLS Environ. Toxicol.
5		May	20	13:30	255.6	18.87	0.3422			16-8999-3463	08-8634-5597	NWDLS Environ. Toxicol.
6		Jun	3	13:00	281.2	44.46	0.7679			09-4953-8218	06-7574-1585	NWDLS Environ. Toxicol.
7		Jul	6	14:30	291.7	54.99	0.932			06-6487-9714	14-1219-8967	NWDLS Environ. Toxicol.
8		Aug	18	16:00	294.1	57.32	0.9675			15-8347-6079	20-3670-2984	NWDLS Environ. Toxicol.
9		Sep	7	10:30	240.9	4.159	0.0777			01-3526-1514	20-5345-6399	NWDLS Environ. Toxicol.
10		Oct	1	11:45	337.9	101.2	1.588	(+)		19-5909-2091	14-4131-0545	NWDLS Environ. Toxicol.
11		Nov	17	15:30	230.4	-6.343	-0.1212			05-7761-2074	00-5531-0604	NWDLS Environ. Toxicol.
12		Dec	20	13:30	229.2	-7.536	-0.1443			16-9811-7085	01-0812-0412	NWDLS Environ. Toxicol.
13	2022	Jan	4	13:00	184.5	-52.29	-1.114	(-)		19-3164-8761	02-7203-5408	NWDLS Environ. Toxicol.
14		Feb	28	13:30	203	-33.7	-0.6852			21-2117-1383	01-0955-3278	NWDLS Environ. Toxicol.
15		Mar	2	13:30	175.1	-61.6	-1.345	(-)		12-9241-9919	08-0675-1644	NWDLS Environ. Toxicol.
16		Apr	1	11:00	280.6	43.82	0.7578			19-3392-2474	19-5278-6182	NWDLS Environ. Toxicol.
17		May	24	13:30	288.1	51.34	0.8759			13-7048-3575	11-7991-6591	NWDLS Environ. Toxicol.
18		Jun	15	15:30	247.6	10.86	0.2002			21-4687-2843	13-9181-7688	NWDLS Environ. Toxicol.
19		Jul	1	10:30	262.7	25.99	0.4648			13-1145-4445	09-9419-4126	NWDLS Environ. Toxicol.
20		Aug	18	11:00	192.5	-44.23	-0.9228			04-7687-8681	19-5334-6361	NWDLS Environ. Toxicol.
21		Sep	12	11:20	212.4	-24.39	-0.4852			21-1119-9666	05-3481-6958	NWDLS Environ. Toxicol.

Inland Silverside 7-d Larval Survival and Growth Test **All Matching Labs**

Test Type:	Growth-Survival (7d)	**Organism:**	Menidia beryllina (Inland Silverside)	**Material:**	Copper
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	Mean Dry Biomass-mg	**Source:**	Reference Toxicant-REF



Mean:	175.9	**Count:**	20	**-1s Warning Limit:**	136.6	**-2s Action Limit:**	106
Sigma:	n/a	**CV:**	25.70%	**+1s Warning Limit:**	226.6	**+2s Action Limit:**	291.9

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Jan	7	14:30	152.1	-23.81	-0.5744			11-8669-1134	11-6048-4214	NWDLS Environ. Toxicol.
2		Feb	10	12:00	89.72	-86.2	-2.659	(-)	(-)	19-0426-1634	08-1298-5961	NWDLS Environ. Toxicol.
3		Mar	18	12:00	166.8	-9.105	-0.2099			19-2942-0562	07-9357-5238	NWDLS Environ. Toxicol.
4		Apr	7	17:00	176.7	0.7977	0.01787			09-6023-9668	07-2914-9717	NWDLS Environ. Toxicol.
5		May	20	13:30	192.6	16.71	0.3584			16-8999-3463	05-3918-8320	NWDLS Environ. Toxicol.
6		Jun	3	13:00	203.5	27.58	0.5752			09-4953-8218	00-4075-3486	NWDLS Environ. Toxicol.
7		Jul	6	14:30	217.3	41.35	0.8338			06-6487-9714	15-4338-5084	NWDLS Environ. Toxicol.
8		Aug	18	16:00	228.1	52.14	1.025	(+)		15-8347-6079	18-3962-2909	NWDLS Environ. Toxicol.
9		Sep	7	10:30	182.6	6.645	0.1464			01-3526-1514	11-6816-4915	NWDLS Environ. Toxicol.
10		Oct	1	11:45	229.4	53.49	1.049	(+)		19-5909-2091	10-6419-2141	NWDLS Environ. Toxicol.
11		Nov	17	15:30	174	-1.938	-0.04375			05-7761-2074	00-0061-5553	NWDLS Environ. Toxicol.
12		Dec	20	13:30	183.3	7.396	0.1627			16-9811-7085	09-5560-0815	NWDLS Environ. Toxicol.
13	2022	Jan	4	13:00	135.2	-40.69	-1.039	(-)		19-3164-8761	15-9947-7419	NWDLS Environ. Toxicol.
14		Feb	28	13:30	116.3	-59.62	-1.635	(-)		21-2117-1383	02-2853-0020	NWDLS Environ. Toxicol.
15		Mar	2	13:30	145	-30.95	-0.7642			12-9241-9919	11-2717-2616	NWDLS Environ. Toxicol.
16		Apr	1	11:00	203.3	27.38	0.5714			19-3392-2474	00-5366-5950	NWDLS Environ. Toxicol.
17		May	24	13:30	242	66.11	1.26	(+)		13-7048-3575	09-0327-7999	NWDLS Environ. Toxicol.
18		Jun	15	15:30	216.1	40.17	0.8123			21-4687-2843	10-7006-7204	NWDLS Environ. Toxicol.
19		Jul	1	10:30	217.7	41.8	0.842			13-1145-4445	02-9946-3094	NWDLS Environ. Toxicol.
20		Aug	18	11:00	144.9	-31.01	-0.7659			04-7687-8681	07-2832-5636	NWDLS Environ. Toxicol.
21		Sep	12	11:20	143.7	-32.18	-0.7978			21-1119-9666	04-9416-5896	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	21 Sep-22 14:11 (p 1 of 1)
Test Code/ID:	22-0566h / 21-1119-9666

Inland Silverside 7-d Larval Survival and Growth Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	05-3481-6958	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	21 Sep-22 13:15	**Analysis:**	Untrimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	07-7962-0763	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Brianna Milam		
Start Date:	12 Sep-22 11:20	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	19 Sep-22 11:20	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	11d

Sample ID:	01-3454-7493	**Code:**	8050825	**Project:**	047000100 0400.X
Sample Date:	11 Sep-22 14:30	**Material:**	Copper	**Source:**	Reference Toxicant
Receipt Date:	11 Sep-22 14:30	**CAS (PC):**		**Station:**	
Sample Age:	21h	**Client:**	North Water District Laboratory Services, In		

Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0	0.00%	2.327	0.01308	212.4	199.9	225.5

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0	<<	0.4	Yes	Passes Criteria
Control Resp	1	0.8	>>	Yes	Passes Criteria

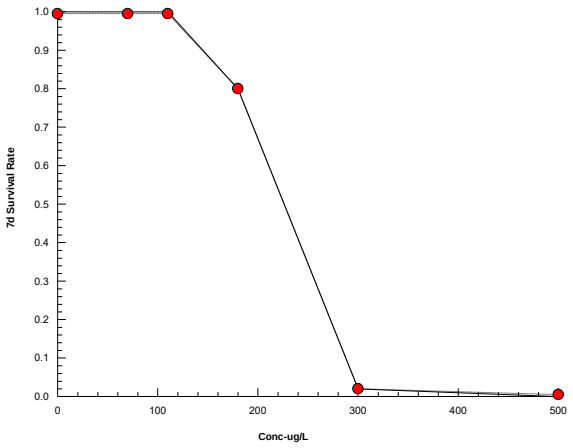
7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
70		5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
110		5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
180		5	0.8000	0.7000	0.9000	0.0707	8.84%	20.0%	40/50	0.8	20.0%
300		5	0.0200	0.0000	0.1000	0.0447	223.60%	98.0%	1/50	0.02	98.0%
500		5	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%

7d Survival Rate Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
70		1.0000	1.0000	1.0000	1.0000	1.0000
110		1.0000	1.0000	1.0000	1.0000	1.0000
180		0.8000	0.8000	0.9000	0.7000	0.8000
300		0.0000	0.0000	0.0000	0.1000	0.0000
500		0.0000	0.0000	0.0000	0.0000	0.0000

Graphics



Inland Silverside 7-d Larval Survival and Growth Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-9416-5896	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	21 Sep-22 13:15	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	07-7962-0763	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Brianna Milam		
Start Date:	12 Sep-22 11:20	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	19 Sep-22 11:20	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	11d

Sample ID:	01-3454-7493	**Code:**	8050825	**Project:**	047000100 0400.X
Sample Date:	11 Sep-22 14:30	**Material:**	Copper	**Source:**	Reference Toxicant
Receipt Date:	11 Sep-22 14:30	**CAS (PC):**		**Station:**	
Sample Age:	21h	**Client:**	North Water District Laboratory Services, In		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	281127	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.0767	<<	0.4	Yes	Passes Criteria
Control Resp	0.7094	0.5	>>	Yes	Passes Criteria

Point Estimates

Level	ug/L	95% LCL	95% UCL
IC25	143.7	113.4	161

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	L	5	0.7094	0.643	0.772	0.05441	7.67%	0.0%	0.7126	0.0%
70		5	0.7158	0.57	0.822	0.1062	14.84%	-0.9%	0.7126	0.0%
110		5	0.648	0.551	0.781	0.09203	14.20%	8.66%	0.648	9.07%
180		5	0.4124	0.322	0.489	0.07288	17.67%	41.87%	0.4124	42.13%
300		5	0.0068	0	0.034	0.01521	223.60%	99.04%	0.0068	99.05%
500		5	0	0	0	0		100.0%	0	100.0%

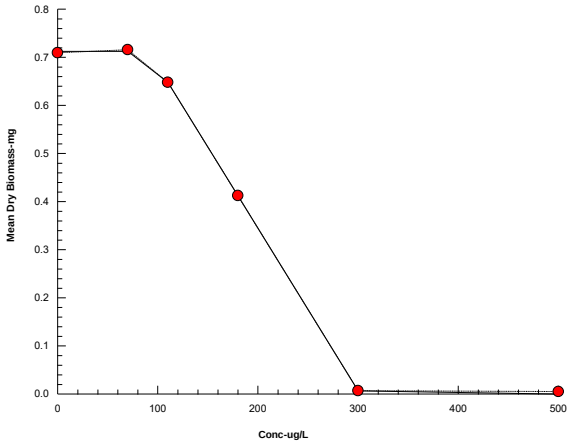
Mean Dry Biomass-mg Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	0.688	0.643	0.772	0.685	0.759
70		0.822	0.815	0.57	0.708	0.664
110		0.551	0.701	0.601	0.606	0.781
180		0.489	0.322	0.486	0.383	0.382
300		0	0	0	0.034	0
500		0	0	0	0	0

Inland Silverside 7-d Larval Survival and Growth Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-9416-5896	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	21 Sep-22 13:15	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



Client:	NWDLS STOX - Is7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0

Chronic *Menidia beryllina* Test Condition Summary - EPA-821-R-02-014 Test Method 1006.0 ; NWDLS SOP No. 4023			
Test Organism:	*Menidia beryllina*	Age Class:	7-11 d old
Test Type:	Static-renewal	Test Duration:	7 d
Temperature:	25 ± 1	Photoperiod:	16:8 h; ambient light, 50-100 ft-c
Test Chamber Size:	600 mL-1 L plastic disposable cups	Cleaning:	daily during test renewal
No. of Replicates:	5	No. Organisms per Replicate:	10
Test Solution Volume:	500 mL	Dilution Water:	LAB W
Renewal of Test Solution:	Daily	Aeration :	None, unless DO < 4.0 mg/L
Feeding:	Once on day 0, twice on days 1-6	Food Type:	*Artemia nauplii*
Acceptability Criteria:	≥ 80% survival in control; ≥ .50 mg average dry weight in control	Sample Holding Time Requirements:	36 h maximum for first use; 72 h maximum for subsequent use

Test Concentrations (%):	Control , 70, 110, 180, 300, 500	DECHLOR:	N/A	Critical Dilution (%):	N/A

STOX 1 Prep Date/Time/Initials:	9/11/22	1430	BRM	Analytical Standard Record Number	2210381
STOX 2 Prep Date/Time/Initials:	—	—	—	Analytical Standard Record Number	—

Sample Use									
Day #	Date:	Sample ID	Diluent ID	Initials	Day #	Date:	Sample ID	Diluent ID	Initials
Day 0	9-12-22	22-0566 -1	2209981	DPO	Day 4	9-16-22	22-0566 -1	2209981	KRI
Day 1	9-13-22	22-0566 -1	2209981	AOJ	Day 5	9-17-22	22-0566 -1	2209981	KRI
Day 2	9-14-22	22-0566 -1	2209981	WDK/AOJ	Day 6	9-18-22	22-0566 -1	2209981	CBK/DPO
Day 3	9-15-22	22-0566 -1	2209981	DPO	Day 7	—	22-0566 —	—	—

♦♦

This test was conducted in accordance with the method standard or according to the exception(s) as noted:

Comments:

Data Sheet Preparation : Initials: DPO/AOJ Date: 9/11/22

End of Test Review : Initials: BRM Date: 9/19/22 Final Review (signature)

Codes: IE-Incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Is7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0566

Test Organism Data

Test Organism Data			
Test Organism Batch #	22-0839	DOB	9/1/22
Source	NWDLS	Age	11

Feeding							
Day	AM Batch #	PM Batch #	Initials	Day	AM Batch #	PM Batch #	Initials
0		2201883	/ MB	4	2201858	2201858	MB / MB
1	2201883	2201883	JKW / MB	5	2201858	2201858	KRO / KRO
2	2201883	2201858	MB / JKW	6	2201859	2201859	KRO / KRO
3	2201858	2201858	JKW / KRO	7			

CONC (%)		NUMBER OF SURVIVING ORGANISMS (DAY)							
		0	1	2	3	4	5	6	7
Cont	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
70	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
110	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
180	A	10	10	10	9	8	8	8	8
	B	10	10	10	9	8	8	8	8
	C	10	10	10	9	9	9	9	9
	D	10	10	8	8	8	8	7	7
	E	10	10	10	8	8	8	8	8

CONC (%)		NUMBER OF SURVIVING ORGANISMS (DAY)							
		0	1	2	3	4	5	6	7
300	A	10	10	5	5/10	0	0	0	0
	B	10	10	3	3	0	0	0	0
	C	10	10	3	3/	1	0	0	0
	D	10	10	7	7/2	2	2	1	1
	E	10	10	4	4	1	0	0	0
500	A	10	5	0	0	0	0	0	0
	B	10	6	0	0	0	0	0	0
	C	10	7	0	0	0	0	0	0
	D	10	4	1	0	0	0	0	0
	E	10	3	0	0	0	0	0	0
	A								
	B								
	C								
	D								
	E								
	A								
	B								
	C								
	D								
	E								

Date	09/12/22	9/13/22	9/14/22	9/15/22	9/16/22	9/17/22	9/18/22	09/19/22
Time	1120	1130	0900	0910	1030	0945	0820	1120
Initials	BRM / NBH	BRM	BRM	DPD	KRI	DPD	DPD	BRM

Comments:
① IE DPD 9/15/22 → [0]
② IE DPD 9/15/22 → [2]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Is7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0566

Dry Tissue Weight

CONC.	REP	PAN NO.	TARE	TOTAL
Cont	A	1	.00678	.01376
	B	2	.00695	.01338
	C	3	.00673	.01445
	D	4	.00678	.01363
	E	5 *	.00693	.01452
70	A	6	.00717	.01539
	B	7	.00687	.01502
	C	8	.00692	.01262
	D	9	.00643	.01391
	E	10	.00691	.01315
110	A	11	.00695	.01246
	B	12 *	.00684	.01385
	C	13	.00694	.01295
	D	14	~~.00681~~ ③	.01287
	E	15	.00680	.01461
180	A	16	.00665	.01154
	B	17	.00679	.01001
	C	18	.00703	.01189
	D	19	.00668	.01091
	E	20	.00708	.01090
300	A	21	.00669	—
	B	22	.00684	—
	C	23	.00674	—
	D	24 *	.00683	.00717
	E	25	.00674	—
500	A	26	.00707	—
	B	27	.00689	—
	C	28	.00653	—
	D	29	.00682	—
	E	30	.00688	—

CONC.	REP	PAN NO.	TARE	TOTAL
	A	31		
	B	32		
	C	33		
	D	34		
	E	35		
QA/QC (pans)		5	.00696	.01452
		12	.00680	.01384
		24	.00682	.00719

BALANCE ID# 791

OVEN ID# SC01

BALANCE VERIFICATION INITIALS BRM

DATE/TARE WEIGHT INITIALS 9-1-22 / BRM

DATE DRYING INITIATED 9/19/22

TIME DRYING INITIATED 1150

OVEN TEMPERATURE (°C) (Actual/Corrected) 105/105

INITIALS BRM

DATE/ TIME DRYING TERMINATED 9/20/22, 1000

OVEN TEMPERATURE (°C) (Actual/Corrected) 105/105

BALANCE VERIFICATION INITIALS ~~105~~ ① / ~~105~~ ②

TOTAL WEIGHT DATE/INITIALS ② ~~9/20/22~~ BRM

COMMENTS: ① IE BRM 9/20/22 → [BRM]
② IE BRM 9/20/22 → [9/20/22
③ IL YG 9/21/2022 → [.00681]

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Is7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0566

Water Quality Parameters

DATE	9/12/22	9/13/22		9/14/22		9/15/22		9-16-22		9-17-22		9-18-22		9/19/22
TIME	1111	0800	0800	0840	0840	0820	0820	0810	0810	0800	0800	0810	0810	0750
INITIALS	BRM ABH	AOJ BRM	AOJ BRM	AOJ WJH	AOJ WJH	DPO BRM	DPO BRM	DPO KRI	DPO KRI	DPO KRI	DPO KRI	CBR KRI	CBR KRI	BRM KRI
DAY	0	1		2		3		4		5		6		7
Solution	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
CONC. (%)	pH OLD/NEW SOLUTION													
Cont	8.1	8.0	8.3	7.9	8.2	8.0	8.3	8.0	8.2	8.0	8.3	8.1	8.2	7.8
70	8.1	8.0	8.0	7.9	8.1	8.0	8.2	8.0	8.2	8.0	8.2	8.1	8.2	7.9
110	8.0	8.0	8.1	7.9	8.2	8.0	8.2	8.0	8.2	8.0	8.2	8.1	8.2	7.9
180	7.9	8.0	8.1	7.9	8.1	8.0	8.2	8.0	8.2	8.0	8.2	8.1	8.2	8.0
300	7.9	8.0	8.0	8.0	8.1	8.0	8.1	8.0	8.2	8.0	8.1	8.1	8.1	8.0
500	7.8	8.0	7.9	8.0	8.0	8.0	8.0	—	—	—	—	—	—	—
METER No	737	737	737	737	737	737	737	737	737	737	737	737	737	737
CONC. (%)	DISSOLVED OXYGEN (mg/L) OLD/NEW SOLUTION													
Cont	8.3	7.8	8.3	7.4	8.1	7.3	8.1	7.7	8.2	7.9	8.3	8.3	8.3	8.1
70	8.5	7.8	8.3	7.4	8.1	7.3	8.1	7.7	8.1	7.9	8.3	8.1	8.6	8.2
110	8.4	7.8	8.3	7.5	8.1	7.4	8.1	7.7	8.1	7.9	8.3	8.0	8.2	8.0
180	8.4	7.8	8.3	7.5	8.2	7.5	8.1	7.7	8.1	7.9	8.3	8.0	8.2	8.0
300	8.4	7.8	8.2	7.5	8.2	7.5	8.1	7.7	8.1	7.9	8.3	8.0	8.2	8.1
500	8.4	7.8	8.4	7.6	8.2	7.6	8.1	—	—	—	—	—	—	—
METER No.	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6
CONC. (%)	TEMPERATURE (C) OLD/NEW SOLUTION (Actual)													
Cont	25	25	25	25	25	25	25	25	25	25	25	25	25	25
70	25	25	25	25	25	25	25	25	25	25	25	25	25	25
110	25	25	25	25	25	25	25	25	25	25	25	25	25	25
180	25	25	25	25	25	25	25	25	25	25	25	25	25	25
300	25	25	25	25	25	25	25	25	25	25	25	25	25	25
500	25	25	25	25	25	25	25	—	—	—	—	—	—	—
THERM No.	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118	T-118
Offset (±°C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments:

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS STOX - Is7	Permit #:	N/A	Outfall #:	N/A	Login #:	22-0566

Water Quality Parameters (continued)

Salinity (‰)							
Conc (%)	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Cont	26						
70	26						
110	26						
180	26						
300	26						
500	26						
Meter No.:	948						

Test Notes

Comments	Date	Time	Initials

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

RANDOM NUMBERS 1-30

NWDLS STOX
22-0566
FS

1	22	Lab-W
2	12	
3	30	
4	1	
5	19	
6	23	70
7	27	
8	14	
9	15	
10	5	
11	24	110
12	4	
13	21	
14	18	
15	11	
16	26	180
17	8	
18	13	
19	17	
20	20	
21	28	300
22	3	
23	25	
24	10	
25	6	
26	9	500
27	7	
28	2	
29	29	
30	16	

NWDLS **ToxTrax**

Ibui Logout

(/)

Client (ClientMain.aspx?ClientID=218) | Permits (ClientPermit.aspx?ClientID=218) | Jobs (ClientJobs.aspx?ClientID=218) | Events (ClientEvents.aspx?ClientID=218) | **Tests (ClientTests.aspx?ClientID=218)**

Client	Organism	Duration	Test Type	Start	End	Sample #	Job Number
NWDLS STOX	Ceriodaphnia dubia	48 Hours	Acute	9/3/2008	9/5/2008		047000100 0400.X
NWDLS STOX	Ceriodaphnia dubia	7 Days	Chronic	9/3/2008	9/10/2008		047000100 0400.X
NWDLS STOX	Daphnia magna	7 Days	Chronic	9/3/2008	9/10/2008		047000100 0400.X
NWDLS STOX	Daphnia pulex	48 Hours	Acute	9/3/2008	9/5/2008		047000100 0400.X

Test Details | Survival | Weight | Young Prod. | Water Quality | Chemistry | Resources

Job:
Event:

Organism: Menidia beryllina Test Type: Chronic Duration: 7 Days Load Default Values

Age Class: 7-11 Days Old
Temperature: 25
Photoperiod: 16:8 Hr; Ambient Light; 50-100 ft-c
Test Chamber Size: 600 mL - 1 L plastic disposable cups
Cleaning: Daily During Test Renewal
Replicates: 5
Organisms/Rep: 10
Solution Volume: 500 mL
Dilution Water: Receiving Water
Test Solution Renewal: Daily
Aeration: None, unless DO < 4.0 mg/L
Feeding: Once on day 0, twice on days 1-6
Food Type: Artemia Nauplii

Pre-Test Days: 7
Start Date: 9/12/2022
End Date: 9/19/2022
Post Test Days: 17
Laboratory: Saltwater

Comments:
Culture: Justin's DOC

New Test Save

Analytical Standard Record

2210381

Description:	Menidia STOX Work Soln (0.5 mg/L)	Expires:	09/19/2022
Standard Type:	Analyte Spike	Prepared:	09/12/2022
Solvent:	-	Prepared By:	Brianna Milam
Final Volume (mls):	42000	Department:	Toxicology
Vials:	1	Last Edit:	09/11/2022 14:45 by BRM

Comments: Dispense 21 mL 1000 mg/L copper standard into 1-L volumetric flask and bring to volume with HMM. Pour into 20-gal Brute can. Add 41 L HMM to Brute can, mix well and transfer to 20-L cubes. See attached PDF-file for dilution scheme.

Analyte	Parent	CAS Number	Concentration	Units
Copper	2113304	7440-47-3	0.0238	mg/L

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
2113304	Copper, 1000 ppm	12/21/2021	Aqua Solutions	026915	04/01/2026	12/21/2021 09:54 by AOJ	1
2209981	Lab Saltwater	09/01/2022	-	-	03/01/2023	09/06/2022 16:23 by AOJ	1

2210381

Menidia STOX Work Soln (0.5 mg/L)
Expires 9/19/2022
Prepared By Brianna Milam 9/12/2022

Brianna Milam
Reviewed By

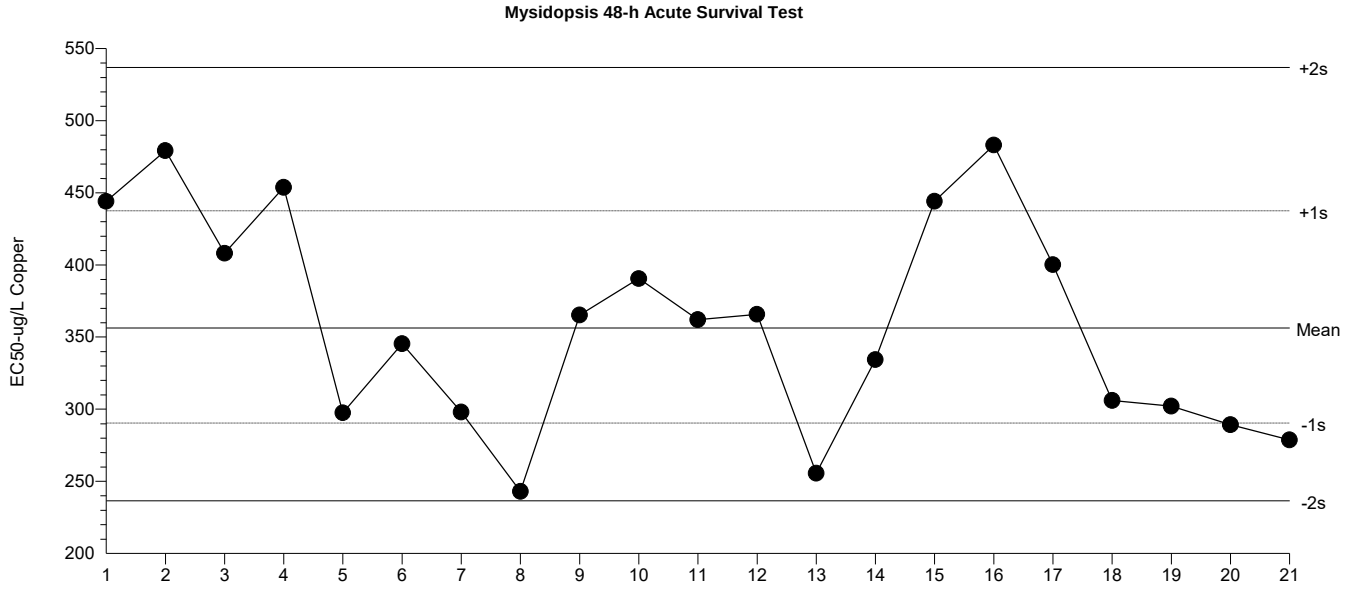
9/11/22
Date

CETIS QC Plot

Report Date: 19 Sep-22 14:54 (1 of 1)

Mysidopsis 48-h Acute Survival Test — **All Matching Labs**

Test Type:	Survival (48h)	**Organism:**	Mysidopsis bahia (Atlantic Mysid)	**Material:**	Copper
Protocol:	EPA/821/R-02-012 (2002)	**Endpoint:**	48h Survival Rate	**Source:**	Reference Toxicant-REF



Mean:	356.4	**Count:**	20	**-1s Warning Limit:**	290.3	**-2s Action Limit:**	236.5
Sigma:	n/a	**CV:**	20.70%	**+1s Warning Limit:**	437.5	**+2s Action Limit:**	537

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Mar	17	14:45	444	87.65	1.073	(+)		18-1331-1255	00-0803-7651	NWDLS Environ. Toxicol.
2		Apr	7	12:30	479.2	122.8	1.445	(+)		03-6046-2365	04-6496-7374	NWDLS Environ. Toxicol.
3		May	19	12:00	408.1	51.67	0.6605			21-2526-5582	06-1515-5490	NWDLS Environ. Toxicol.
4		Jun	16	14:00	453.8	97.39	1.178	(+)		18-4204-1639	14-3782-8395	NWDLS Environ. Toxicol.
5		Jul	6	10:30	297.5	-58.92	-0.8815			16-8850-0499	04-7835-5860	NWDLS Environ. Toxicol.
6		Aug	18	16:30	345.4	-11.01	-0.1531			09-8714-0571	13-7368-7322	NWDLS Environ. Toxicol.
7		Sep	16	14:20	298	-58.37	-0.8725			00-5356-8850	19-0048-4930	NWDLS Environ. Toxicol.
8		Oct	1	10:00	243	-113.4	-1.869	(-)		15-3507-3847	14-4478-7376	NWDLS Environ. Toxicol.
9			8	15:30	365.3	8.885	0.1201			00-2068-6568	12-4804-3475	NWDLS Environ. Toxicol.
10		Nov	17	10:10	390.5	34.13	0.4461			13-5199-3437	11-8826-1593	NWDLS Environ. Toxicol.
11		Dec	20	13:30	362.1	5.673	0.07703			03-4349-9991	06-9678-7638	NWDLS Environ. Toxicol.
12	2022	Jan	4	10:00	365.8	9.391	0.1269			07-5397-4255	19-4485-0918	NWDLS Environ. Toxicol.
13		Feb	2	11:00	255.6	-100.8	-1.622	(-)		11-4910-6286	00-1712-1496	NWDLS Environ. Toxicol.
14		Mar	3	12:00	334.3	-22.04	-0.3114			13-9230-6288	01-2717-2008	NWDLS Environ. Toxicol.
15		Apr	1	12:00	444.1	87.76	1.074	(+)		14-3637-8837	03-1013-2391	NWDLS Environ. Toxicol.
16		May	4	11:40	483.1	126.7	1.484	(+)		14-8660-9054	04-1170-0909	NWDLS Environ. Toxicol.
17		Jun	2	10:40	400.2	43.77	0.5651			06-3439-2508	06-7910-2924	NWDLS Environ. Toxicol.
18			15	11:10	306	-50.39	-0.7436			16-1640-3746	13-9206-8668	NWDLS Environ. Toxicol.
19		Jul	1	14:30	302	-54.33	-0.8069			04-6114-0906	17-3828-3165	NWDLS Environ. Toxicol.
20		Aug	3	14:15	289.2	-67.21	-1.019	(-)		07-3996-3789	19-5616-0798	NWDLS Environ. Toxicol.
21		Sep	7	13:45	278.7	-77.73	-1.2	(-)		07-0189-7071	05-6772-2777	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	19 Sep-22 14:53 (p 1 of 1)
Test Code/ID:	22-0566d / 07-0189-7071

Mysidopsis 48-h Acute Survival Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	05-6772-2777	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	19 Sep-22 14:53	**Analysis:**	Trimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	14-1985-8326	**Test Type:**	Survival (48h)	**Analyst:**	Vynna Chitolie		
Start Date:	07 Sep-22 13:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	09 Sep-22 14:20	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	49h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5d

Sample ID:	17-3078-2255	**Code:**	6729A42F	**Project:**	047000100 0400.X
Sample Date:	07 Sep-22 11:30	**Material:**	Copper	**Source:**	Reference Toxicant
Receipt Date:	07 Sep-22 11:30	**CAS (PC):**		**Station:**	
Sample Age:	2h	**Client:**	North Water District Laboratory Services, In		

Trimmed Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0	16.00%	2.445	0.02216	278.7	251.6	308.6

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.9	>>	Yes	Passes Criteria

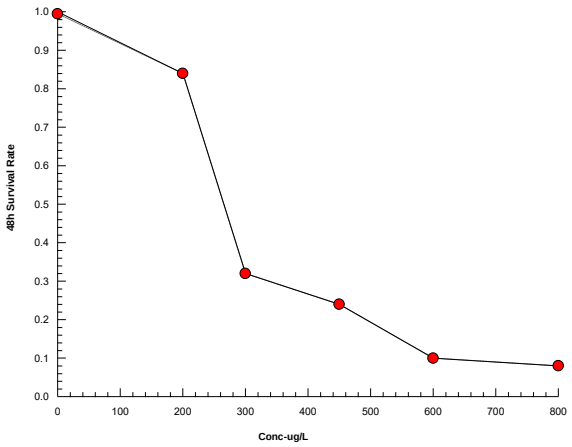
48h Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
200		5	0.8400	0.7000	1.0000	0.1342	15.97%	16.0%	42/50	0.84	16.0%
300		5	0.3200	0.3000	0.4000	0.0447	13.98%	68.0%	16/50	0.32	68.0%
450		5	0.2400	0.0000	0.4000	0.1817	75.69%	76.0%	12/50	0.24	76.0%
600		5	0.1000	0.0000	0.2000	0.0707	70.71%	90.0%	5/50	0.1	90.0%
800		5	0.0800	0.0000	0.3000	0.1304	163.00%	92.0%	4/50	0.08	92.0%

48h Survival Rate Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
200		0.7000	1.0000	0.7000	0.9000	0.9000
300		0.3000	0.3000	0.4000	0.3000	0.3000
450		0.3000	0.4000	0.4000	0.0000	0.1000
600		0.1000	0.1000	0.2000	0.0000	0.1000
800		0.0000	0.0000	0.3000	0.1000	0.0000

Graphics



Client	DOC STOX VJC - Mb48	Login	22-0566	NWDLS Job No.	04700

BFI1333

48 h Acute *Mysidopsis bahia* Toxicity Test Condition Summary Test Method EPA-821-R-02-012-2007.0; NWDLS SOP No. 4017			
Test Organism:	*Mysidopsis bahia*	Age Class:	1-5 d old
Test Type:	Acute Static	Test Duration:	48 h
Temperature:	20 ± 1, or 25 ± 1	Photoperiod:	16:8 h; ambient light; 50-100 ft-c
Test Chamber size:	300 mL cups	Cleaning:	Daily during test renewal
No. of Replicates:	5	No. organisms per Replicate:	10
Test Solution Volume	200 mL (minimum)	Dilution Water:	LAB-W
Renewal of test solution:	At 24 h	Aeration:	None
Feeding:	Twice daily	Food Type:	*Artemia nauplii*
Acceptability Criteria	≥ 90% survival in control	Sampling Holding Time Requirements:	N/A

Test Concentrations (µg/L):	Cont, 200, 300, 450, 600, 800

Test Organism Batch #	22-0834	DOB	9-2-22
Source	NWDLS	Age (days)	5d

STOX Prep Date/Time/Initials	9-7-22	1130	VJC	Analytical Standard Record Number	2210230

Water Batch ID	2209981

Test Initiation Date/Time:	9-7-22	1345	Test Initiation Initials:	VJC/SRI
Test Renewal Date/Time:	9-8-22	1420	Test Renewal Initials:	VJC
Test Termination Date/Time:	9-9-22	1420	Test Termination Initials:	VJC

1st Feed Date/Time/Batch Id:	9-7-22	1526	① ~~AA~~	2nd Feed Date/Time/Batch Id:	9-8-22	0836	2201886
3rd Feed Date/Time/Batch Id:	9-8-22	1542	② ~~SKW~~	4th Feed Date/Time/Batch Id:	9-9-22	0802	2201886

This test was conducted in accordance with the method standards or according to the exception(s) as noted:

Comments: ① IE SKW 9/7/22 → [2201881] ② IE SKW 9/8/22 → [2201886]

Vynna Chitolie
Final Review Signature

Data Sheet Preparation - Initials: BMR/VJC Date: 9-1-22

End of Test First Review - Initials: VJC Date: 9-9-22

Codes: IE-incorrect entry; IL-illegible; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible;SC-spilled cup; PB-pathogenic bacteria

Client	DOC STOX VJC - Mb48	Login	22-0566	NWDLS Job No.	047000100 0400.X

Acute Toxicity Test with *Mysidopsis bahia*

Conc. (µg/L)	Rep.	No. of Surviving Organisms			Conc. (µg/L)	Rep.	No. of Surviving Organisms		
		0 hr	24 hr	48 hr			0 hr	24 hr	48 hr
Control	A	10	10	10	600	A	10	6	1
	B	10	10	10		B	10	4	1
	C	10	10	10		C	10	4	2
	D	10	10	10		D	10	2	0
	E	10	10	10		E	10	4	1
200	A	10	10	7	800	A	10	2	0
	B	10	10	10		B	10	4	0
	C	10	10	7		C	10	5	3
	D	10	10	9		D	10	5	1
	E	10	10	9		E	10	1	0
300	A	10	10	3		A			
	B	10	10	3		B			
	C	10	9	4		C			
	D	10	10	3		D			
	E	10	9	3		E			
450	A	10	7	3		A			
	B	10	6	4		B			
	C	10	8	4		C			
	D	10	7	0		D			
	E	10	8	1		E			

Comments:

Codes: IE-incorrect entry; IL-illegible; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible;SC-spilled cup; PB-pathogenic bacteria

Client	DOC STOX VJC - Mb48	Login	22-0566	NWDLS Job No.	047000100 0400.X

Water Quality Parameters - *Mysidopsis bahia*

Conc. (µg/L)	pH			
	0 hr	24 hr Old	24 hr New	48 hr
Cont.	8.0	8.0	8.1	7.7
200	8.2	8.0	8.2	7.8
300	8.3	8.0	8.1	7.9
450	8.1	8.0	8.1	7.9
600	8.0	7.9	8.0	8.0
800	7.9	7.9	7.9	8.0
Meter No.	737	737	737	737
Time	1228	0940	0930	0910
Initials	VJC / AOJ	VJC / WJH	VJC / WJH	VJC

Conc. (µg/L)	Temperature °C (Actual / Corrected)			
	0 hr	24 hr Old	24 hr New	48 hr
Cont.	25 / 25	25 / 25	25 / 25	25 / 25
200	25 / 25	25 / 25	25 / 25	25 / 25
300	25 / 25	25 / 25	25 / 25	25 / 25
450	25 / 25	25 / 25	25 / 25	25 / 25
600	25 / 25	25 / 25	25 / 25	25 / 25
800	25 / 25	25 / 25	25 / 25	25 / 25
Therm. No.	4WS	4WS	4WS	737
Time	1228	0940	0930	0910
Initials	VJC / AOJ	VJC / WJH	VJC / WJH	VJC

Conc. (µg/L)	Dissolved Oxygen (mg/L)			
	0 hr	24 hr Old	24 hr New	48 hr
Cont.	8.4	7.5	8.2	6.8
200	8.3	7.5	8.1	6.8
300	8.3	7.5	8.1	7.1
450	8.3	7.6	8.1	7.3
600	8.2	7.3	8.1	7.5
800	8.2	7.3	8.1	7.7
Meter No.	YS16	YS16	YS16	YS16
Time	1228	0940	0930	0910
Initials	VJC / AOJ	VJC / WJH	VJC / WJH	VJC

Conc. (µg/L)	Salinity (‰)	
	0 hr	24 hr
Cont.	26	25
200	27	27
300	27	27
450	27	27
600	27	27
800	27	27
Meter No.	948	948
Time	1228	0930
Initials	VJC / AOJ	VJC / WJH

Comments:

Codes: IE-incorrect entry; IL-illegible; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible;SC-spilled cup; PB-pathogenic bacteria

Client	DOC STOX VJC - Mb48	Login	22-0566	NWDLS Job No.	047000100 0400.X

Test Notes - 48hr *M. bahia*

Comments	Date	Time	Initials

Codes: IE-incorrect entry; IL-illegible; WC- wrong column; WR-wrong row; TN-transposed number; ONV-organism not visible;SC-spilled cup; PB-pathogenic bacteria

Analytical Standard Record

2210230

Description:	24/48 MB STOX Working Solution	Expires:	10/07/2022
Standard Type:	Analyte Spike	Prepared:	09/07/2022
Solvent:	-	Prepared By:	Vynna Chitolie
Final Volume (mls):	6000	Department:	Toxicology
Vials:	1	Last Edit:	09/08/2022 10:31 by VJC
Comments:	Dispense 4.8 mL copper standard (1,000 mg/L) into a 1-L volumetric flask; bring to volume with 25 ppt HMM.. Pour solution into 10-L cubitainer. Add 5 L HMM to cubitainer. See attached pdf-File for diluton scheme.		

Analyte	Parent	CAS Number	Concentration	Units
Copper	2113304	7440-47-3	0.8	mg/L

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
2113304	Copper, 1000 ppm	12/21/2021	Aqua Solutions	026915	04/01/2026	12/21/2021 09:54 by AOJ	4.8
2209981	Lab Saltwater	09/01/2022	-	-	03/01/2023	09/06/2022 16:23 by AOJ	6000

24/48 MB STOX Working Solution

2210230

Expires 10/07/2022

Reviewed By

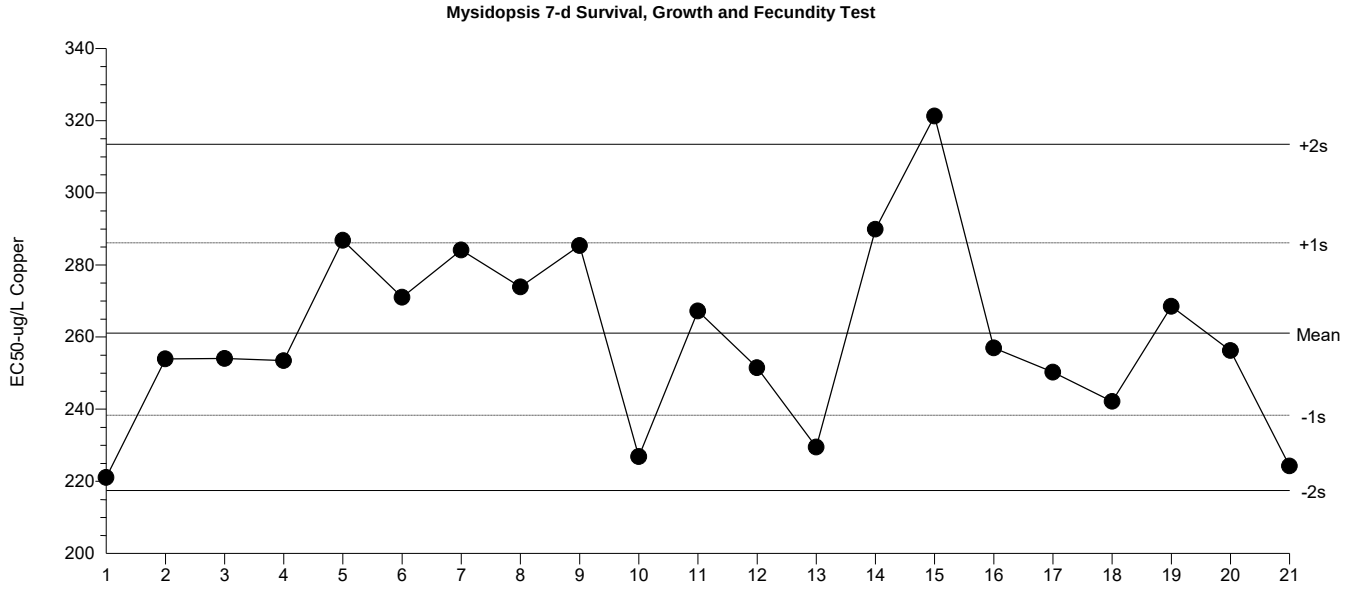
9-8-22
Date

CETIS QC Plot

Report Date: 09 Nov-22 08:59 (1 of 1)

Mysidopsis 7-d Survival, Growth and Fecundity Test — **All Matching Labs**

Test Type: Growth-Survival-Fec (7d) **Organism:** Mysidopsis bahia (Atlantic Mysid) **Material:** Copper
Protocol: EPA/821/R-02-014 (2002) **Endpoint:** 4d Survival Rate **Source:** Reference Toxicant-REF



Mean:	261.1	**Count:**	20	**-1s Warning Limit:**	238.3	**-2s Action Limit:**	217.5
Sigma:	n/a	**CV:**	9.16%	**+1s Warning Limit:**	286.1	**+2s Action Limit:**	313.5

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Feb	24	13:00	221.1	-40.05	-1.821	(-)		16-9718-1415	15-4378-4073	NWDLS Environ. Toxicol.
2		Mar	17	15:50	253.9	-7.202	-0.3059			06-7780-0481	08-1929-3237	NWDLS Environ. Toxicol.
3		Apr	7	17:00	254	-7.085	-0.3008			19-6064-2436	02-9872-5836	NWDLS Environ. Toxicol.
4		May	20	14:30	253.4	-7.677	-0.3264			14-6201-6744	15-3568-1130	NWDLS Environ. Toxicol.
5		Jun	3	12:00	286.8	25.68	1.026	(+)		16-5190-0226	04-2980-8764	NWDLS Environ. Toxicol.
6		Jul	6	14:36	271	9.885	0.4064			02-5459-6353	18-4200-7442	NWDLS Environ. Toxicol.
7		Aug	3	14:00	284.1	23	0.9232			07-4115-5990	12-7558-5439	NWDLS Environ. Toxicol.
8		Sep	7	10:30	273.9	12.75	0.5216			08-0819-8101	08-1055-1267	NWDLS Environ. Toxicol.
9		Oct	1	9:50	285.4	24.23	0.9703			06-6763-0892	15-7314-6702	NWDLS Environ. Toxicol.
10		Nov	17	15:15	226.9	-34.27	-1.539	(-)		02-7564-0424	06-5662-4691	NWDLS Environ. Toxicol.
11		Dec	20	13:15	267.2	6.074	0.2515			12-9085-3704	11-7394-0421	NWDLS Environ. Toxicol.
12	2022	Jan	7	12:00	251.5	-9.664	-0.4124			09-7824-2132	08-2885-0934	NWDLS Environ. Toxicol.
13		Feb	2	14:30	229.5	-31.64	-1.412	(-)		08-7070-1131	13-5696-2735	NWDLS Environ. Toxicol.
14		Mar	3	16:50	289.9	28.76	1.143	(+)		21-2022-6914	06-7605-4268	NWDLS Environ. Toxicol.
15		Apr	1	11:45	321.3	60.14	2.267	(+)	(+)	10-9273-3745	09-1398-7449	NWDLS Environ. Toxicol.
16			20	15:00	257	-4.132	-0.1744			06-4858-7523	12-2890-0847	NWDLS Environ. Toxicol.
17		May	4	14:15	250.2	-10.89	-0.4659			12-1858-3405	12-1779-2378	NWDLS Environ. Toxicol.
18		Jun	15	15:30	242.1	-18.99	-0.8257			03-2445-7793	12-4374-2130	NWDLS Environ. Toxicol.
19		Jul	1	10:00	268.5	7.394	0.3054			12-3923-1073	14-4414-8249	NWDLS Environ. Toxicol.
20		Aug	5	13:45	256.2	-4.883	-0.2064			10-0343-3624	08-5711-3363	NWDLS Environ. Toxicol.
21		Sep	8	13:00	224.2	-36.89	-1.666	(-)		18-4311-0498	11-3296-2450	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	09 Nov-22 09:01 (p 1 of 1)
Test Code/ID:	22-0566f / 18-4311-0498

Mysidopsis 7-d Survival, Growth and Fecundity Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	11-3296-2450	**Endpoint:**	4d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	21 Sep-22 10:53	**Analysis:**	Untrimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	08-3735-4179	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	Dane DeGuzman		
Start Date:	08 Sep-22 13:00	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	15 Sep-22 13:00	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	02-8446-7754	**Code:**	10F4A22A	**Project:**	047000100 0400.X
Sample Date:	08 Sep-22 11:46	**Material:**	Copper	**Source:**	Reference Toxicant
Receipt Date:	08 Sep-22 11:46	**CAS (PC):**		**Station:**	
Sample Age:	74m	**Client:**	North Water District Laboratory Services, In		

Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0	0.00%	2.351	0.01201	224.2	212.2	237

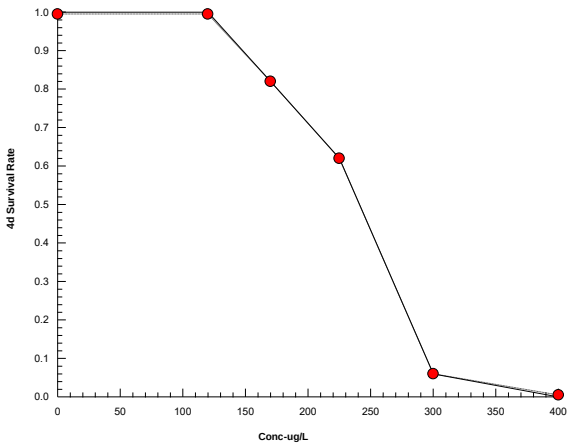
4d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
120		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
170		10	0.8200	0.6000	1.0000	0.1476	18.00%	18.0%	41/50	0.82	18.0%
225		10	0.6200	0.4000	0.8000	0.1751	28.25%	38.0%	31/50	0.62	38.0%
300		10	0.0600	0.0000	0.2000	0.0966	161.00%	94.0%	3/50	0.06	94.0%
400		10	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%

4d Survival Rate Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
120		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
170		1.0000	0.8000	1.0000	0.6000	0.8000	0.8000	0.8000	0.6000	0.8000	1.0000
225		0.8000	0.6000	0.8000	0.8000	0.6000	0.8000	0.6000	0.4000	0.4000	0.4000
300		0.0000	0.0000	0.0000	0.0000	0.2000	0.2000	0.2000	0.0000	0.0000	0.0000
400		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Graphics



Inland Silverside 7-d Larval Survival and Growth Test **All Matching Labs**

Test Type:	Growth-Survival (7d)	**Organism:**	Menidia beryllina (Inland Silverside)	**Material:**	Copper
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	4d Survival Rate	**Source:**	Reference Toxicant-REF

Mean:	241.3	**Count:**	20	**-1s Warning Limit:**	189.4	**-2s Action Limit:**	148.7
Sigma:	n/a	**CV:**	24.50%	**+1s Warning Limit:**	307.3	**+2s Action Limit:**	391.4

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2021	Jan	7	14:30	193.1	-48.23	-0.922			11-8669-1134	12-3362-7501	NWDLS Environ. Toxicol.
2		Feb	10	12:00	131.4	-109.9	-2.512	(-)	(-)	19-0426-1634	11-1155-4264	NWDLS Environ. Toxicol.
3		Mar	18	12:00	254.1	12.82	0.214			19-2942-0562	01-9936-6504	NWDLS Environ. Toxicol.
4		Apr	7	17:00	260.7	19.45	0.3206			09-6023-9668	05-8704-6189	NWDLS Environ. Toxicol.
5		May	20	13:30	258.2	16.96	0.2808			16-8999-3463	08-0322-4119	NWDLS Environ. Toxicol.
6		Jun	3	13:00	281.2	39.91	0.6328			09-4953-8218	00-7499-6150	NWDLS Environ. Toxicol.
7		Jul	6	14:30	295.1	53.77	0.8317			06-6487-9714	05-9460-3244	NWDLS Environ. Toxicol.
8		Aug	18	16:00	331	89.72	1.307	(+)		15-8347-6079	08-5848-9642	NWDLS Environ. Toxicol.
9		Sep	7	10:30	295.2	53.96	0.8343			01-3526-1514	07-9441-9631	NWDLS Environ. Toxicol.
10		Oct	1	11:45	345.9	104.6	1.489	(+)		19-5909-2091	00-3385-5063	NWDLS Environ. Toxicol.
11		Nov	17	15:30	232.7	-8.561	-0.1493			05-7761-2074	12-3963-9193	NWDLS Environ. Toxicol.
12		Dec	20	13:30	231.6	-9.65	-0.1687			16-9811-7085	12-0896-9995	NWDLS Environ. Toxicol.
13	2022	Jan	4	13:00	186.5	-54.81	-1.065	(-)		19-3164-8761	00-6852-4044	NWDLS Environ. Toxicol.
14		Feb	28	13:30	203	-38.24	-0.7133			21-2117-1383	16-8844-4349	NWDLS Environ. Toxicol.
15		Mar	2	13:30	175.1	-66.14	-1.324	(-)		12-9241-9919	07-1286-2810	NWDLS Environ. Toxicol.
16		Apr	1	11:00	301.7	60.45	0.9242			19-3392-2474	13-5134-8804	NWDLS Environ. Toxicol.
17		May	24	13:30	288.1	46.8	0.7329			13-7048-3575	06-0719-3918	NWDLS Environ. Toxicol.
18		Jun	15	15:30	235	-6.256	-0.1086			21-4687-2843	10-0437-7551	NWDLS Environ. Toxicol.
19		Jul	1	10:30	262.7	21.45	0.352			13-1145-4445	18-1393-0318	NWDLS Environ. Toxicol.
20		Aug	18	11:00	191	-50.28	-0.9659			04-7687-8681	00-8186-9374	NWDLS Environ. Toxicol.
21		Sep	12	11:20	221.2	-20.12	-0.3599			21-1119-9666	05-9525-3750	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	09 Nov-22 09:33 (p 1 of 1)
Test Code/ID:	22-0566h / 21-1119-9666

Inland Silverside 7-d Larval Survival and Growth Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	05-9525-3750	**Endpoint:**	4d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	21 Sep-22 13:15	**Analysis:**	Untrimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	07-7962-0763	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Brianna Milam		
Start Date:	12 Sep-22 11:20	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Water		
Ending Date:	19 Sep-22 11:20	**Species:**	Menidia beryllina	**Brine:**	Instant Ocean		
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	NWDLS	**Age:**	11d

Sample ID:	01-3454-7493	**Code:**	8050825	**Project:**	047000100 0400.X
Sample Date:	11 Sep-22 14:30	**Material:**	Copper	**Source:**	Reference Toxicant
Receipt Date:	11 Sep-22 14:30	**CAS (PC):**		**Station:**	
Sample Age:	21h	**Client:**	North Water District Laboratory Services, In		

Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0	0.00%	2.345	0.01458	221.2	206.8	236.5

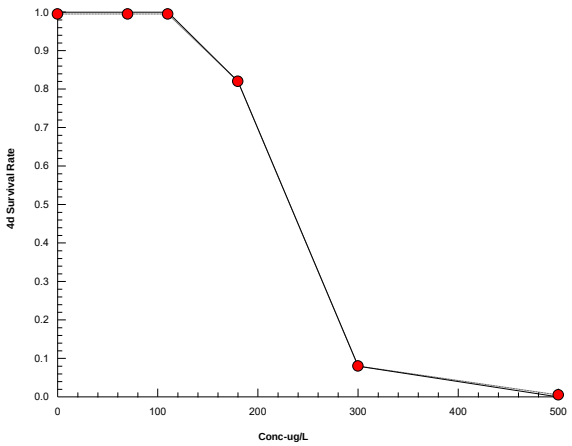
4d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-ug/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
70		5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
110		5	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	50/50	1	0.0%
180		5	0.8200	0.8000	0.9000	0.0447	5.45%	18.0%	41/50	0.82	18.0%
300		5	0.0800	0.0000	0.2000	0.0837	104.60%	92.0%	4/50	0.08	92.0%
500		5	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%

4d Survival Rate Detail

Conc-ug/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
70		1.0000	1.0000	1.0000	1.0000	1.0000
110		1.0000	1.0000	1.0000	1.0000	1.0000
180		0.8000	0.8000	0.9000	0.8000	0.8000
300		0.0000	0.0000	0.1000	0.2000	0.1000
500		0.0000	0.0000	0.0000	0.0000	0.0000

Graphics



Analytical Standard Record

2210506

Description:	Lab Saltwater	Expires:	03/13/2023
Standard Type:	Other	Prepared:	09/13/2022
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	09/16/2022 13:08 by JKW
Comments:	Chems Added AOJ 9-13-22 Approved: JKW 9/14/22 pH: 8.0 Salinity: 26.0 Transferred to Circ Tank: JKW 9/14/22 Used 12 bags (1 per 50g of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2210714

Description:	Lab Saltwater	Expires:	03/16/2023
Standard Type:	Other	Prepared:	09/16/2022
Solvent:	-	Prepared By:	Justin Wood
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	09/17/2022 14:57 by VJC
Comments:	Chems Added JKW 9-16-22 Approved: VJC 9-17-22 pH: 8.3 Salinity: 26 Transferred to Circ Tank: Used 12 bags (1 per 50g of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2210875

Description:	Lab Saltwater	Expires:	03/20/2023
Standard Type:	Other	Prepared:	09/20/2022
Solvent:	-	Prepared By:	Justin Wood
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	09/22/2022 09:40 by JKW
Comments:	Chems Added JKW 9-20-22 Approved: JKW 9/21/22 pH: 8.1 Salinity:24 Transferred to Circ Tank: Used 12 bags (1 per 50g of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2210962

Description:	Lab Saltwater	Expires:	03/22/2023
Standard Type:	Other	Prepared:	09/22/2022
Solvent:	-	Prepared By:	Kaitlyn Johnson
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	09/26/2022 16:57 by AOJ
Comments:	Chems Added KRJ 9-22-22 Approved: KRI/JKW 9-22-22 pH: 8.4 Salinity: 25.9 Transferred to Circ Tank: JKW/AOJ 9-26-22 Used 12 bags (1 per 50g of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2211203

Description:	Lab Saltwater	Expires:	10/19/2022
Standard Type:	Other	Prepared:	09/27/2022
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	09/29/2022 15:21 by JKW
Comments:	Chems Added AOJ/VJC 9-27-22 Approved: AOJ 9-29-22 pH: 8.2 Salinity: 25 Transferred to Circ Tank: JKW 9/29/22 Used 12 bags (1 per 50g of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2211384

Description:	Lab Saltwater	Expires:	03/30/2023
Standard Type:	Other	Prepared:	09/30/2022
Solvent:	-	Prepared By:	Kaitlyn Johnson
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	10/01/2022 10:05 by VJC
Comments:	Chems Added KRJ 9-30-22 Approved: VJC 9-30-22 pH: 8.3 Salinity: 24 Transferred to Circ Tank: Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2211565

Description:	Lab Saltwater	Expires:	04/04/2023
Standard Type:	Other	Prepared:	10/04/2022
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	10/06/2022 12:45 by VJC
Comments:	Chems Added AOJ 10-4-22 Approved: VJC 10-6-22 pH: 8.2 Salinity: 25 Transferred to Circ Tank: Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2211828

Description:	Lab Saltwater	Expires:	10/19/2022
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	10/10/2022 15:46 by JKW
Comments:	Chems Added AOJ 10-7-22 Approved: VJC 10-8-22 pH: 8.3 Salinity: 26 Transferred to Circ Tank: TRG 10/10/22 Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2211911

Description:	Lab Saltwater	Expires:	04/19/2023
Standard Type:	Other	Prepared:	10/10/2022
Solvent:	-	Prepared By:	Justin Wood
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	10/12/2022 15:36 by JKW
Comments:	Chems Added JKW 10/10/22 Approved: VJC 10-11-22 pH: 8.2 Salinity: 25 Transferred to Circ Tank: JKW 10/12/22 Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Analytical Standard Record

2212158

Description:	Lab Saltwater	Expires:	04/13/2023
Standard Type:	Other	Prepared:	10/13/2022
Solvent:	-	Prepared By:	Kaitlyn Johnson
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	10/18/2022 08:24 by AOJ
Comments:	Chems Added: KRJ 10-13-22 Approved: AOJ 10-17-22 pH: 8.1 Salinity: 25.3 Transferred to Circ Tank: AOJ 10-18-22 Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2207017	Instant Ocean Sea Salt (6.8kg/bag)	06/27/2022	-	S06262022	06/27/2024	06/27/2022 09:51	by AOJ	12
2207842	DI Water	07/19/2022	Suez	071822	10/19/2022	07/19/2022 10:15	by TRG	1

Reviewed By

Date

Aquatic Research Organisms Inc.

1 Lafayette Road
PO Box 1271
Hampton, NH 03843-1271
(603) 926-1650

Invoice

Date	Invoice #
9/9/2022	2220698

Bill To	Ship To
NORTH WATER DISTRICT LAB SERVICES monica@nwdls.com 8725 FAWN TRAIL THE WOODLANDS TX 77385	NWDLS TOX LAB THERAN GAY 888 WEST SAM HSTN. PRKWY SOUTH SUITE 110 HOUSTON TX 77042

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
THERAN.GAY	CREDIT CARD	SPS	9/7/2022	Federal Express	HAMPTON NH	

Quantity	Item Code	Description	Price Each	Amount
900	LEPTO	LEPTOCHEIRUS PLUMULOSUS		
1	PBC PACKAGING	PACKING BOX CHARGE		
1	100-AO FEDEX	FED EX PRIORITY OVERNIGHT		

Total

E-mail
AROFISH@AOL.COM

Aquatic Research Organisms Inc.

1 Lafayette Road
PO Box 1271
Hampton, NH 03843-1271
(603) 926-1650

Invoice

Date	Invoice #
9/16/2022	2220716

Bill To	Ship To
NORTH WATER DISTRICT LAB SERVICES monica@nwdls.com 8725 FAWN TRAIL THE WOODLANDS TX 77385	NWDLS TOX LAB THERAN GAY 888 WEST SAM HSTN. PRKWY SOUTH SUITE 110 HOUSTON TX 77042

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
THERAN.GAY	CREDIT CARD	SPS	9/13/2022	Federal Express	HAMPTON NH	

Quantity	Item Code	Description	Price Each	Amount
850	MMJ	MERCENARIA CLAMS		
3	PBC PACKAGING	PACKING BOX CHARGE		
3	100-AO FEDEX	FED EX PRIORITY OVERNIGHT		

Total

E-mail
AROFISH@AOL.COM

Aquatic Research Organisms Inc.

1 Lafayette Road
PO Box 1271
Hampton, NH 03843-1271
(603) 926-1650

Invoice

Date	Invoice #
9/16/2022	2220717

Bill To	Ship To
NORTH WATER DISTRICT LAB SERVICES monica@nwdls.com 8725 FAWN TRAIL THE WOODLANDS TX 77385	NWDLS TOX LAB THERAN GAY 888 WEST SAM HSTN. PRKWY SOUTH SUITE 110 HOUSTON TX 77042

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
THERAN.GAY	CREDIT CARD	SPS	9/14/2022	Federal Express	HAMPTON NH	

Quantity	Item Code	Description	Price Each	Amount
850	NVA	NEREIS VIRENS, SEAWORM ADULTS		
2	PBC PACKAGING	PACKING BOX CHARGE		
2	100-AO FEDEX	FED EX PRIORITY OVERNIGHT		

Total

E-mail
AROFISH@AOL.COM

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Americamysis bahia
(formerly Mysidopsis bahia)
Mysid shrimp

- Phylum – Arthropoda
- Subphylum- Crustacea
- Class - Malacostraca
- Subclass - Eumalacostraca
- Superorder - Peracardia
- Order - Mysida
- Family - Mysidae
- Genus - Americamysis
- Species - bahia

The U.S.Environmental Agency, Pensacola FL made the initial taxonomic identification. ARO received starter cultures from that EPA lab in September 1985. Additions to the stock were numerous in the late 1980's mostly from stocks originating in Texas and Florida. Stanley Sinitski of ARO has performed subsequent keying; the latest was done in June 2021. The keys used were "Key to Marine Invertebrates of the Woods Hole Region," Smith, R.I. 1964 pgs. 93-95 and "An Annotated Key To The Mysidacea of the North Central Coast of Mexico", Stuck, K., Perry, H., and Heard, W. 1979. pgs. 225-238

The name *Mysidopsis bahia* has been changed to *Americamysis bahia*. Documentation of this change can be found at: Price WW, Heard, RW, Stuck, L. 1994 Observation on the genus *Mysidopsis* Sars, 1864 with the designation of a new genus, *Americamysis*, and description of *Americamysis alleni and A.stucki* (Peracardia, mysidacae, mysidae), from the Gulf of Mexico. *Proc. Biol. Soc. Wash. 107: 680-698.*

The Taxonomic Hierarchy above reflects the latest published information available in the Integrated Taxonomic Information System (ITIS).

If you have any questions or need further assistance please call ARO at 1-800-927-1650.

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Alitta virens
(formerly *Neanthes virens,* formerly *Nereis virens)*

- Phylum -Annelida
- Class - Polychaeta
- Order - Errantia
- Family - Nereidae
- Genus- Alitta
- Species - virens

Taxonomic identification was performed by Stanley Sinitski in June, 2021. The key used was "Key to Marine Invertebrates of the Woods Hole Region" by Ralph I. Smith 1964 pgs.48-71. Additional references were made from "The Peterson's Field Guide to the Atlantic Seashore", by Kenneth L.Gosner, 1978 pgs.176-178.

There has been much debate over the proper classification of this worm species. It has long been known as *Nereis virens,* but according to the World Register of Marine Species (WoRMS), the correct taxonomic identification is now *Alitta virens* with *Neanthes virens* and *Nereis(Alitta) virens* as acceptable synonyms.

Taxonomic citation
Read, G.; Fauchald, K. (Ed.) (2018). World Polychaeta database. *Alitta virens* (M. Sars, 1835). Accessed through: World Register of Marine Species at:
http://www.marinespecies.org/aphia.php?p=taxdetails&id=234851 on 2018-06-10

If you have any questions or need further assistance please call ARO at 1-800-927-1650

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Leptocheirus plumulosus

- Phylum - Arthropoda
- Class - Crustacea
- Subclass - Malacostraca
- Division - Peracardia
- Order - Amphipoda
- Family – Photidae
- Genus – Leptocheirus
- Species - plumulosus

Initial cultures originated from the University of Maryland and Maryland Department of Natural Resources. Additional cultures were obtained from Chesapeake Cultures in VA.

Taxonomic identification was last performed in June of 2021 by Stanley Sinitski. The key used was "Key to Marine Invertebrates of the Woods Hole Region" by Ralph I. Smith 1964 pgs 112-116. Additional references were made from Kenneth Gosner's Petersons Field Guide to the Atlantic Seashore pgs 225-229.

The *Leptocheirus* are laboratory cultured all year long in ARO's temperature controlled facility, ensuring that test aged specimens are available whenever needed.

If you have any questions or need further assistance please call ARO at 1-800-927-1650.

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Macoma nasuta

- Phylum -Mollusca
- Class – Bivalvia
- Subclass- Heterodonta
- Order – Veneroida
- Superfamily- Tellinoidea
- Family - Tellinidae
- Genus - Macoma
- Species - nasuta

Taxonomic identification was performed in June 2021 by Reed Gunstone. The key used was "Marine Invertebrates of the Pacific Northwest". Kozloff, Eugene N., Price, Linda H. University of Washington Press: Washington State September 1996. Page 539.

If you have any questions or need further assistance please call ARO at 1-800-927-1650

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Mercenaria mercenaria

- Phylum -Mollusca
- Class – Bivalvia
- Subclass- Heterodonta
- Order – Veneroida
- Superfamily- Veneroidae
- Family - Veneridae
- Genus - Mercenaria
- Species - mercenaria

Taxonomic identification was performed in June 2021 by Stan Sinitski. The key used was "Keys to Marine Invertebrates of the Woods Hole Region" by Ralph I. Smith 1964 pgs.146-150. Additional references were made from " Peterson's A Field Guide to the Atlantic Seashore", by Kenneth L.Gosner, 1978 pgs.142-156.

If you have any questions or need further assistance please call ARO at 1-800-927-1650

Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Raphidocelis subcapitata
*FKA Selenastrum capricornutm**
FKA Psuedokirchneriella subcapitata

- Phylum - Chlorophyta
- Class - Chlorophyceae
- Order - Chlorococcales
- Family - Scenedesmaceae
- Genus - Selenastrum
- Species - capricornutum

*The taxonomic identification of *Selenastrum capricornutum* has been redesignated to *Raphidocelis subcapitata* from *Psuedokirchneriella subcapitata.* The name "Selenastrum" has been used for many years in research and is still the widely used common and recognized name.

ARO purchases sterile agar slants of *Selenastrum capricornutum* on an as needed basis from Carolina Biological Supply Company in Burlington NC. The Selenastrum origin is from the UTEX Collection of Algae, the University of Texas at Austin. Catalog # 1648. ARO performs microscopic examination of the algae on a routine basis. The latest examination was performed in June 2021, by Stanley Sinitski.

If you have any questions or need further assistance please call ARO at 1-800-927-1650

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650

Genus clarification, Selenastrum capricornutum/Raphidocelis subcapitata

-----Original Message-----
From: Michael Guiry <michael.guiry@algaebase.org>
To: arofish <arofish@aol.com>
Sent: Tue, Apr 21, 2015 6:22 am
Subject: Re: Genus clarification, Selenastrum capricornutum/Raphidocelis subcapitata

Raphidocelis subcapitata (Korshikov) Nygaard, Komárek, J.Kristiansen & O.M.Skulberg is currently the correct name taxonomically for the alga widely used as a test organism under the name "Selenastrum capricornutum NIVA-CHL-1" that has spread to many culture collections.

This is explained in this paper:

Nygaard, G., Komárek, J., Kristiansen, J. & Skulberg, O.M. (1987 '1986'). Taxonomic designations of the bioassay alga NIVA-CHL 1 ("Selenastrum capricornum") and some related strains. Opera Botanica 90: 1-46, 35 figs, 9 tables.

Here is the abstract:

"An outline is given of the application, physiological characteristics and pigmentation of NIVA-CHL1, named "Selenastrum capricornutum". This strain and clonal isolates of 12 related algae from Norway, Denmark, Holland and Kenya were grown as non-axenic batch cultures. Shape and dimensions of the cells were studied on the basis of LM-photomicrographs , combined with EM-micrographs and with observations on living cells. The mother cell wall breaks in different ways before the four or eight autospores are released; the individual opening pattern is of significant taxonomic value. EM-micrographs disclosed a rugose wall of the NIVA-CHL1 cells and a well defined specific ultrastructure on the cell apices of some of the other strains. Four quantitative characters showed large variations and overlap, especially the curvature values, while the diameter/breadth ratio and the sinus/cell ratio seemed to be of some taxonomic value. Nine strains were referred to the genus Raphidocelis: NIVA-CHL1 has been designated R. subcapitata and the following three species have been described as new: R. van-goori (+ var. decussata), R. inclinata (+ var. serialis) and R. valida. Three of the strains have been referred to Monoraphidium, one of them as M. lunare n.sp. One strain was described as Nephrochlamys rostrata n.sp."

You will see that not all strains were the same thing, but they say quite clearly that "NIVA-CHL1 has been designated R. subcapitata".

It seems that Selenastrum capricornutum as described by Printz (1914) is NOT the same thing as strain NIVA-CHL1. This is a taxonomic issue not a nomenclatural one.

Michael Guiry
Ryan Institute Annexe, Room 301
NUI Galway
University Road
Galway
Ireland
michael.guiry@nuigalway.ie

Aquatic Research Organisms

DATA SHEET/ CUSTODY CHAIN

I. Organism History

Species Alitta virens formerly (Neanthes) and (Neries) virens

Source: Lab reared_____ Hatchery reared_____ Field collected X

Hatch date Mixed aged adults Collection date 9/13/22

Lot number 09 14 22 NV Strain Wild

Brood origination: Damariscotta River, Boothbay Harbor, Maine

II. Water Quality

Temperature_____°C Salinity 28-32 ppt D.O. Saturated ppm

pH 8.0-8.4 su Hardness N.A. ppm Alkalinity N.A. ppm

III. Culture Conditions

Freshwater_____ Saltwater X Other_____

Recirculating_____ Flow through_____ Static_____

DIET: Flake food_____ Phytoplankton_____ Trout chow_____

Artemia_____ Rotifers_____ YCT_____ Other Not fed

Prophylactic treatments:_____

Comments: Held at 4C on moist seaweed. Shipped with gel ice packs to keep cool

IV. Shipping Information

Client: NWDLS # of Organisms ~~1000~~ 850+

Carrier: FedEx Date shipped 9/14/22

Tracking # 6025884022 55 # of boxes 2

Released by: Stan Sinnett Date: 9/14/22 Time: 1630

Received by:_____ Date:_____ Time:_____

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM

EcoAnalysts, Inc.

NWDLS Lab Organism ID Verification 2022

Taxonomic Verification Summary for NWDLS
April 2022

Taxa verification results:

EcoA#	EcoA ID	Count	Notes	References
8007.3-6	*Daphnia pulex*	15	Carapace does not extend anteriorly along dorsal ridge, teeth on postabdominal claw separated into three pecten, middle pecten large. Head lacking helmet, rostrum acute, polygons not elongate.	Dodson *et al*., 2010; Pennak, 1989
8007.3-5	*Daphnia magna*	12	Carapace extends anteriorly along dorsal ridge, helmet absent, posterior margin of rostrum lacking teeth, dorsal margin of postabdomen with teeth, arranged in two groups.	Dodson *et al.,* 2010
8007.3-7	*Ceriodaphnia dubia*	18	Cervical fenestra present, posterioventral margin of carapace lacking spines, antenna 1 with sensilla arising from peduncle on midpoint.	Dodson *et al.,* 2010
8007.3-4	*Americamysis bahia*	307	Uropod endopod with 2-3 spine-like setae near statocyst, telson with 5 pairs of distal setae abruptly larger than lateral setae, rostrum produced, triangular.	Price *et al.,* 1994
8007.3-3	*Menidia beryllina*	6	TL 33-41 mm, 16-18 soft anal fin rays , cross-hatched dorsal scale pattern is distinct, other pigmentation consistent with species description.	Wang and Kernehan, 1979 pages 145-146; USFWS, 1978 Volume VI pages 98-104
8007.3-1&2	*Pimephales promelas*	6	TL: 43-57mm; Dorsal fin rays 8, first ray spinous and 50% length of preceeding rays; anal fin rays 7; males with adipose pad on nape; mouth terminal.	Auer, N.A., 1982 pages 310-315

REFERENCES

Auer, N.A. 1982. Identification of larval fishes of the Great Lakes basin. Great Lakes Fishery Commission, Special Publication 82-3, Ann Arbor Michigan. Pages 744pp.

Dodson, S.I., C.A. Caceres, and D.C. Rogers. 2010. Cladocera and Other Branchiopoda *in* Thorp, J.H. and A.P. Covich eds. *Ecology and Classification of North American Freshwater Invertebrates*, *Third Edition* Elsevier, London 1021pp.

Pennak, R.W. 1989. *Fresh-Water Invertebrates of the United States-Protozoa to Mollusca, Third Edition* John Wiley & Sons, New York, 628pp.

Price, W.W., R.W. Heard, and L. Stuck. 1994. Observations on the Genus *Mysidopsis* Sars, 1864 with the Designation of a New Genus, *Americamysis,* and the Descriptions of *Americamysis alleni* and *A. stucki* (Pericarida: Mysidacea: Mysidae), from the Gulf of Mexico. *Proceedings of the Biological Society of Washington* **107**:4, 680-698.

I verify that the taxonomic determinations provided by EcoAnalysts, Inc. are true and accurate to the best of my knowledge:

Matt Hill, Invertebrate Taxonomist _____

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	11/21/2022 09:57

Sample Condition Checklist

Work Order: 22G0514

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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Tel: (936) 321-6060
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TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

Terracon_Houston	Project: PCCA CDP 2022 - PHASE II	
11555 Clay Road	Project Number:	**Reported:**
Houston, TX 77043	Project Manager: Gregg Pawlak	11/21/2022 09:57

Term and Qualifier Definitions

Item	Definition
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.

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Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
TCEQ-TOX T104704202-22-17

March 03, 2023

LAB REPORT

Gregg Pawlak
Terracon_Houston
11555 Clay Road
Houston, TX 77043

Report ID: 20230303103803MM

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

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
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	03/03/2023 10:38

Work Order Case Narrative

A total of 2 samples were collected on:

Laboratory ID	Sample Name	Sample Date
23A1459-47	REF-S	01/27/2023 09:20
23A1459-67	CDP-03-S	01/22/2023 10:50

Samples were received and accepted at NWDLS on 01/23/2023 - 01/28/2023. Any receiving discrepancies are recorded and stored in NWDLS' database. The samples received a Work Order of 23A1459.

Toxicology Testing Summary

SP BIOASSAY
Filter Feeder *Americamysis bahia*
CDP-03 composite
REF composite

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. All statistical comparisons were at the 95% confidence level and are included herein, if needed.

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%.

Solid Phase (SP - Sediment) Toxicology Analysis Summary

Sediment toxicity bioassays were conducted on the composite sediment sample from the channel station, the reference area composite, and a negative control. Procedures for performing these tests can be found 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.

The NWDLS Toxicology Laboratory has separate areas for water and sediment storage, culture of test organisms, and testing to minimize cross-contamination between areas.

Testing was performed at 20°C ± 2°C for all bioassays. Lighting was arranged for each test phase so that light intensity was approximately 1200 microwatt (µw)/square centimeters (cm^2) using cool-white fluorescent bulbs with a 16-hour light and 8-hour dark cycle.

One organism was tested in the SP bioassay: the mysid shrimp, *Americamysis bahia* (5 days old). The mysid shrimp was cultured at the NWDLS Toxicology Laboratory.

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-cm layer on the bottom. Five replicates were prepared for each of the Test Stations, Reference, and Control. A loading factor of no more than '/2 gram 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).

- Once prepared, the sediment pore water was tested for ammonia. No samples contained total ammonia > 30 mg/L.
- No test sediment presented the odor of hydrogen sulfide.

Temperature, DO, pH, salinity, and ammonia were recorded daily. Seventy-five percent of the water was siphoned off and replaced 1 hour before and 48 hours after test initiation and at 48-hour intervals thereafter.

- A salinity concentration of 25 ppt was used for the SP bioassay test to mirror the concentration used for the previously accepted samples. The original deviation from the SAP was used since samples were acclimated at 25 ppt thus wanted to avoid undo stress on the organisms by raising to 30 ppt plus delaying the tank loading process.

After 10 days, the SP bioassay was terminated. The sediment was wet-sieved (0.5-mm screen) to remove surviving organisms, which were counted.

SP – Mysid Shrimp 10 day (*Americamysis bahia*)

PCCA HI & CDP Resampling 2023				
Test Organism		*Americamysis bahia*	Test Type	SP 10 day
Number of Replicates		5	Number of Organisms/ Replicate	20
Test Organism Batch Number		23-0152	Organism Date of Birth or Date Received	02/02/2023
Organism Source		NWDLS	Organism Age at Test Initiation	5 days
Dissolved Oxygen		≥ 4.0 mg/L	Temperature	20 ± 2 °C
Salinity		25 ± 2%	pH	6.0 – 9.0 S.U.
Ammonia		< 5 mg/L	Reference Toxicant	KCl – see graph
Sample ID		CDP-03	Field Sampling Date/Time	01/22/2023 10:50
Sample ID		REF	Field Sampling Date/Time	01/27/2023 09:20
Test Initiation Date/Time		02/07/2023 16:10	Test Termination Date/Time	02/17/2023 15:30
Renewal of Test Solution		See SP Summary	Feeding	Twice daily (AM and PM)
Sample ID	Total # of Organisms	Survival (%)	Significant Effect (>10% effect)	Effect (%)
CONTROL	100	94	---	-4.26
REFERENCE	100	90	No	0.00
CDP-03	100	96	No	-6.67

Client/Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	W0 #:	23A1459

Mysidopsis bahia 10d Test Condition Summary - EPA 832 B-98 004 ; NWDLS SOP No. 4026			
Test Material:	Sediment	Test Type:	10d Whole Sediment
Temperature:	20 ± 2 °C	Photoperiod:	16L:8D
Test Chamber:	1L glass beaker	No. Replicates:	5
Test Organism:	***Mysidopsis bahia***	Organism Source:	NWDLS
Organism Batch No.:	23-0152	DOB/Age:	2-2-23 / 5 Days
Age Class:	1-5 days old	No. Organisms/Rep:	20
Aeration:	Aerate water in each chamber overnight before start of test, and throughout test, at rate that maintains ≥40% saturation of dissolved oxygen concentration	Control Sediment:	Clean beach sand
Feeding Schedule:	Twice daily (AM and PM)	Food Type:	2 drops of Artemia nauplii per feeding
Water Type:	25 ppt ± 2 ppt Synthetic seawater	Water Volume:	800 mL
Renewal Schedule:	Project specific	Sediment Volume:	~175 (2cm depth)

Comments:

Daily Feeds

Day	0	1		2		3		4		5		6		7		8		9		10
Hour	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM
Date	2/7	2-8-23		2-9-23		2-10-23		2-11-23		2-12-23		2-13-23		2-14-23		2-15-23		2-16-23		2-17
Time	1520	0840	1521	0805	1502	0828	1554	0848	① 1502	0731	1533	0808	1513	0823	1515	0824	1524	0811	1505	0815
Initials	AB	AB	AB	SKW	SKW	SKW	MMB	MMB	MMB	AB	AB	AB	SKW	SKW	AB	AB	SKW	SKW	AB	SKW

Water Renewals

Day	0	2	4	6	8
Date	2-7-23	2-9-23	2-11-23	2-13-23	2-15-23
Time	1600	1000	1130	1000	1030
Initials	TRL	VJC	DRD	AOJ	VJC

Final Review Completed By: T. Gray

Initial Review Completed By: T. Gray

QAU Form # 3350

10 d M. bahia Whole Sediment 1 of 6

① IE MMB 2/11/23 [1502]

Client/Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	W0 #:	23A1459

Initiation Date:	2-7-23	Termination Date:	2-17-23
Initiation Time:	1610	Termination Time:	1530
Initials:	TRL / AVJ	Initials	ABH / TRL

***Mysidopsis bahia* - Survival**							
Treatment	Replicate	Day 0	Day 10	Treatment	Replicate	Day 0	Day 10
CONTROL	A	20	20		A		
	B	20	20		B		
	C	20	20		C		
	D	20	19		D		
	E	20	15		E		
CDP-REF	A	20	19		A		
	B	20	18		B		
	C	20	19		C		
	D	20	18		D		
	E	20	16		E		
CDP-03	A	20	20		A		
	B	20	20		B		
	C	20	20		C		
	D	20	20		D		
	E	20	16		E		
	A				A		
	B				B		
	C				C		
	D				D		
	E				E		
Technician Initials		TRL	ABH / TRL	Technician Initials			

Client / Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	WO #:	23A1459

Dry Tissue Weight - *Mysidopis bahia*

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
CONT.	A	1	.00458	.01039
	B	2	.00501	.01159
	C	3 *	.00481	.01209
	D	4	.00469	.00998
	E	5	.00447	.00847
CDP-REF	A	6	.00484	.01040
	B	7	.00450	~~.00816~~
	C	8	.00471	.01193
	D	9	.00485	.00881
	E	10 *	.00429	.00886
CDP-03	A	11	.00455	.01133
	B	12	.00424	.01093
	C	13	.00459	.01209
	D	14	.00460	.01224
	E	15	.00499	.01083
	A	16		
	B	17		
	C	18		
	D	19		
	E	20		
	A	21		
	B	22		
	C	23		
	D	24		
	E	25		

CONC. (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
	A	26		
	B	27		
	C	28		
	D	29		
	E	30		
QA/QC (pans) ①		3	.00483	.01208
		10	.00431	.00885

BALANCE ID#	852
BALANCE VERIFICATION INITIALS	DPD
DATE /TARE WEIGHT INITIALS	2-16-23 / DPD
DATE DRYING INITIATED	2-17-23
TIME DRYING INITIATED	1410
OVEN TEMPERATURE (°C)	105 / 105
INITIALS	ABH
DATE/ TIME DRYING TERMINATED	2-19-23
OVEN TEMPERATURE (°C)	105 / 105
BALANCE VERIFICATION INITIALS	TRH
TOTAL WEIGHT DATE/ INITIALS	2-19-23 / TRH

CONT = Control CONC = Concentration REP = Replicate

Wt. = Weight ORG. = Organism

① IE TRH 2-16-23 → [.01096]

Client/Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	WO #:	23A1459

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
2-6-23	CONTROL - NEW Day -1	19.8	7.4	8.2	24.8	<0.001	TKL
2-7-23	CONTROL - NEW Day 0	19.7	7.4	8.2	24.8	0.001	TKL
	CONTROL - OLD Day 0	19.8	7.4	8.2	24.8	0.002	|
	CDP-REF Day 0	19.8	7.4	8.3	24.8	0.004	|
	CDP-03 Day 0	19.8	7.4	8.3	24.4	0.003	|
2-8-23	CONTROL Day 1	19.9	8.0	8.3	24.6	0.002	TKL
	CDP-REF Day 1	19.8	8.1	8.3	24.7	0.003	|
	CDP-03 Day 1	19.8	8.1	8.3	24.8	0.002	|
2-9-23	CONTROL - NEW Day 2	20.1	8.2	9.0	25.0	0.010	ADJ / WJC
	CONTROL - OLD Day 2	20.0	8.2	8.6	25.0	0.001	|
	CDP-REF Day 2	20.0	8.1	8.6	24.0	0.002	|
	CDP-03 Day 2	19.9	8.2	8.5	24.4	0.002	|
2-10-23	CONTROL Day 3	20.6	7.7	8.5	24.4	0.001	ADJ / WJC
	CDP-REF Day 3	20.4	7.8	8.5	24.6	0.002	|
	CDP-03 Day 3	20.2	7.8	8.5	24.7	0.002	|

Comments:

Thermometer #: 737

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 566

QAU Form # 3350

10 d M. Bahia Whole Sediment 4 of 6

WET CHEMISTRY LOG- 10D M. bahia

Client/Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	WO #:	23A1459

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
2-11-23	CONTROL - NEW Day 4	20.5	8.1	9.1	25.2	0.001	DPO/BMR
	CONTROL - OLD Day 4	19.9	8.1	9.1	26.8	0.001	|
	CDP-REF Day 4	19.9	7.8	8.8	24.9	0.002	|
	CDP-03 Day 4	19.3	8.0	8.6	25.4	0.002	|
2-12-23	CONTROL Day 5	20.2	7.9	8.7	25.0	0.002	DPD
	CDP-REF Day 5	20.4	7.8	8.7	25.4	0.002	|
	CDP-03 Day 5	20.2	7.9	8.5	25.8	0.002	|
2-13-23	CONTROL - NEW Day 6	20.7	7.9	8.4	24.5	0.001	AOJ
	CONTROL - OLD Day 6	20.7	7.9	8.6	25.3	0.001	|
	CDP-REF Day 6	20.3	7.8	8.6	24.7	0.002	|
	CDP-03 Day 6	20.4	7.8	8.0	25.0	0.002	|
2-14-23	CONTROL Day 7	20.1	8.0	8.2	24.9	0.001	KRS/WC
	CDP-REF Day 7	20.8	8.0	8.4	24.8	0.001	|
	CDP-03 Day 7	20.9	8.0	8.3	25.2	0.001	|

Comments:

Thermometer #: 737

pH meter #: 737

Sal meter #: 948

D.O. meter#: YSI6

Ammonia meter #: 566

QAU Form # 3350

10 d M. bahia Whole Sediment 5 of 6

Client/Project Name:	Terracon Houston - PCCA HI & CDP Resampling 2023	WO #:	23A1459

WET CHEMISTRY LOG- 10D M. bahia

Date	Client/ Sample No./Sample Date	Temp	pH	D.O. mg/L	Salinity ppt	NH_3N ppm*	Init.
2-15-23	CONTROL - NEW Day 8	~~8.0~~	~~20.6~~ ①	9.0	24.4	0.001	VJC
	CONTROL - OLD Day 8	20.4	7.9	8.6	24.9	0.002	↓
	CDP-REF Day 8	20.2	7.9	8.3	24.9	0.002	↓
	CDP-03 Day 8	20.3	7.8	7.7	25.1	0.002	↓
2-16-23	CONTROL Day 9	20.4	7.9	8.0	24.8	0.001	VJC / AOJ
	CDP-REF Day 9	20.3	7.9	8.9	24.7	0.001	↓
	CDP-03 Day 9	20.2	8.0	8.2	25.1	0.001	↓
2-17-23	CONTROL Day 10	20.2	7.9	8.4	24.4	.001	TRG
	CDP-REF Day 10	20.3	7.4	8.8	24.7	.001	↓
	CDP-03 Day 10	20.1	7.4	8.7	25.0	.001	↓

Comments:

Thermometer #: 737

pH meter #: 737

Sal meter #: 948

D.O. meter#: YS16

Ammonia meter #: 566

① IE VJC 2-15-23 → [20.6, 8.0]

QAU Form # 3350

10 d M. bahia Whole Sediment 6 of 6

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-1885-3815	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 7:56	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0417804	0.0417804	1	2.439	0.1570	Non-Significant Effect
Error	0.13705	0.0171312	8			
Total	0.17883		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.593	23.15	0.3786	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7297	0.7411	0.0020	Non-Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	RS	5	0.9000	0.8240	0.9760	0.9000	0.8000	0.9500	0.0274	6.80%	0.00%
3		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	-6.67%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	RS	5	1.259	1.138	1.38	1.249	1.107	1.345	0.04367	7.76%	0.00%
3		5	1.388	1.193	1.584	1.459	1.107	1.459	0.07032	11.33%	-10.27%

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	RS	0.9500	0.9000	0.9500	0.9000	0.8000
3		1.0000	1.0000	1.0000	1.0000	0.8000

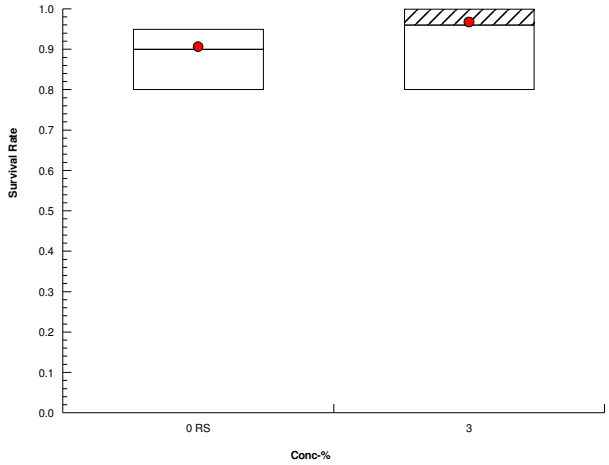
Angular (Corrected) Transformed Detail

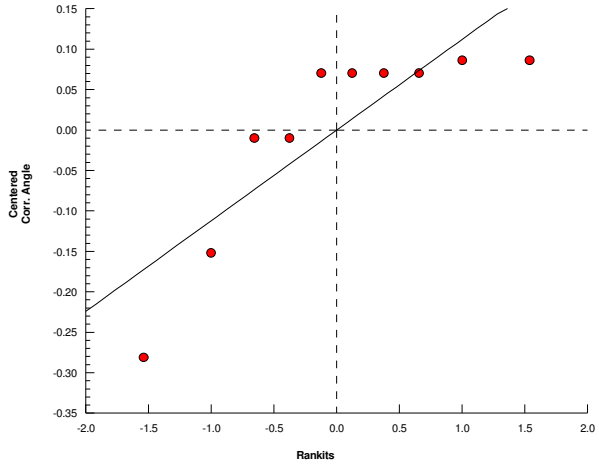
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	RS	1.345	1.249	1.345	1.249	1.107
3		1.459	1.459	1.459	1.459	1.107

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-1885-3815	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 7:56	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	22 Feb-23 08:03 (p 1 of 1)
Test Code/ID:	23A1459 / 06-8762-6186

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-3053-8825	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 7:56	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0111556	0.0111556	1	3.882	0.0843	Non-Significant Effect
Error	0.0229868	0.0028734	8			
Total	0.0341424		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.401	23.15	0.2628	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.972	0.7411	0.9090	Normal Distribution

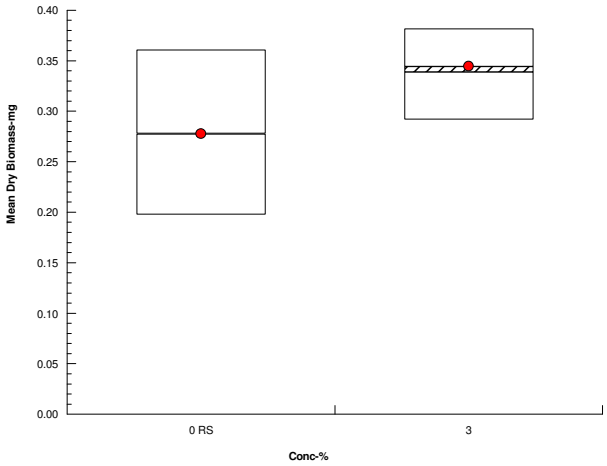
Mean Dry Biomass-mg Summary

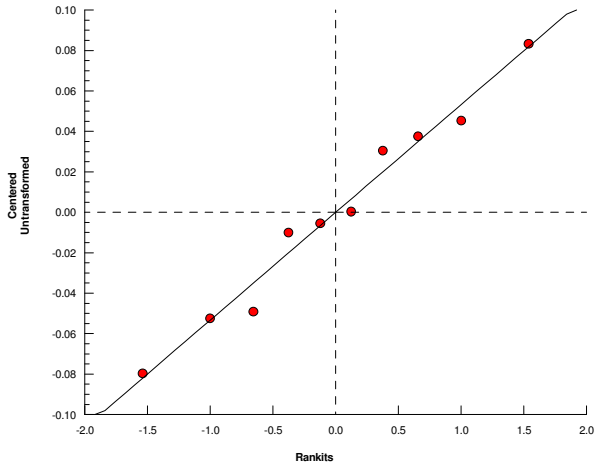
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	RS	5	0.2777	0.195	0.3604	0.278	0.198	0.361	0.0298	24.00%	0.00%
3		5	0.3445	0.2996	0.3894	0.339	0.292	0.382	0.01616	10.49%	-24.05%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	RS	0.278	0.323	0.361	0.198	0.2285
3		0.339	0.3345	0.375	0.382	0.292

Graphics





CETIS Analytical Report

Report Date:	22 Feb-23 08:03 (p 1 of 1)
Test Code/ID:	23A1459 / 06-8762-6186

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	08-3838-2252	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 7:56	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0066747	0.0066747	1	2.954	0.1240	Non-Significant Effect
Error	0.0180741	0.0022593	8			
Total	0.0247488		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	8.924	23.15	0.0568	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9589	0.7411	0.7733	Normal Distribution

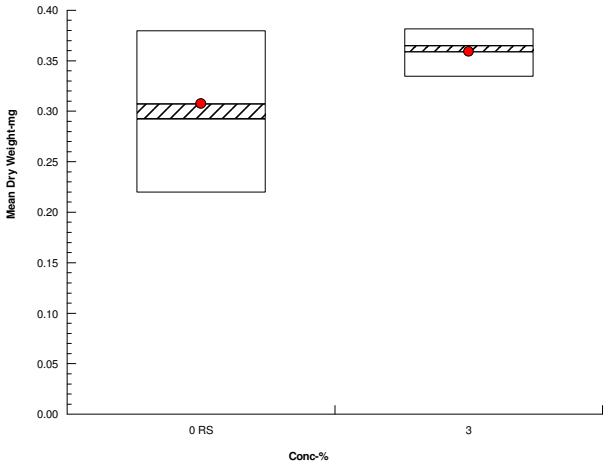
Mean Dry Weight-mg Summary

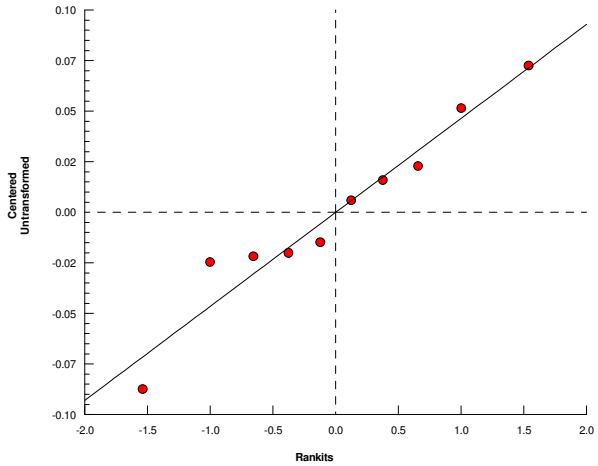
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	RS	5	0.3074	0.2283	0.3866	0.2926	0.22	0.38	0.02851	20.73%	0.00%
3		5	0.3591	0.3326	0.3856	0.365	0.3345	0.382	0.009543	5.94%	-16.81%

Mean Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	RS	0.2926	0.3589	0.38	0.22	0.2856
3		0.339	0.3345	0.375	0.382	0.365

Graphics





Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-8513-5006	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 8:49	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	Control Sed passed survival rate	12.64%

Equal Variance t Two-Sample Test

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Reference Sed		Control Sed	-1.041	1.86	0.169	8	CDF	0.8357	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0223682	0.0223682	1	1.083	0.3285	Non-Significant Effect
Error	0.165273	0.0206591	8			
Total	0.187641		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.333	23.15	0.2705	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.7883	0.7411	0.0105	Normal Distribution

Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	CS	5	0.9400	0.8054	1.0000	1.0000	0.7500	1.0000	0.0485	11.53%	0.00%
0	RS	5	0.9000	0.8240	0.9760	0.9000	0.8000	0.9500	0.0274	6.80%	4.26%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	CS	5	1.354	1.132	1.575	1.459	1.047	1.459	0.07973	13.17%	0.00%
0	RS	5	1.259	1.138	1.38	1.249	1.107	1.345	0.04367	7.76%	6.99%

Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	CS	1.0000	1.0000	1.0000	0.9500	0.7500
0	RS	0.9500	0.9000	0.9500	0.9000	0.8000

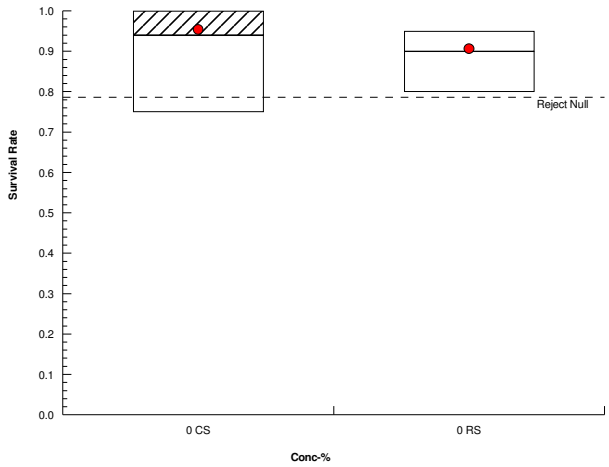
Angular (Corrected) Transformed Detail

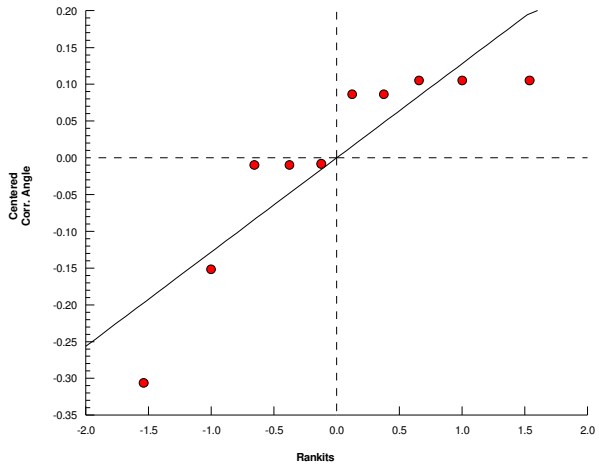
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	CS	1.459	1.459	1.459	1.345	1.047
0	RS	1.345	1.249	1.345	1.249	1.107

Mysidopsis 10-d Survival and Growth Sediment | **NWDLS Environ. Toxicol. Lab**

Analysis ID:	09-8513-5006	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 8:49	**Analysis:**	Parametric-Two Sample	**Status Level:**	1

Graphics





CETIS Analytical Report

Report Date:	22 Feb-23 08:52 (p 1 of 1)
Test Code/ID:	23A1459 / 06-8762-6186

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	04-7466-4213	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 8:50	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0003540	0.0003540	1	0.08452	0.7787	Non-Significant Effect
Error	0.0335105	0.0041888	8			
Total	0.0338645		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.128	23.15	0.9098	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9464	0.7411	0.6267	Normal Distribution

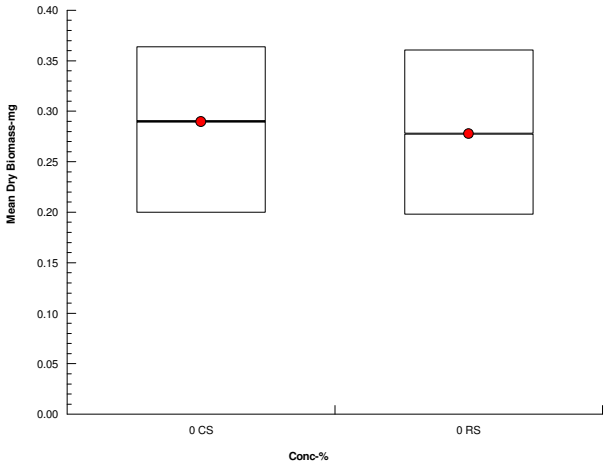
Mean Dry Biomass-mg Summary

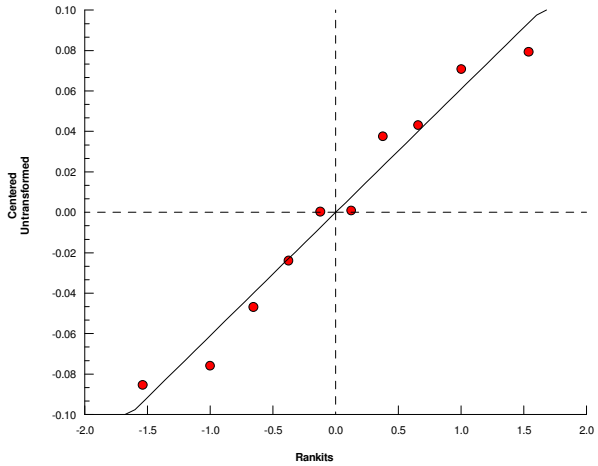
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	CS	5	0.2896	0.2117	0.3675	0.2905	0.2	0.364	0.02806	21.67%	0.00%
0	RS	5	0.2777	0.195	0.3604	0.278	0.198	0.361	0.0298	24.00%	4.11%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	CS	0.2905	0.329	0.364	0.2645	0.2
0	RS	0.278	0.323	0.361	0.198	0.2285

Graphics





CETIS Analytical Report

Report Date:	22 Feb-23 08:52 (p 1 of 1)
Test Code/ID:	23A1459 / 06-8762-6186

Mysidopsis 10-d Survival and Growth Sediment — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	20-6094-8988	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	22 Feb-23 8:51	**Analysis:**	No Statistical Comparisons Run	**Status Level:**	1

Batch ID:	18-6209-5764	**Test Type:**	Survival-Growth	**Analyst:**	Theran Gay		
Start Date:	07 Feb-23 16:10	**Protocol:**	EPA/832/B-98-004 (1998)	**Diluent:**	Laboratory Seawater		
Ending Date:	17 Feb-23 15:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	9d 23h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	5

Sample ID:	13-6697-9959	**Code:**	517A7577	**Project:**	PCCA
Sample Date:	16 Aug-22 13:30	**Material:**	Site Sediment	**Source:**	PCCA-CDP
Receipt Date:	19 Aug-22 22:05	**CAS (PC):**		**Station:**	
Sample Age:	175d 3h	**Client:**	Terracon Consultants, Inc.		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7.323E-06	7.323E-06	1	0.002582	0.9607	Non-Significant Effect
Error	0.0226934	0.0028367	8			
Total	0.0227008		9			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.524	23.15	0.3918	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9425	0.7411	0.5812	Normal Distribution

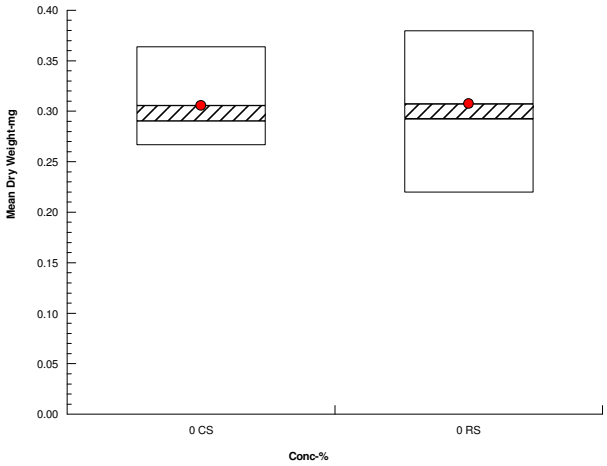
Mean Dry Weight-mg Summary

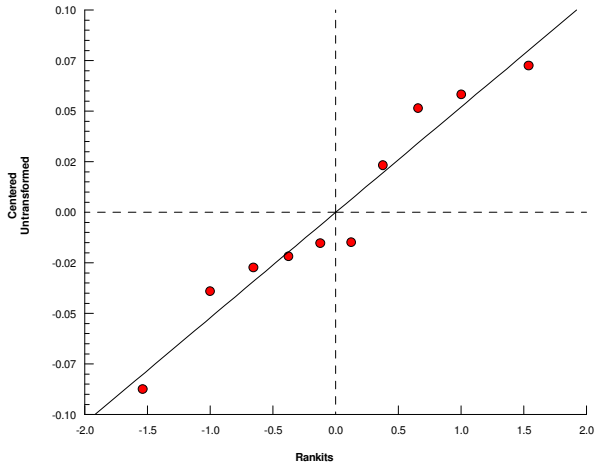
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	CS	5	0.3057	0.2559	0.3555	0.2905	0.2667	0.364	0.01795	13.13%	0.00%
0	RS	5	0.3074	0.2283	0.3866	0.2926	0.22	0.38	0.02851	20.73%	-0.56%

Mean Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	CS	0.2905	0.329	0.364	0.2784	0.2667
0	RS	0.2926	0.3589	0.38	0.22	0.2856

Graphics





Client:	NWDLS KCl STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-0038

Chronic *Mysidopsis bahia* Test Condition Summary - EPA-821-R-02-014 Test Method 1007.0 ; NWDLS SOP No. 4020			
Test Organism:	*Mysidopsis bahia*	Age Class:	7 d old
Test Type:	Static-renewal	Test Duration:	7 d
Temperature:	26 ± 1	Photoperiod:	16:8 h; ambient light, 50-100 ft-c
Test Chamber Size:	12 oz plastic disposable cups	Cleaning:	daily during test renewal
No. of Replicates:	10	No. Organisms per Replicate:	5
Test Solution Volume:	250 mL	Dilution Water:	LAB W
Renewal of Test Solution:	Daily	Aeration :	None, unless DO < 4.0 mg/L
Feeding:	One drop; twice daily	Food Type:	*Artemia nauplii*
Acceptability Criteria:	≥80% survival in control; ≥.20 mg average dry weight in control	Sample Holding Time Requirements:	36 h maximum for first use; 72 h maximum for subsequent use.

Test Concentrations (mg/L):	Control , 125, 250, 500, 1000, 2000	DECHLOR:	N/A	Critical Dilution (mg/L):	N/A

STOX 1 Prep Date/Time/Initials:	2-2-23	0900	DPD	Analytical Standard Record Number	2302028
STOX 2 Prep Date/Time/Initials:	—	—	—	Analytical Standard Record Number	—

Sample Use									
Day #	Date:	Sample ID	Diluent ID	Initials	Day #	Date:	Sample ID	Diluent ID	Initials
Day 0	2-2-23	23-0038 -1	2301333	DPD	Day 4	2-6-23	23-0038 -1	2301333	DPD
Day 1	2-3-23	23-0038 -1	2301333	DPD	Day 5	2-7-23	23-0038 -1	2301333	KPI
Day 2	2-4-23	23-0038 -1	2301333	DPD	Day 6	2-8-23	23-0038 -1	2301333	CBR
Day 3	2-5-23	23-0038 -1	2301333	BRM	Day 7	—	23-0038	—	—

◆◆

This test was conducted in accordance with the method standard or according to the exception(s) as noted:

Comments:

TDS entry : AOJ 2-15-23

Data Sheet Preparation : Initials: BDM/DPD Date: 1-25-23 Arturo Orozco Jr

End of Test Review : Initials: DPD Date: 2-9-23 Final Review (signature)

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCI STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-0038

Water Quality Parameters

DATE	2/2/23	2/3/23		2/4/23		2/5/23		2/6/23		2/7/23		2/8/23		2/9/23
TIME	1030	0800	0800	0800	0800	0740	0740	0810	0810	0840	0840	0845	0845	0830
INITIALS	Hun (BU)	DPD KRI	DPD KRI	DPD KRI	DPD KRI	Hun KRI	Hun KRI	DPD KRI	DPD KRI	AOJ KRI	AOJ KRI	AOJ CBD	AOJ CBD	AOJ DPD
DAY	0	1		2		3		4		5		6		7
Solution	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
CONC. (mg/L)	pH OLD/NEW SOLUTION													
Cont	8.1	7.8	8.2	7.9	8.2	7.9	8.2	7.3	8.3	7.7	8.0	7.8	8.2	7.9
125	8.1	7.8	8.2	7.9	8.2	7.9	8.2	7.7	8.2	7.7	8.1	7.7	8.2	7.9
250	8.1	7.9	8.2	8.0	8.2	7.9	8.2	7.8	8.2	7.8	8.1	7.7	8.2	7.9
500	8.1	7.9	8.2	7.9	8.2	7.9	8.2	7.8	8.2	7.8	8.1	7.7	8.2	8.0
1000	8.1	7.9	8.2	—	—	—	—	—	—	—	—	—	—	—
2000	8.1	7.9	8.2	—	—	—	—	—	—	—	—	—	—	—
METER No	737	737	737	737	737	737	737	737	737	737	737	737	737	737
CONC. (mg/L)	DISSOLVED OXYGEN (mg/L) OLD/NEW SOLUTION													
Cont	8.2	7.2	8.2	7.9	8.4	8.2	8.4	6.2	8.7	7.8	9.8	7.6	8.1	7.6
125	8.3	7.2	8.3	7.9	8.4	8.1	8.6	6.4	8.6	7.7	9.3	7.2	8.1	7.6
250	8.3	7.4	8.2	8.0	8.4	8.0	8.5	7.2	8.6	7.7	9.4	7.0	8.2	7.5
500	8.3	7.3	8.2	8.0	8.4	8.0	8.4	7.4	8.6	7.7	9.4	7.1	8.0	7.3
1000	8.3	7.5	8.2	—	—	—	—	—	—	—	—	—	—	—
2000	8.2	7.3	8.2	—	—	—	—	—	—	—	—	—	—	—
METER No.	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6	YSI6
CONC. (mg/L)	TEMPERATURE (C) OLD/NEW SOLUTION (Actual)													
Cont	24.6	23.9	24.0	23.7	25.6	23.8	25.4	23.8	25.7	24.9	24.9	24.9	25.5	24.2
125	25.6	23.5	25.9	23.4	26.1	23.9	25.4	23.8	25.2	24.4	25.1	24.8	26.0	24.2
250	25.7	23.4	26.0	23.3	26.2	23.8	25.6	23.8	25.4	24.9	25.0	24.8	26.0	24.1
500	25.8	23.4	26.1	23.6	26.1	23.8	25.8	23.9	25.4	25.2	25.1	24.8	25.8	24.1
1000	25.8	23.3	26.1	—	—	—	—	—	—	—	—	—	—	—
2000	25.8	23.5	26.1	—	—	—	—	—	—	—	—	—	—	—
THERM No.	737	737	737	737	737	737	737	737	737	737	737	737	737	737
Offset (±°C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments: ① IE KRI 2-3-23 -> [25.7]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCl STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-00380

Water Quality Parameters (Cont'd.)

Salinity (‰)							
Conc (mg/L)	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Cont	26.3	/	/	/	/	/	/
125	26.8	/	/	/	/	/	/
250	27.0	/	/	/	/	/	/
500	27.4	/	/	/	/	/	/
1000	27.9	/	/	/	/	/	/
2000	29.0	/	/	/	/	/	/
Meter No.:	948	948	948	948	948	948	

Biological Data

Test Organism Data			
Test Organism Batch #	23-0135	DOB	1-26-23
Source	NWDLS	Age	7d

Feeding							
Day	AM Batch #	PM Batch #	Initials	Day	AM Batch #	PM Batch #	Initials
0		2216115	/	4	2216106	2216106	SKW / SKW
1	2216115	2216115	MMB / SKW	5	2216106	2216106	SKW /
2	2216115	2216115	MMB /	6	2216106	2216106	/
3	2216115	2216106	/	7	2216105		SKW /

Comments:

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCI STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-0038

Test Organisms

Conc (mg/L)	Rep	NUMBER OF SURVIVING ORGANISMS (DAY) 0	1	2	3	4	5	6	7
Cont	A	5	5	5	5	5	5	5	5
	B	5	5	5	5	4	4	4	4
	C	5	5	5	5	5	5	5	5
	D	5	5	5	5	4	4	4	4
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	5	5	5	5	5	5
	H	5	5	5	5	5	5	5	5
	I	5	5	5	5	4	4	4	4
	J	5	5	5	5	5	5	5	5
125	A	5	5	5	5	5	5	5	5
	B	5	5	5	5	5	5	5	5
	C	5	5	5	5	5	5	5	5
	D	5	5	5	5	5	5	5	5
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	5	5	5	5	5	5
	H	5	5	5	5	5	5	5	5
	I	5	5	5	5	5	5	5	5
	J	5	5	5	5	5	5	5	5
250	A	5	5	5	5	5	5	5	5
	B	5	5	5	5	5	5	5	5
	C	5	5	5	5	5	5	5	5
	D	5	5	5	5	5	5	5	5
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	5	5	5	5	5	5
	H	5	5	5	5	5	5	5	5
	I	5	5	5	5	5	5	5	5
	J	5	5	5	5	5	5	5	5
500	A	5	5	5	4	4	4	4	4
	B	5	4	4	4	4	4	4	4
	C	5	5	5	5	5	5	5	5
	D	5	5	5	5	5	5	5	5
	E	5	5	5	5	5	5	5	5
	F	5	5	5	5	5	5	5	5
	G	5	5	5	5	5	5	5	5
	H	5	4	3	3	3	3	~~5~~ 0	3
	I	5	5	5	5	5	5	5	5
	J	5	5	5	5	5	5	5	5
Date		2/3/23	2/3/23	2/4/23	2/5/23	2/6/23	2/7/23	2/8/23	2/9/23
Time		1030	0900	1600	1040	0825	0930	0930	1130
Init		~~BBV~~ BBM	DRD	BRM	BRM	KRI	KRI	AOJ	DRD

Conc (mg/L)	Rep	NUMBER OF SURVIVING ORGANISMS (DAY) 0	1	2	3	4	5	6	7
1000	A	5	0	0	0	0	0	0	0
	B	5	0	0	0	0	0	0	0
	C	5	0	0	0	0	0	0	0
	D	5	0	0	0	0	0	0	0
	E	5	0	0	0	0	0	0	0
	F	5	0	0	0	0	0	0	0
	G	5	0	0	0	0	0	0	0
	H	5	0	0	0	0	0	0	0
	I	5	0	0	0	0	0	0	0
	J	5	0	0	0	0	0	0	0
2000	A	5	0	0	0	0	0	0	0
	B	5	0	0	0	0	0	0	0
	C	5	0	0	0	0	0	0	0
	D	5	0	0	0	0	0	0	0
	E	5	0	0	0	0	0	0	0
	F	5	0	0	0	0	0	0	0
	G	5	0	0	0	0	0	0	0
	H	5	0	0	0	0	0	0	0
	I	5	0	0	0	0	0	0	0
	J	5	0	0	0	0	0	0	0
	A								
	B								
	C								
	D								
	E								
	F								
	G								
	H								
	I								
	J								
	A								
	B								
	C								
	D								
	E								
	F								
	G								
	H								
	I								
	J								

Comments: ① IL AOJ 2-8-23 [3]

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCl STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-00389

Dry Tissue Weight

CONC (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)	CONC (%)	REP	PAN NO.	TARE WT (g)	TOTAL WT (g)
Cont	A	1	.00465	.00683	500	A	31	.00473	.00633
	B	2	.00467	.00679		B	32	.00464	.00608
	C	3	.00457	.00658		C	33	.00453	.00648
	D	4	.00454	.00644		D	34	.00462	.00615
	E	5	.00449	.00705		E	35	.00468	.00635
	F	6	.00448	.00670		F	36	.00472	.00677
	G	7	.00468	.00689		G	37	.00471	.00663
	H	8 *	.00454	.00670		H	38 *	.00468	.00606
	I	9	.00476	.00632		I	39	.00473	.00645
	J	10	.00442	.00615		J	40	.00455	.00636
125	A	11	.00470	.00717	1000	A	41	.00473	—
	B	12	.00449	.00681		B	42	.00461	—
	C	13	.00474	.00644		C	43	.00464	—
	D	14	.00431	.00680		D	44	.00459	—
	E	15	.00470	.00673		E	45	.00462	—
	F	16	.00456	.00699		F	46	.00464	—
	G	17	.00445	.00632		G	47	.00451	—
	H	18 *	.00439	.00634		H	48 *	.00463	—
	I	19	.00452	.00634		I	49	.00470	—
	J	20	.00441	.00630		J	50	.00455	—
250	A	21	.00450	.00619	2000	A	51	.00489	—
	B	22	.00436	.00583		B	52	.00471	—
	C	23	.00446	.00614		C	53	.00458	—
	D	24	.00424	.00615		D	54	.00466	—
	E	25	.00429	.00598		E	55	.00475	—
	F	26	.00444	.00609		F	56	.00467	—
	G	27	.00440	.00606		G	57	.00455	—
	H	28 *	.00455	.00629		H	58 *	.00459	—
	I	29	.00427	.00607		I	59	.00452	—
	J	30	.00475	.00688		J	60	.00494	—

Comments:

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCl STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-0038

Dry Tissue Weight (cont'd)

CONC (%)	REP	PAN NO.	TARE WT. (g)	TOTAL WT. (g)
	A	61		
	B	62		
	C	63		
	D	64		
	E	65		
	F	66		
	G	67		
	H	68		
	I	69		
	J	70		
	A	71		
	B	72		
	C	73		
	D	74		
	E	75		
	F	76		
	G	77		
	H	78		
	I	79		
	J	80		
QA/QC (pans)		8	.00454	.00669
		18	.00442	.00634
		28	.00452	.00628
		38	.00469	.00608
		48	.00464	—
		58	.00459	—

BALANCE ID#	852
OVEN ID#	SW-1
BALANCE VERIFICATION INITIALS	CBR
DATE/ TARE WEIGHT INITIALS	1-30-23 , CBR
DATE DRYING INITIATED	2-9-23
TIME DRYING INITIATED	1200
OVEN TEMP(Act/Corr) (°C)	105 , 105
INITIALS	DRD
DATE/TIME DRYING TERMINATED	2-10-23 / 1200
OVEN TEMP (Act/Corr) (°C)	105 , 105
BALANCE VERIFICATION INITIALS	DRD
TOTAL WEIGHT DATE/ INITIALS	2-10-23 , DRD
COMMENTS:	

TREAT = Treatment REP = Replicate CONT = Control No. = Number ORG. = Organism

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Client:	NWDLS KCl STOX - Mb7	Permit #:	N/A	Outfall #:	N/A	Login #:	23-0038

Test Notes

Comments	Date	Time	Initials

Codes: IE-incorrect entry; IL-illegible; ONV-organism not visible; SC-spilled cup; PB-pathogenic bacteria

Analytical Standard Record

2302028

Description:	Mysid STOX Work Soln (KCl)	Expires:	02/09/2023
Standard Type:	Analyte Spike	Prepared:	02/02/2023
Solvent:	-	Prepared By:	Dane De Guzman
Final Volume (mls):	30000	Department:	Toxicology
Vials:	1	Last Edit:	02/02/2023 09:40 by DPD
Comments:	Measured 60.0g of KCl standard into 1-L volumetric flask and bring to volume with 25ppt saltwater. Add additional 29L to bring final solution to 30L. See attached PDF-file for dilution scheme.		

Analyte	Parent	CAS Number	Concentration	Units
				mg/L

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
2201575	Potassium chloride	02/10/2022	Thermo Fisher Scientific	T02H024	02/10/2025	07/19/2022 09:43 by TRG	60
2301333	Lab Saltwater	01/19/2023	-	-	06/06/2023	01/23/2023 11:25 by AOJ	30000

Mysid STOX Work Soln (KCl)

2302028

Expires 02/09/2023

Reviewed By

2-2-23

Date

Random Numbers 1-60

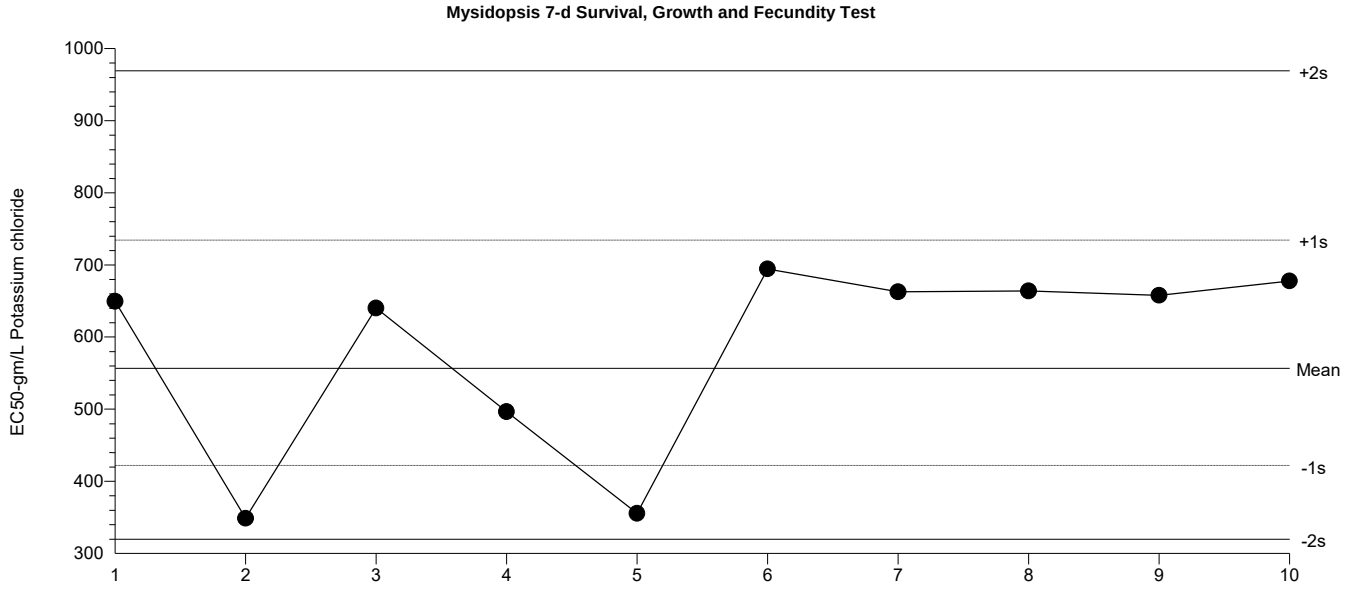
Nwdls KCL
STOX

Mb -23-0038

1	59
2	28
3	39
4	30
5	14
6	8
7	11
8	52
9	18
10	54
11	19
12	58
13	10
14	49
15	12
16	33
17	50
18	36
19	34
20	40
21	42
22	43
23	2
24	1
25	35
26	45
27	15
28	7
29	51
30	53
31	56
32	9
33	24
34	29
35	41
36	17
37	6
38	21
39	48
40	38
41	44
42	37
43	27
44	20
45	5
46	32
47	46
48	47
49	60
50	55
51	31
52	23
53	25
54	16
55	3
56	26
57	4
58	57
59	22
60	13

Mysidopsis 7-d Survival, Growth and Fecundity Test **All Matching Labs**

Test Type:	Growth-Survival-Fec (7d)	**Organism:**	Mysidopsis bahia (Atlantic Mysid)	**Material:**	Potassium chloride
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	7d Survival Rate	**Source:**	Reference Toxicant-REF



Mean:	556.7	**Count:**	9	**-1s Warning Limit:**	421.9	**-2s Action Limit:**	319.8
Sigma:	n/a	**CV:**	28.30%	**+1s Warning Limit:**	734.5	**+2s Action Limit:**	969.1

Quality Control Data

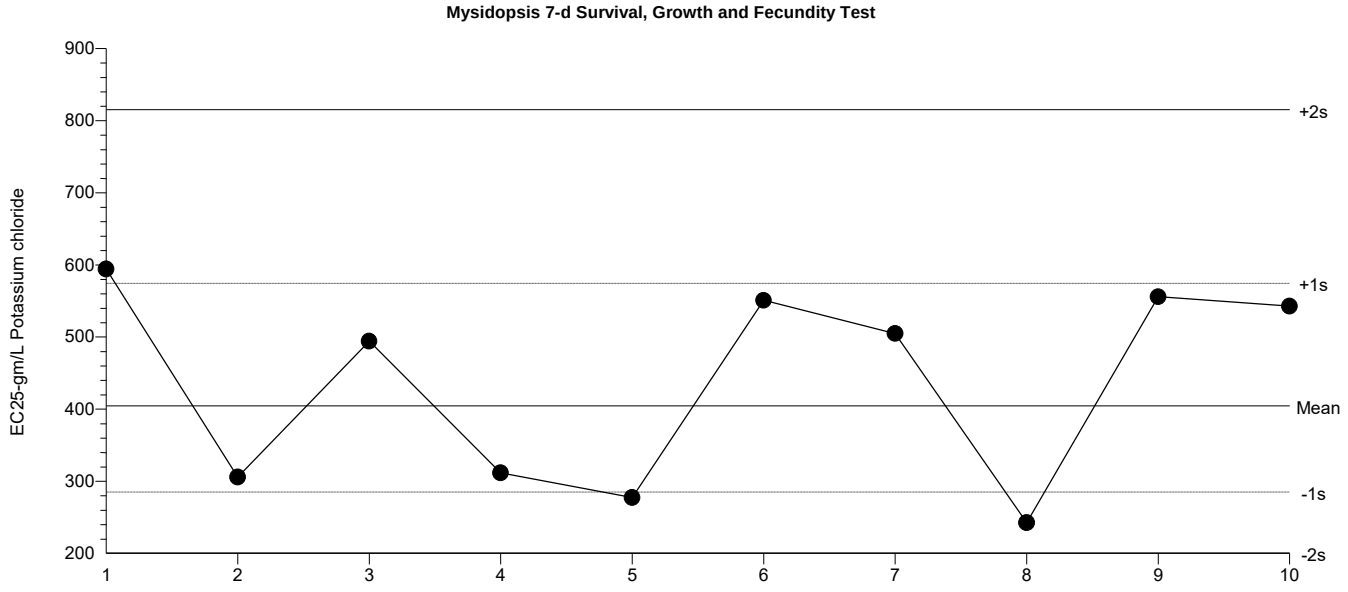
Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2022	Jun	3	13:15	649.6	92.88	0.5567			01-6211-0221	11-5901-8122	NWDLS Environ. Toxicol.
2			22	16:00	348.7	-208	-1.688	(-)		09-3616-1421	00-9150-0822	NWDLS Environ. Toxicol.
3		Jul	20	14:40	640.2	83.48	0.5041			11-8307-1033	20-9270-2210	NWDLS Environ. Toxicol.
4		Aug	31	10:45	496.5	-60.21	-0.4129			18-6777-7018	18-1763-7164	NWDLS Environ. Toxicol.
5		Sep	21	13:15	355.5	-201.2	-1.618	(-)		13-6667-4200	15-5979-0136	NWDLS Environ. Toxicol.
6		Oct	19	12:00	694.4	137.7	0.7976			09-3115-0814	15-7275-3360	NWDLS Environ. Toxicol.
7		Nov	3	13:45	662.7	106	0.629			19-3160-7260	04-3340-0504	NWDLS Environ. Toxicol.
8		Dec	12	13:00	663.9	107.2	0.6353			06-4905-6652	20-1321-0134	NWDLS Environ. Toxicol.
9	2023	Jan	3	10:30	657.9	101.2	0.6024			05-5770-2114	18-8602-2070	NWDLS Environ. Toxicol.
10		Feb	2	10:30	677.7	121	0.7098			08-8071-4725	11-7916-4212	NWDLS Environ. Toxicol.

CETIS QC Plot

Report Date: 16 Feb-23 09:35 (1 of 1)

Mysidopsis 7-d Survival, Growth and Fecundity Test — **All Matching Labs**

Test Type:	Growth-Survival-Fec (7d)	**Organism:**	Mysidopsis bahia (Atlantic Mysid)	**Material:**	Potassium chloride
Protocol:	EPA/821/R-02-014 (2002)	**Endpoint:**	Mean Dry Biomass-mg	**Source:**	Reference Toxicant-REF



Mean:	404.6	**Count:**	9	**-1s Warning Limit:**	285	**-2s Action Limit:**	200.8
Sigma:	n/a	**CV:**	36.10%	**+1s Warning Limit:**	574.4	**+2s Action Limit:**	815.5

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2022	Jun	3	13:15	594.3	189.6	1.097	(+)		01-6211-0221	06-7581-2449	NWDLS Environ. Toxicol.
2			22	16:00	305.9	-98.73	-0.7983			09-3616-1421	03-4116-2000	NWDLS Environ. Toxicol.
3		Jul	20	14:40	494.2	89.56	0.5706			11-8307-1033	07-3382-9498	NWDLS Environ. Toxicol.
4		Aug	31	10:45	311.8	-92.88	-0.7442			18-6777-7018	09-8654-5792	NWDLS Environ. Toxicol.
5		Sep	21	13:15	277.5	-127.1	-1.076	(-)		13-6667-4200	10-8885-9716	NWDLS Environ. Toxicol.
6		Oct	19	12:00	550.9	146.2	0.8805			09-3115-0814	01-6337-8754	NWDLS Environ. Toxicol.
7		Nov	3	13:45	504.9	100.2	0.6317			19-3160-7260	19-5328-5189	NWDLS Environ. Toxicol.
8		Dec	12	13:00	242.7	-161.9	-1.459	(-)		06-4905-6652	20-7921-9787	NWDLS Environ. Toxicol.
9	2023	Jan	3	10:30	555.9	151.2	0.9062			05-5770-2114	18-4604-0045	NWDLS Environ. Toxicol.
10		Feb	2	10:30	542.8	138.2	0.8385			08-8071-4725	02-7679-2403	NWDLS Environ. Toxicol.

CETIS Analytical Report

Report Date:	16 Feb-23 09:21 (p 1 of 1)
Test Code/ID:	23-0038g / 08-8071-4725

Mysidopsis 7-d Survival, Growth and Fecundity Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	11-7916-4212	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	16 Feb-23 9:21	**Analysis:**	Untrimmed Spearman-Kärber	**Status Level:**	1

Batch ID:	00-6254-9483	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	Dane DeGuzman		
Start Date:	02 Feb-23 10:30	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	09 Feb-23 11:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	7d 1h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	05-6268-9237	**Code:**	2189F4D5	**Project:**	047000100 0400.X
Sample Date:	02 Feb-23 09:00	**Material:**	Potassium chloride	**Source:**	Reference Toxicant
Receipt Date:	02 Feb-23 09:00	**CAS (PC):**		**Station:**	
Sample Age:	90m	**Client:**	North Water District Laboratory Services, In		

Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0.06	0.00%	2.831	0.01021	677.7	646.6	710.3

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.1028	<<	0.4	Yes	Passes Criteria
Control Resp	0.94	0.8	>>	Yes	Passes Criteria

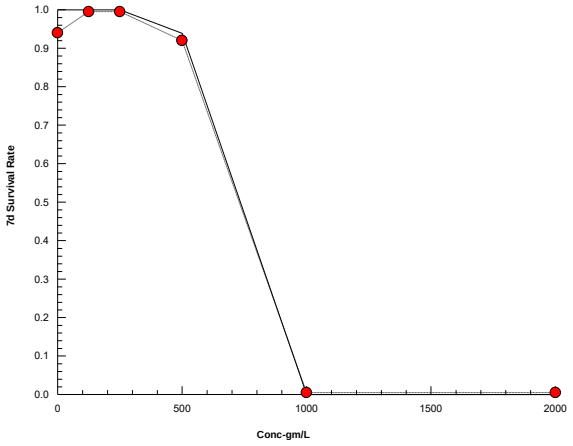
7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-gm/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	L	10	0.9400	0.8000	1.0000	0.0966	10.28%	0.0%	47/50	0.98	0.0%
125		10	1.0000	1.0000	1.0000	0.0000	0.00%	-6.38%	50/50	0.98	0.0%
250		10	1.0000	1.0000	1.0000	0.0000	0.00%	-6.38%	50/50	0.98	0.0%
500		10	0.9200	0.6000	1.0000	0.1398	15.20%	2.13%	46/50	0.92	6.12%
1000		10	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%
2000		10	0.0000	0.0000	0.0000	0.0000		100.0%	0/50	0	100.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	1.0000	0.8000	1.0000	0.8000	1.0000	1.0000	1.0000	1.0000	0.8000	1.0000
125		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
250		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
500		0.8000	0.8000	1.0000	1.0000	1.0000	1.0000	1.0000	0.6000	1.0000	1.0000
1000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Graphics



Mysidopsis 7-d Survival, Growth and Fecundity Test — **NWDLS Environ. Toxicol. Lab**

Analysis ID:	02-7679-2403	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	16 Feb-23 9:33	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Batch ID:	00-6254-9483	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	Dane DeGuzman		
Start Date:	02 Feb-23 10:30	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Laboratory Seawater		
Ending Date:	09 Feb-23 11:30	**Species:**	Mysidopsis bahia	**Brine:**	Instant Ocean		
Test Length:	7d 1h	**Taxon:**	Malacostraca	**Source:**	NWDLS	**Age:**	7d

Sample ID:	05-6268-9237	**Code:**	2189F4D5	**Project:**	047000100 0400.X
Sample Date:	02 Feb-23 09:00	**Material:**	Potassium chloride	**Source:**	Reference Toxicant
Receipt Date:	02 Feb-23 09:00	**CAS (PC):**		**Station:**	
Sample Age:	90m	**Client:**	North Water District Laboratory Services, In		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	660708	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control CV	0.1363	<<	0.4	Yes	Passes Criteria
Control Resp	0.413	0.2	>>	Yes	Passes Criteria

Point Estimates

Level	gm/L	95% LCL	95% UCL
IC25	542.8	441	572.2

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-gm/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	L	10	0.413	0.312	0.512	0.05629	13.63%	0.0%	0.4162	0.0%
125		10	0.4194	0.34	0.498	0.05996	14.30%	-1.55%	0.4162	0.0%
250		10	0.3484	0.294	0.426	0.03531	10.14%	15.64%	0.3484	16.29%
500		10	0.3414	0.276	0.41	0.04498	13.18%	17.34%	0.3414	17.97%
1000		10	0	0	0	0		100.0%	0	100.0%
2000		10	0	0	0	0		100.0%	0	100.0%

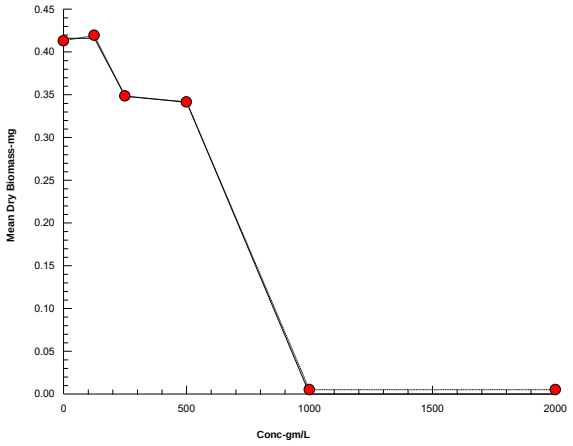
Mean Dry Biomass-mg Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	0.436	0.424	0.402	0.38	0.512	0.444	0.442	0.432	0.312	0.346
125		0.494	0.464	0.34	0.498	0.406	0.486	0.374	0.39	0.364	0.378
250		0.338	0.294	0.336	0.382	0.338	0.33	0.332	0.348	0.36	0.426
500		0.32	0.288	0.39	0.306	0.334	0.41	0.384	0.276	0.344	0.362
1000		0	0	0	0	0	0	0	0	0	0
2000		0	0	0	0	0	0	0	0	0	0

Mysidopsis 7-d Survival, Growth and Fecundity Test **NWDLS Environ. Toxicol. Lab**

Analysis ID:	02-7679-2403	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	16 Feb-23 9:33	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



Aquatic Research Organisms

TAXONOMIC IDENTIFICATION

Americamysis bahia
(formerly Mysidopsis bahia)
Mysid shrimp

- Phylum – Arthropoda
- Subphylum- Crustacea
- Class - Malacostraca
- Subclass - Eumalacostraca
- Superorder - Peracardia
- Order - Mysida
- Family - Mysidae
- Genus - Americamysis
- Species - bahia

The U.S.Environmental Agency, Pensacola FL made the initial taxonomic identification. ARO received starter cultures from that EPA lab in September 1985. Additions to the stock were numerous in the late 1980's mostly from stocks originating in Texas and Florida. Stanley Sinitski of ARO has performed subsequent keying; the latest was done in June 2021. The keys used were "Key to Marine Invertebrates of the Woods Hole Region," Smith, R.I. 1964 pgs. 93-95 and "An Annotated Key To The Mysidacea of the North Central Coast of Mexico", Stuck, K., Perry, H., and Heard, W. 1979. pgs. 225-238

The name *Mysidopsis bahia* has been changed to *Americamysis bahia*. Documentation of this change can be found at: Price WW, Heard, RW, Stuck, L. 1994 Observation on the genus *Mysidopsis* Sars, 1864 with the designation of a new genus, *Americamysis*, and description of *Americamysis alleni and A.stucki* (Peracardia, mysidacae, mysidae), from the Gulf of Mexico. *Proc. Biol. Soc. Wash. 107: 680-698.*

The Taxonomic Hierarchy above reflects the latest published information available in the Integrated Taxonomic Information System (ITIS).

If you have any questions or need further assistance please call ARO at 1-800-927-1650.

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650

Analytical Standard Record

2302318

Description:	Lab Saltwater	Expires:	06/06/2023
Standard Type:	Other	Prepared:	02/07/2023
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	02/08/2023 12:26 by JKW
Comments:	Chems Added: AOJ 2-6-23 Approved: JKW 2/8/23 pH: 7.9 Salinity: 25 Transferred to Circ Tank: JKW 2/8/23 Used 12 bags (1 per 50gal of DI) of Instant Ocean		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2214326	Instant Ocean Sea Salt (6.8kg/bag)	11/22/2022	-	S06262022	11/22/2026	11/22/2022 15:43	by AOJ	1
2215260	DI Water	12/08/2022	Suez	101222	06/06/2023	12/08/2022 14:56	by AOJ	1

Analytical Standard Record

2302045

Description:	Lab Saltwater	Expires:	06/06/2023
Standard Type:	Other	Prepared:	02/02/2023
Solvent:	-	Prepared By:	Arturo Orozco Jr
Final Volume (mls):	3410000	Department:	Toxicology
Vials:	1	Last Edit:	02/07/2023 13:28 by AOJ
Comments:	Chems Added: AOJ 2-2-23 Approved: VJC 2-4-23 pH: 8.1 Salinity: 26.3 Transferred to Circ Tank: Used 12 bags (1 per 50gal of DI) of Instant Ocean *TANK OVERFILLED, EXTRA SALT ADDED*		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
2214326	Instant Ocean Sea Salt (6.8kg/bag)	11/22/2022	-	S06262022	11/22/2026	11/22/2022 15:43	by AOJ	1
2215260	DI Water	12/08/2022	Suez	101222	06/06/2023	12/08/2022 14:56	by AOJ	1

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-22-36
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	03/03/2023 10:38

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

23A1459

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-22-36 TCEQ-TOX T104704202-22-17

Terracon_Houston
Gregg Pawlak
11555 Clay Road
Houston, TX 77043
Phone: (713) 690-8989

Project Name : PCCA HI & CDP Resampling 2023

Schedule Comments:

Project Comments: Benthic Test

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
23A1459-67	CDP-03-S CDP-03-3A CDP-03-3C	1/22/23 1050 1/22/23 1400		S Composite	A HDPE Bucket 5 Gal B HDPE Bucket 5 Gal C HDPE Bucket 5 Gal D HDPE Bucket 5 Gal	AB 10D-503 4°C LP 10D-503 4°C Sediment Prep 4°C	2 Buckets w/ Teflon Bags Each - -03A and -03C 4 Total Buckets

Field Remarks: Total ~16-20 gals Collected

Preservation: (Circle and Write ID) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time 1/23/2023	Received By: (Signature)	Date/Time 1-23-23 12:30 p.m.
Print Name Michael Macdonald	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation AMAR	Relinquished To Lab By: (Signature)	Date/Time 1-23-23, 17:10	Received for Laboratory By: (Signature)	Date/Time 1-23-23 17:10

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C
Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

wko_NWDLS_COC2_noDate_LS version 4: 02/21/2021

APPENDIX H

PHOTOS OF SAMPLES AND FIELD OPERATIONS

Photo 1 Advancement of boring CDP-01A utilizing sonic drill rig.

Photo 2 Logging of sediment collected from boring CDP-01A.

Photo 3 View of sediment collected from boring CDP-01A.

Photo 4 Collection of sediment within Teflon® bags at boring location CDP-01C.

Photo 5 View of sediment collected from boring CDP-01C.

Photo 6 Logging of sediment collected from boring CDP-02A.

Photo 7 View of sediment collected from boring CDP-02A.

Photo 8 Collection of sediment within 5-gallon food grade buckets at boring CDP-02C.

Photo 9 View of sediment collected from boring CDP-02C.

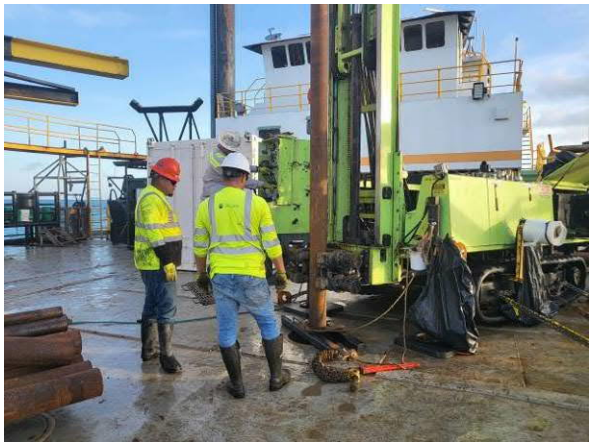


Photo 10 Advancement of boring CDP-03A utilizing sonic drill rig.

Photo 11 View of sediment collected from boring CDP-03A.

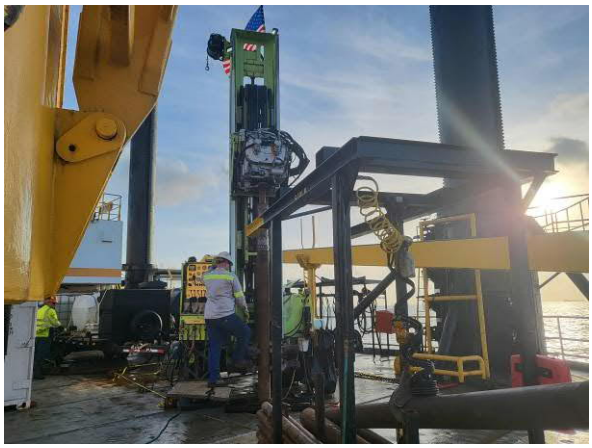


Photo 12 Advancement of boring CDP-03C utilizing sonic drill rig.

Photo 13 View of refrigerated unit on lift boat used to store samples at or below 4°C following collection.

Photo 14 View of double van Veen sampler utilized to collect sediment from CDP-04, CDP-05, the Reference Area and the ODMDS.

Photo 15 View of sediment collected from CDP-04A.

Photo 16 View of sediment collected from CDP-05C.

Photo 17 View of sediment collected from CDP-REF-B.

Photo 18 View of refrigerated unit at Martin Energy facility used to store samples at or below 4°C following collection.

APPENDIX I

PERTINENT CORRESPONDENCE

MEMORANDUM

TO: United States Army Corps of Engineers and United States Environmental Protection Agency

DATE: October 31, 2022

REF: Corpus Christi Channel Deepening Outer Channel/Offshore Project Tissue Chemistry Recommendations

Based on the analysis of sediment samples from the Corpus Christi Channel Deepening Outer Channel/Offshore project area, the following recommendations for tissue chemistry analysis are proposed. As stated in Section 10.2.2 of the RIA,

Ordinarily, only those compounds detected in the sediment need be analyzed for in the tissue. In some cases, however, it may be desirable to analyze tissues for compounds not detected in the sediments. The target detection limits listed in Appendix B (Appendix C has the actual TDLs) will be used when conducting evaluations of tissues from bioaccumulation tests.

For the outer channel/offshore portion of this project, the sediment chemistry was analyzed on the composite samples. The determination to run tissue chemistry is based on the detection of the contaminants in any of the composite samples.

Non-metals
Sediment analysis for cyanide and total petroleum hydrocarbons (TPH) showed no results with concentrations greater than the method reporting limit (MRL) in any sample, with the exception of TPH in CDP-05 Composite. Analysis of tissue samples for cyanide is **not recommended**. Analysis of tissue samples for TPH is **recommended** for the composite sample CDP-05. Tissue analysis for TPH is **not recommended** for any of the remaining composite samples.

Trace metals
All sediment subsamples contained detectable levels of the trace metals analyzed. Although several metals were reported below the reporting limit, the analytical method used for testing will provide results for all metals. Analysis of all tissue samples for all metals is **recommended**.

Hexavalent Chromium
Sediment subsamples for hexavalent chromium showed no results with concentrations greater than the MRL in any sample. Analysis of tissue samples for hexavalent chromium is **not recommended**.

Pesticides
Sediment analysis for pesticides showed no results with concentrations greater than the MRL in any sample. Analysis of tissue samples for pesticides is **not recommended**.

PCBs
PCB Aroclors were analyzed for total PCB content using Aroclors. The total PCBs in all subsamples are reported as non-detects (U-qualified). All project sediment samples were reported with an MDL greater than the target detection limit in the SAP, but this was due to low total solids content in the sediment. Analysis of tissue samples for PCBs is **not recommended**.

PAHs
Sediment analysis for PAHs showed no results with concentrations greater than the MRL in any sample. Tissue analysis for all other samples for PAHs is **not recommended**.

Semi-volatile Organic Compounds (SVOCs)
Three of the DMMUs, CDP-01, CDP-02, and CDP-03 had detectable concentrations greater than the MRL for the following SVOC compounds: bis (2-ethylhexyl) phthalate and di-n-butyl phthalate. Analysis of tissues samples for these two SVOC compounds detected in the sediment is **recommended** for composite samples CDP-01, CDP-02, and CDP-03. Tissue analysis for the remaining compounds is **not recommended**.

In addition, the reference and pre-exposure tissue samples will be run for background levels for all recommended analyses shown above. Tables 3 through 7 include the complete sediment chemistry analytical results for the outer channel/offshore composite samples. The table below summarized the tissue recommendations based on sample and analysis. Upon completion, the tissue samples will be compared to the reference tissue samples to determine statistical differences and the risk assessment as part of the final report.

Summary of PCCA CDP Outer Channel/Offshore Tissue Recommendations

Analyte	***CDP-01***	***CDP-02***	***CDP-03***	***CDP-04***	***CDP-05***	***REF and Pre-exposure***
Total cyanide	No	No	No	No	No	No
TPH	No	No	No	No	**Yes**	**Yes**
Metals	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Hexavalent chromium	No	No	No	No	No	No
Pesticides	No	No	No	No	No	No
PCBs	No	No	No	No	No	No
PAHs	No	No	No	No	No	No
SVOCs (di-n-butyl phthalate and bis (2-ethylhexyl) phthalate)	**Yes**	**Yes**	**Yes**	No	No	**Yes**
All other SVOC compounds	No	No	No	No	No	No

TABLE 3

Results of Physical Analyses for Sediment Samples

DMMU Location:*		CDP-01 Stations -330+00 (open bay, channel extension)			CDP-02 Stations -380+00 (open bay, channel extension)			CDP-03 Stations -460+00 (open bay, channel extension)			
Sample ID:		CDP-01-COMP (Composite)	1A	1C	CDP-02-COMP (Composite)	2A	2C	CDP-03-COMP (Composite)	CDP-03 Duplicate (Core # 2, Composite)	3A	3C
Sediment Description		Silt, some clay, little fine-grained quartz sand, brown	Fat clay, little silt, little fine-grained quartz sand, brown	Silt, some clay, little fine-grained quartz sand, brown	Silt, some clay, little fine-grained quartz sand, brown	Silt, some clay, little fine-grained quartz sand, brown	Silt, some clay, few fine-grained quartz sand, brown	Lean clay, some silt, few fine-grained quartz sand, brown	Fat clay, little silt, little fine-grained quartz sand, brown	Lean clay, some silt, few fine-grained quartz sand, brown	Silt, some clay, few fine-grained quartz sand, brown
% 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Medium Sand		0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
% Fine Sand		20.3	19.8	25.8	14.5	20.2	10.0	10.6	9.2	9.6	9.4
% Sand (total) (Particles 0.075-4.749 mm)		20.3	19.8	25.9	14.6	20.2	10.0	10.6	9.2	9.6	9.4
% Silt (Particles 0.005-0.074 mm)		43.8	23.7	41.6	47.2	41.1	47.0	43.8	40.6	43.9	46.6
% Clay (Particles <0.005 mm)		35.9	56.5	32.5	38.2	38.7	43.0	45.6	50.2	46.5	44.0
% Silt & Clay (combined)		79.7	80.2	74.1	85.4	79.8	90.0	89.4	90.8	90.4	90.6
USCS Classification		ML	CH	ML	ML	ML	ML	CL	CH	CL	ML
% 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	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#20	0.85	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#40	0.425	100.0	100.0	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0
#50	0.297	100.0	100.0	99.9	99.9	100.0	100.0	100.0	99.9	100.0	100.0
#70	0.210	99.9	99.9	99.8	99.8	100.0	100.0	100.0	99.9	100.0	100.0
#100	0.149	99.3	99.4	99.3	99.5	99.9	99.7	99.9	99.8	99.9	100.0
#140	0.105	96.1	94.8	95.2	97.6	97.0	98.7	98.5	99.3	99.0	99.5
#200	0.075	79.7	80.2	74.1	85.4	79.8	90.0	89.4	90.8	90.4	90.6
Hydrometer Readings (% less than the following sizes)		58.7 @ 0.0414 mm	75.3 @ 0.0381 mm.	54.4 @ 0.0422 mm	68.5 @ 0.0393 mm	66.3 @ 0.0394 mm	76.3 @ 0.0375 mm	75.0 @ 0.0375 mm	79.5 @ 0.0369 mm	73.0 @ 0.0383 mm	68.5 @ 0.0390 mm
		53.1 @ 0.0301 mm	72.6 @ 0.0273 mm.	47.5 @ 0.0308 mm	60.2 @ 0.0290 mm	58.7 @ 0.0290 mm	65.9 @ 0.0281 mm	68.2 @ 0.0276 mm	71.7 @ 0.0273 mm	65.2 @ 0.0282 mm	64.3 @ 0.0282 mm
		49.2 @ 0.0217 mm	69.1 @ 0.0197 mm.	44.9 @ 0.0220 mm	53.8 @ 0.0212 mm	51.1 @ 0.0213 mm	58.2 @ 0.0207 mm	61.9 @ 0.0202 mm	65.6 @ 0.0200 mm	60.1 @ 0.0205 mm	58.4 @ 0.0206 mm
		42.2 @ 0.0115 mm	62.1 @ 0.0105 mm.	38.8 @ 0.0117 mm	46.0 @ 0.0113 mm	44.4 @ 0.0113 mm	48.7 @ 0.0112 mm	53.5 @ 0.0109 mm	56.9 @ 0.0108 mm	52.3 @ 0.0110 mm	50.0 @ 0.0111 mm
		39.6 @ 0.0082 mm	58.6 @ 0.0076 mm.	37.0 @ 0.0083 mm	42.9 @ 0.0081 mm	41.0 @ 0.0081 mm	45.3 @ 0.0080 mm	50.0 @ 0.0078 mm	54.3 @ 0.0077 mm	48.9 @ 0.0079 mm	46.6 @ 0.0080 mm
		37.0 @ 0.0059 mm	56.8 @ 0.0054 mm.	34.4 @ 0.0059 mm	39.5 @ 0.0058 mm	39.3 @ 0.0058 mm	43.6 @ 0.0057 mm	46.6 @ 0.0056 mm	50.9 @ 0.0055 mm	47.1 @ 0.0056 mm	44.9 @ 0.0057 mm
		32.7 @ 0.0030 mm	53.3 @ 0.0027 mm.	26.6 @ 0.0031 mm	35.6 @ 0.0030 mm	35.9 @ 0.0029 mm	40.1 @ 0.0029 mm	41.6 @ 0.0029 mm	47.4 @ 0.0028 mm	42.0 @ 0.0029 mm	38.3 @ 0.0029 mm
		25.7 @ 0.0013 mm	44.1 @ 0.0012 mm.	23.1 @ 0.0013 mm	30.0 @ 0.0012 mm	28.3 @ 0.0012 mm	32.8 @ 0.0012 mm	34.8 @ 0.0012 mm	28.3 @ 0.0012 mm	33.3 @ 0.0012 mm	32.1 @ 0.0012 mm

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

DMMU Location:*		CDP-04 Stations -460+00 (open bay, channel extension)			CDP-05 Stations -620+00 (open bay, channel extension)			CDP-REF (Reference Area) Offshore Event	CDP-06 Stations 32+90 (Harbor Island Junction, channel deepening)			
Sample ID:		CDP-04-COMP (Composite)	4A	4C	CDP-05-COMP (Composite)	5A	5C	CDP-REF (Composite)	6A	6A Duplicate	6B	6C
Sediment Description		Lean clay, some silt, little fine-grained quartz sand, brown	Fat clay, little silt, little fine-grained quartz sand, brown	Fat clay, little silt, little fine-grained quartz sand, brown	Fat clay, some silt, few fine grained quartz sand, brown	Fat clay, some silt, few fine-grained quartz sand, brown	Fat clay, some silt, few fine-grained quartz sand, brown	Lean clay, some fine-grained quartz sand, some silt, brown	Lean clay, some fine-grained quartz sand, little silt, trace fine gravel-size shell fragments, tan	Fat clay, some silt, little fine-grained quartz sand, tan	Silty sand, mostly fine-grained quartz sand, little silt, little clay, tan	Silt, some fine-grained quartz sand, little clay, tan
% Gravel (Particles ≥4.750 mm)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
% Coarse Sand		0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.2	0.0	0.0
% Medium Sand		0.0	0.0	0.0	0.0	0.0	0.0	0.2	11.6	1.0	0.2	0.7
% Fine Sand		18.8	18.9	20.0	10.4	10.4	11.7	44.0	31.9	22.3	61.9	41.5
% Sand (total) (Particles 0.075-4.749 mm)		18.8	18.9	20.0	10.4	10.4	11.7	44.2	46.4	23.5	62.1	42.2
% Silt (Particles 0.005-0.074 mm)		34.4	22.9	24.9	32.1	35.2	33.4	27.8	19.5	30.7	19.7	31.4
% Clay (Particles <0.005 mm)		46.8	58.2	55.1	57.5	54.4	54.9	28.0	32.9	45.8	18.2	26.4
% Silt & Clay (combined)		81.2	81.1	80.0	89.6	89.6	88.3	55.8	52.4	76.5	37.9	57.8
USCS Classification		CL	CH	CH	CH	CH	CH	CL	CL	CH	SM	ML
% Passing Sieve Size	Metric Equivalent (mm)											
#4	4.75	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.8	100.0	100.0	100.0
#10	2.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.9	99.8	100.0	100.0
#20	0.85	100.0	100.0	100.0	100.0	100.0	100.0	100.0	88.5	99.3	99.9	99.5
#40	0.425	100.0	100.0	100.0	100.0	100.0	100.0	99.8	84.3	98.8	99.8	99.3
#50	0.297	100.0	100.0	100.0	100.0	100.0	100.0	99.7	82.7	98.6	99.7	99.2
#70	0.210	100.0	100.0	100.0	100.0	100.0	100.0	99.6	80.9	98.2	99.1	98.8
#100	0.149	99.4	99.5	99.4	99.9	99.9	99.8	99.2	72.4	94.7	85.3	91.9
#140	0.105	90.2	89.9	91.3	97.5	96.6	97.0	92.8	60.0	85.4	56.4	75.5
#200	0.075	81.2	81.1	80.0	89.6	89.6	88.3	55.8	52.4	76.5	37.9	57.8
Hydrometer Readings (% less than the following sizes)		68.9 @ 0.0394 mm	79.2 @ 0.0373 mm	76.0 @ 0.0373 mm	78.2 @ 0.0367 mm	76.1 @ 0.0379 mm	77.7 @ 0.0373 mm	45.4 @ 0.0439 mm	45.8 @ 0.0418 mm	60.4 @ 0.0388 mm	28.2 @ 0.0462 mm	44.0 @ 0.0421 mm
		64.5 @ 0.0285 mm	74.4 @ 0.0271 mm	72.7 @ 0.0269 mm	74.9 @ '0.0265 mm	71.7 @ 0.0275 mm	71.6 @ 0.0274 mm	41.1 @ 0.0316 mm	44.0 @ 0.0298 mm	56.6 @ 0.0281 mm	26.7 @ 0.0329 mm	37.6 @ 0.0308 mm
		60.6 @ 0.0205 mm	71.8 @ 0.0195 mm	69.3 @ 0.0194 mm	70.6 @ 0.0192 mm	68.2 @ 0.0198 mm	69.1 @ 0.0196 mm	38.5 @ 0.0226 mm	42.3 @ 0.0213 mm	53.5 @ 0.0202 mm	23.8 @ 0.0236 mm	34.0 @ 0.0222 mm
		54.0 @ 0.0109 mm	64.8 @ 0.0104 mm	62.6 @ 0.0104 mm	66.4 @ 0.0102 mm	61.3 @ 0.0106 mm	63.1 @ 0.0105 mm	33.7 @ '0.0119 mm	38.8 @ 0.0112 mm	49.7 @ 0.0107 mm	20.8 @ 0.0123 mm	29.0 @ 0.0118 mm
		50.9 @ 0.0079 mm	61.3 @ 0.0075 mm	59.2 @ 0.0075 mm	61.3 @ 0.0074 mm	58.2 @ 0.0076 mm	59.7 @ 0.0075 mm	31.6 @ '0.0085 mm	38.2 @ 0.0079 mm	48.0 @ 0.0076 mm	19.4 @ 0.0088 mm	27.6 @ 0.0084 mm
		47.9 @ 0.0056 mm	58.8 @ 0.0054 mm	55.9 @ 0.0054 mm	58.0 @ 0.0053 mm	55.2 @ 0.0055 mm	55.7 @ 0.0054 mm	29.0 @ 0.0061 mm	37.5 @ 0.0056 mm	46.4 @ 0.0055 mm	18.8 @ 0.0062 mm	26.8 @ 0.0059 mm
		41.7 @ 0.0029 mm	53.6 @ 0.0027 mm	49.2 @ 0.0028 mm	51.2 @ 0.0028 mm	49.2 @ 0.0028 mm	50.2 @ 0.0028 mm	26.4 @ 0.0031 mm	7.2 @ 0.0033 mm	36.9 @ 0.0029 mm	16.5 @ 0.0031 mm	24.5 @ 0.0030 mm
		31.2 @ 0.0012 mm	45.9 @ 0.0012 mm	39.2 @ 0.0012 mm	42.7 @ 0.0012 mm	39.7 @ 0.0012 mm	38.8 @ 0.0012 mm	19.5 @ 0.0013 mm	4.5 @ 0.0013 mm	7.0 @ 0.0013 mm	15.0 @ 0.0013 mm	18.0 @ 0.0013 mm

TABLE 4

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

			DMMU:	CDP-01				CDP-02				CDP-03				CDP-03 Duplicate (Core #2)				CDP-04				CDP-05			
			Sample ID:	CDP-01 Composite				CDP-02 Composite				CDP-03 Composite				CDP-03 Duplicate Composite				CDP-04 Composite				CDP-05 Composite			
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	<0.421	x	x	<0.0307	U	0.0307	0.0615	<0.0277	U	0.0277	0.0555	<0.0293	U	0.0293	0.0588	<0.0302	U	0.0302	0.0606	<0.0360	U	0.0360	0.0721	<0.0427	U	0.0427	0.0855
Arsenic	7.31	7.24	8.2	5.61	--	0.00307	0.0307	4.53	--	0.00277	0.0277	6.95	--	0.0147	0.147	7.31	--	0.0151	0.151	5.78	--	0.00360	0.0360	6.62	--	0.00427	0.0427
Beryllium	0.693	x	x	0.490	--	0.000615	0.0123	0.409	--	0.000555	0.0111	0.542	--	0.000588	0.0117	0.554	--	0.000606	0.0121	0.623	--	0.000721	0.0144	0.693	--	0.000855	0.0171
Cadmium	0.107	0.676	1.2	0.0383	J	0.00307	0.0615	0.0324	J	0.00277	0.0555	0.0507	J	0.00293	0.0588	0.0492	J	0.00302	0.0606	0.0418	J	0.00360	0.0721	0.0410	J	0.00427	0.0855
Chromium	12.1	52.3	81	8.21	--	0.00920	0.184	7.18	--	0.00830	0.166	8.75	--	0.00880	0.176	9.30	--	0.00907	0.181	10.9	--	0.0108	0.216	12.1	--	0.0128	0.256
Chromium (III)	12.1	x	x	8.21	--	2.61	7.53	7.18	--	2.38	6.86	8.75	--	2.67	7.69	9.30	--	2.52	7.27	10.9	--	3.06	8.84	12.1	--	3.46	9.98
Chromium (VI)	<3.48	x	x	<2.60	U	2.60	7.35	<2.37	U	2.37	6.69	<2.66	U	2.66	7.52	<2.51	U	2.51	7.09	<3.05	U	3.05	8.63	<3.44	U	3.44	9.72
Copper	7.62	18.7	34	5.58	V	0.0123	0.0615	4.79	V	0.0111	0.0555	7.33	V	0.0117	0.0588	7.38	V	0.0121	0.0606	6.70	V	0.0144	0.0721	7.62	V	0.0171	0.0855
Lead	13.2	30.24	46.7	9.12	--	0.0153	0.153	7.90	--	0.0138	0.138	9.88	--	0.0147	0.147	10.2	--	0.0151	0.151	12.4	--	0.0180	0.180	13.2	--	0.0213	0.213
Mercury	0.0397	0.13	0.15	0.0146	J	0.00963	0.0193	0.0161	J	0.00971	0.0194	0.0194	--	0.00915	0.0183	0.0196	J	0.0116	0.0232	0.0328	--	0.00953	0.0191	0.0382	--	0.00970	0.0194
Nickel	13.20	15.9	20.9	9.57	--	0.0615	0.0615	8.41	--	0.0555	0.0555	11.0	--	0.0588	0.0588	11.3	--	0.0606	0.0606	11.7	--	0.0721	0.0721	13.2	--	0.0855	0.0855
Selenium	2.13	x	x	1.82	--	0.0615	0.307	1.59	--	0.0555	0.277	1.91	--	0.0588	0.293	1.86	--	0.0606	0.302	1.97	--	0.0721	0.360	2.13	--	0.0855	0.427
Silver	0.0336	0.73	1	0.0211	J	0.00153	0.0307	0.0189	J	0.00138	0.0277	0.0236	J	0.00147	0.0293	0.0269	J	0.00151	0.0302	0.0307	J	0.00180	0.0360	0.0336	J	0.00214	0.0427
Thallium	0.0991	x	x	0.0829	--	0.00153	0.0307	0.0742	--	0.00138	0.0277	0.0902	--	0.00147	0.0293	0.0960	--	0.00151	0.0302	0.0991	--	0.00180	0.0360	0.112	--	0.00214	0.0427
Zinc	49.4	124	150	33.0	--	0.307	0.613	30.3	--	0.277	0.553	38.2	--	0.294	0.586	36.1	--	0.303	0.604	46.6	--	0.360	0.719	49.4	--	0.428	0.853
Others																											
Ammonia (as nitrogen)	111	x	x	111	--	14.9	29.9	24.9	J	13.9	27.8	38.1	--	14.8	29.6	37.3	--	14.5	29.0	39.2	--	17.9	35.9	46.0	--	20.5	41.1
Cyanide, Total	<0.0467	x	x	<0.0352	U	0.0352	0.0704	<0.0351	U	0.0351	0.0703	<0.0363	U	0.0363	0.0725	<0.0350	U	0.0350	0.0699	<0.0449	U	0.0449	0.0897	<0.0467	U	0.0467	0.0933
Petroleum Hydrocarbons, Total	26.1	x	x	<6.88	--	6.88	25	<6.88	--	6.88	25	<6.88	--	6.88	25	<6.88	--	6.88	25	<6.88	--	6.88	25	26.1	--	6.88	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	89.0	x	x	67.0	--	0.100	0.100	71.9	--	0.100	0.100	67.6	--	0.100	0.100	68.1	--	0.100	0.100	55.7	--	0.100	0.100	48.7	--	0.100	0.100
Carbon, Total Organic	0.64	x	x	0.31	--	0.02	0.1	0.22	--	0.02	0.1	0.27	--	0.02	0.1	0.27	--	0.02	0.1	0.61	--	0.02	0.1	0.64	--	0.02	0.1
Analyte	pH units 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	8.13 - 9.47	x	x	9.27	H		0.100	9.47	H		0.100	9.37	H		0.100	9.35	H		0.100	8.93	H		0.100	8.96	H		0.100

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

November 14, 2022

Robert Heinly
Chief, Policy Analysis Branch
Galveston District
United States Army Corps of Engineers
Post Office Box 1229
Galveston, Texas 77533

Re: Proposal for Tissue Chemistry for the Corpus Christi Channel Deepening Outer Channel/Offshore Project

Dear Mr. Heinly:

This letter is written in response to your November 2, 2022, request for concurrence on the Tissue Chemistry Recommendation for the Corpus Christi Channel Deepening Outer Channel/Offshore project area. The Environmental Protection Agency received the letter and included support documents via email on November 2, 2022.

As stated in Section 10.2.2 of the Regional Implementation Agreement (RIA): Tissues of appropriate benthic organisms exposed to the dredged material shall be analyzed for classes of Contaminants of Concern detected in the sediments. Ordinarily, only those compounds detected in the sediment need be analyzed for in the tissue. In some cases, however, it may be desirable to analyze tissues for compounds not detected in the sediments.

Your recommendation includes analysis of all tissue samples for all metals and analysis of tissue sample CDP-05 for total petroleum hydrocarbons. In addition, analysis of tissue samples CDP-01, CDP-02, and CDP-03 for 2 SVOCs [bis (2-ethylhexyl) phthalate, di-n-butyl phthalate]. Your recommendation is based on the results from sediment analysis conducted by Anamar Environmental Consulting Inc. Based on the information provided to the EPA, we concur with your analysis recommendations. The EPA also requests analysis of all tissue samples for TPH.

Should you have any questions regarding this determination or management of the Corpus Christi Ship Channel ODMDSs, please feel free to contact Wendy Jacques, Region 6 Ocean Dumping Coordinator at 214-665-7395 or by email at jacques.wendy@epa.gov.

Sincerely,

Troy C. Hill
Deputy Director
Water Division

ecc: Jayson Hudson, Regulatory Project Manager

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

			DMMU:	CDP-01				CDP-02				CDP-03				CDP-03 Duplicate				CDP-04				CDP-05				Reference (Offshore)			
			Sample ID:	CDP-01 Composite				CDP-02 Compposite				CDP-03 Composite				CDP-03 Duplicate Composite				CDP-04 Composite				CDP-05 Composite				CDP-REF			
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	Result µg/kg	Qualifier	MDL	LRL
Aldrin	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Chlordane (technical)	**<0.616**	2.26	0.5	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	**<0.579**	U	0.579	1.93
α (cis)-Chlordane	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
γ (trans)-Chlordane	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
p,p' (4,4')-DDD	<0.616	1.22	2	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
p,p' (4,4')-DDE	<0.616	2.07	2.2	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	C+, U	0.538	1.79	<0.616	C+, U	0.616	2.05	<0.579	C+, U	0.579	1.93
p,p' (4,4')-DDT	<0.616	1.19	1	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Dieldrin	**<0.616**	0.72	0.02	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	**<0.579**	U	0.579	1.93
Endosulfan I	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Endosulfan II	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Endosulfan Sulfate	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Endrin	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Endrin Aldehyde	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Endrin Ketone	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Heptachlor	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Heptachlor Epoxide	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
α-BHC	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	C+, U	0.538	1.79	<0.616	C+, U	0.616	2.05	<0.579	C+, U	0.579	1.93
β-BHC	<0.616	x	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
δ-BHC	0.585	x	x	<0.432	C+, U	0.432	1.44	<0.410	C+, U	0.410	1.37	<0.429	C+, U	0.429	1.43	<0.416	C+, U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
γ-BHC (Lindane)	**<0.579**	0.32	x	<0.432	U	0.432	1.44	<0.410	U	0.410	1.37	<0.429	U	0.429	1.43	<0.416	U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	**<0.579**	U	0.579	1.93
Methoxychlor	<0.616	x	x	<0.432	C+, U	0.432	1.44	<0.410	C+, U	0.410	1.37	<0.429	C+, U	0.429	1.43	<0.416	C+, U	0.416	1.39	<0.538	U	0.538	1.79	<0.616	U	0.616	2.05	<0.579	U	0.579	1.93
Toxaphene	**<30.8**	0.1	x	<21.6	U	21.6	21.6	<20.5	U	20.5	20.5	<21.4	U	21.4	21.4	<20.8	U	20.8	20.8	<26.9	U	26.9	26.9	<30.8	U	30.8	30.8	**<28.9**	U	28.9	28.9
PCBs, Total	<2.05	21.6	22.7	<1.45	U	1.45	2.91	<1.34	U	1.34	2.69	<1.45	U	1.45	2.90	<1.41	U	1.41	2.83	<1.79	U	1.79	3.59	<2.05	U	2.05	4.11	<1.93	U	1.93	3.86

TABLE 6
Analytical Results for Dry Weight PAHs in Sediment Samples

			DMMU:	CDP-01				CDP-02				CDP-03				CDP-03 Duplicate				CDP-04				CDP-05				Reference (Offshore)			
			Sample ID:	CDP-01 Composite				CDP-02 Composite				CDP-03 Composite				CDP-03 Duplicate Composite				CDP-04 Composite				CDP-05 Composite				CDP-REF			
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	Result µg/kg	Qualifier	MDL	LRL
Acenaphthene[LPAH]	<2.57	6.71	16	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Acenaphthylene[LPAH]	<2.57	5.87	44	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Anthracene[LPAH]	<2.57	46.9	85.3	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Benzo(a)anthracene[HPAH]	2.92	74.8	261	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Benzo(a)pyrene[HPAH]	2.01	88.8	430	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Benzo(b&k)fluoranthene[HPAH]	3.77	x	x	<3.66	U	3.66	7.32	<3.34	U	3.34	3.34	<3.54	U	3.54	7.08	<3.54	U	3.54	7.08	<4.48	U	4.48	8.96	<5.14	U	5.14	10.26	<4.82	U	4.82	9.64
Benzo(g,h,i)perylene[HPAH]	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Chrysene[HPAH]	1.74	108	384	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Dibenzo(a,h)anthracene[HPAH]	<2.57	6.22	63.4	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Fluoranthene[HPAH]	4.82	113	600	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Fluorene[LPAH]	<2.57	21.2	19	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Indeno(1,2,3-cd)pyrene[HPAH]	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Naphthalene[LPAH]	<2.57	34.6	160	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Phenanthrene[LPAH]	2.49	86.7	240	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Pyrene[HPAH]	4.33	153	665	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13	<2.41	U	2.41	4.82
Total LPAHs	15.4	312	552	11.0				10.0				10.6				10.6				13.4				15.4				14.5			
Total HPAHs	25.7	655	1700	18.3				16.7				17.7				17.7				22.4				25.7				24.1			
Total PAHs	41.1	1684	4022	29.3				26.7				28.3				28.3				35.8				41.1				38.6			

TABLE 7
Analytical Results for Dry Weight SVOCs in Sediment Samples

			DMMU:	CDP-01				CDP-02				CDP-03				CDP-03				CDP-04				CDP-05			
			Sample ID:	CDP-01 Composite				CDP-02 Composite				CDP-03 Composite				CDP-03 Duplicate Composite				CDP-04 Composite				CDP-05 Composite			
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	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
1,2-Dichlorobenzene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
1,2-Diphenylhydrazine	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
1,3-Dichlorobenzene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
1,4-Dichlorobenzene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
2,4,6-Trichlorophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
2,4-Dichlorophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
2,4-Dimethylphenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
2,4-Dinitrophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
2,4-Dinitrotoluene (2,4-DNT)	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
2,6-Dinitrotoluene (2,6-DNT)	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
2-Chloronaphthalene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
2-Chlorophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
2-Nitrophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
3,3'-Dichlorobenzidine	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
4,6-Dinitro-o-Cresol	<20.5	x	x	<14.6	U	14.6	29.3	<13.3	U	13.3	26.7	<14.2	U	14.2	28.3	<14.2	U	14.2	28.3	<17.9	U	17.9	35.9	<20.5	U	20.5	41.1
4-Bromophenyl phenyl ether (BDE-3)	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
4-Chlorophenyl phenyl ether	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
4-Nitrophenol	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Benzidine	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Bis(2-Chloroethoxy) methane	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Bis(2-Chloroethyl) ether	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Bis(2-chloroisopropyl) ether	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Bis(2-ethylhexyl) phthalate	19.8	182	x	6.15	V	1.83	3.66	6.02	V	1.67	3.33	5.57	V	1.77	3.54	6.09	V	1.77	3.54	3.74	V, J	2.24	4.49	3.48	V, J	2.57	5.13
Butyl benzyl phthalate	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Diethyl phthalate	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Dimethyl phthalate	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Di-n-butyl phthalate	14.1	x	x	9.13	V	1.83	3.66	8.27	V	1.67	3.33	7.10	V	1.77	3.54	8.50	V	1.77	3.54	3.55	V, J	2.24	4.49	<2.57	B, U	2.57	5.13
Di-n-octyl phthalate	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Hexachlorobenzene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Hexachlorobutadiene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Hexachlorocyclopentadiene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Hexachloroethane	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Isophorone	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
Nitrobenzene	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
N-Nitrosodimethylamine	<7.34	x	x	<1.83	U	1.83	36.6	<1.67	U	1.67	33.3	<1.77	U	1.77	35.4	<1.77	U	1.77	35.4	<2.24	U	2.24	44.9	<2.57	U	2.57	51.3
N-Nitrosodi-n-propylamine	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
N-Nitrosodiphenylamine	<2.57	x	x	<1.83	U	1.83	3.66	<1.67	U	1.67	3.33	<1.77	U	1.77	3.54	<1.77	U	1.77	3.54	<2.24	U	2.24	4.49	<2.57	U	2.57	5.13
P-Chloro-m-Cresol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
Pentachlorophenol	<5.13	x	x	<3.66	U	3.66	7.32	<3.33	U	3.33	6.67	<3.54	U	3.54	7.08	<3.54	U	3.54	7.09	<4.49	U	4.49	8.97	<5.13	U	5.13	10.3
Phenol, Total	8.54	x	x	4.77	J	3.66	7.32	4.19	J	3.33	6.67	4.48	J	3.54	7.08	5.54	J	3.54	7.09	5.80	J	4.49	8.97	6.29	J	5.13	10.3