

**Maine Maritime Academy
Castine, Maine**

**Pier Upgrades and Waterfront Improvements Project
April 10, 2024
ADDENDUM NO. 12**

Prospective bidders and all concerned are hereby advised of the following changes/modifications in the Maine Maritime Academy Waterfront Campus Pier Upgrades and Waterfront Improvements Issued-for-Bidding Drawings and Project Manual dated January 26, 2024 and are hereby requested to change their copies accordingly.

Addendum No. 12 consists of 15 pages of Response to Questions, 1 re-issued IFB Drawing Sheets, and available dredge sampling results for a total of 75 pages. Addendum No. 12 addresses the remaining outstanding bidder questions received. This is the final addendum.

Make the following changes to the Bidding Documents, Project Manual and Specifications:

REVISION TO ADDENDA

1. Addendum 4, Response 11 and Addendum 6, Response 6

Revise as follows: **REPLACE** IFB Specification Section 01 05 00, Paragraph 3.4 with:

- “3.4. Construction deliveries made by truck to the MMA Waterfront Campus shall be kept to the minimum necessary.
- A. Deliveries to the MMA Waterfront Campus made by semi-trailer trucks are permitted between 0600 and 1000 (local time), seven days a week, subject to the following:
1. The Contractor shall schedule and coordinate with the Owner’s Representative or MMA’s Waterfront Director all deliveries made by semi-trailer trucks.
 2. The Contractor shall provide a minimum 24-hour prior notice to, and coordination with, the Owner’s Representative or MMA’s Waterfront Director for semi-trailer truck deliveries between 0600 and 1000 (local time).
 - i. Semi-trailer truck deliveries outside of 0600 and 1000 (local time) are special deliveries which may be accommodated, subject to authorization by MMA’s Waterfront Director. Such special deliveries require a minimum one-week prior notice to, and coordination with, the Owner’s Representative or MMA’s Waterfront Director.
 3. All semi-trailer truck deliveries require MMA Waterfront staff, as directed by MMA’s Waterfront Director, to cordon off parking spaces at Town Dock which are necessary for access and maneuvering the semi-trailer truck.
 4. Off-loading and departure of semi-trailer trucks must be completed by 1000, except as authorized for special deliveries.

5. The Contractor shall coordinate, with the Owner's Representative or MMA's Waterfront Director, for on-campus parking availability of semi-trailer trucks that arrive in Castine, Maine outside of the 0600 and 1000 (local time) delivery window.
- B. All straight-truck deliveries that do not impact Town Dock parking spaces, vehicle circulation or pedestrian use are permitted between the 0700 and 1900 construction work hours.
1. Straight-trucks include concrete trucks.
 2. Any straight-truck delivery that impacts the Town Dock parking spaces, vehicle circulation or pedestrian use is a special delivery which requires a minimum one-week prior notice to, and coordination with, the Owner's Representative or MMA's Waterfront Director. Such deliveries may be subject to the 0600 to 1000 (local time) delivery window.
 3. Any straight-truck delivery outside of 0700 and 1900 construction work hours is a special delivery which requires a minimum one-week prior notice to, and coordination with, the Owner's Representative or MMA's Waterfront Director.
- C. All truck deliveries are subject to the Town of Castine's Noise Ordinance, as applicable to the time of authorized delivery outside of the 0700 to 1900 construction noise exception. Refer to the Town of Castine Zoning Ordinance.
- D. Use of watercraft for deliveries is highly preferred over truck deliveries to minimize potential impacts to Town Dock."

Responses to questions on previous addenda.

2. Addendum 11: Please offer a 1-week extension to the bid due date. This will allow vendors to process the recent addendum and provide the most accurate price possible.

Response 2: No change to the bid deadline.

3. Addendum 10, Response 24: Please confirm the surface prep is subject to manufacturers recommendation. Can section 31 62 19.15 paragraph 3.1.A.4 also be deleted?

Response 3: **DELETE** IFB Specification Section 31 62 19.15 Paragraph 3.1.A.4. Steel pile surface preparation shall be in accordance with the coating manufacturer's recommendations.

4. Addendum 4, Response 5: For bidding purposes, please provide proposed dumping site for dredged materials.

Response 4: The Maine DEP dredge application remains under review. Per coordination with Maine DEP Bureau of Remediation and Waste Management, the preferred licensed solid waste facility is the Juniper Ridge Landfill in Old Town, Maine. If material cannot be disposed of at this facility for unforeseen reasons, the alternative landfill is Waste Management Crossroads Landfill in Norridgewock, Maine. For bidding purposes, dredged material shall be dewatered and properly

transported, per the project requirements, for disposal at Juniper Ridge Landfill in Old Town, Maine.

The Contractor shall confirm that the dredge material can be accepted by the licensed solid waste facility. The facility shall be identified in the Contractor's submittal of their offloading plan.

In IFB Specification Section 35 20 23 make the following revisions.

- Paragraph 1.5.A.6: at the end of the last sentence, **ADD** “, offloading and transport procedures, and the proposed licensed solid waste facility.”

6. No later than 14 days prior to commencement of dredging activity, an offloading plan shall be submitted to the Owner for review. Plan shall indicate methods to be employed to prevent dredged materials from re-entering the water body during offloading, offloading and transport procedures, and the proposed licensed solid waste facility.

- Paragraph 3.3.B: **DELETE** from “577 Dunbar Road” to the end of the sentence and **ADD** “a licensed solid waste facility authorized to accept the material.”

B. The Contractor shall transport the dredged material to 577 Dunbar Road, Penobscot, Maine 04476 and shall place material within the designated work area as coordinated with the Owner a licensed solid waste facility authorized to accept the material.

See attached for the available dredge sampling test results.

Disposal location and any other special conditions of the dredge permit are subject to the pending permit from Maine DEP.

RESPONSE TO GENERAL QUESTIONS

Intentionally left blank.

RESPONSE TO IFB DRAWINGS QUESTIONS

5. IFB Drawing B-201: The borings indicate that construction debris may be encountered within in the existing landside/pavement area. If encountered, should this material be properly disposed of? and if so, how will this paid for?

Response 5: The Contractor shall notify the Owner's Representative immediately upon uncovering existing construction debris during the backland work. If the location and extents of the construction debris are deemed to conflict with the work, the Contractor shall submit a Change Order Request for the removal and proper disposal of the encountered construction debris. The Change Order Request shall identify the proposed removal process and the limits of conflict with the new work.

See the IFB Project Manual for specification sections such as, but not limited to the following, for requirements related to pre-construction geo-physical survey, obstructions, unsuitable materials, and other related requirements.

- IFB Specification Section 31 00 00.01 Earthwork for Waterfront Structures for ground penetrating radar requirements.
- See IFB Specification 31 23 23 Backfill for unsuitable materials encountered for the backland utility work.
- See IFB Specification Section 31 41 16 Steel Sheet Piling for obstructions if encountered during the sheet pile bulkhead installation.

6. IFB Drawing C-301: Is it the intent for the turbidity curtain to be full depth for the dredging location and for the pier installation work? If full depth is not required for the pier work, what depth of curtain is required?

Response 6: Per IFB Specification Section 35 20 23, Paragraph 2.2, the turbidity curtain during dredge operations and demolition operations shall extend from the water surface to no greater than 18 inches from the harbor bottom.

During pile driving and other silt producing activities, base bids on a turbidity curtain extending from the water surface to 30 feet below water.

7. IFB Drawing S-111: Bid alternate 3 calls for the furnish and install of 4' wide access satirs. Plan sheet S-104 shows the stairs and calls out plan sheet S-111 for details. There are no details for stairs on sheet S-111. Please provide dteail and specs for these 4' wide stairs.

Response 7: See Addendum 11, Response 5.

8. IFB Drawing S-112: Repair of sheet pile coating. S-169 Pipe Piles. Is there surface prep and coating spec? same as new piles? Surface prep under pile protection systems 31 62 19.15.

Response 8: Surface preparation for coating repairs of the steel sheet pile bulkhead and steel piles shall be in accordance with the coating manufacturer's recommendations.

9. IFB Drawing S-114: Can Lines 19 and 20 have precast pile caps (Pile cap 5 at Line 19 and Pile cap 2 at Line 20) since they do not span over battered piles between the North and South Edge beam according to drawing S-114?

Response 9: See IFB Drawing S-115 issued under Addendum 3. Bents 19 and 20 are cast-in-place pile caps.

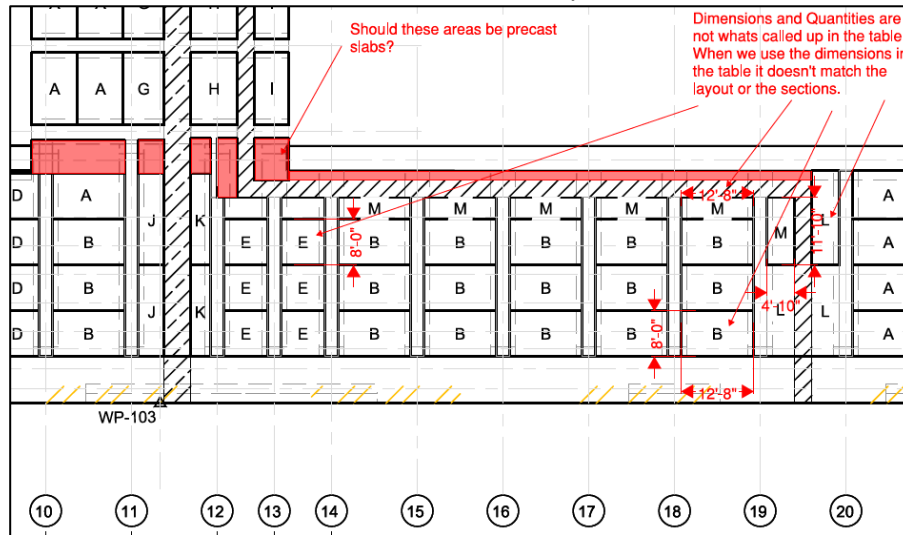
10. IFB Drawing S-115: Call outs to the North and South Edge Beams on this sheet say "See Table This Sheet". Please provide the table that is referenced.

Response 10: See IFB Drawing S-115 issued under Addendum 3.

11. IFB Drawing S-116: Please see attached detail sheets with questions on precast details. Please clarify details.

Questions submitted on S-116 (snippet below).

1. Should these areas be precast slabs?
2. Dimensions and Quantities are not what's called up in the table. When we use the dimensions in the table, it doesn't match the layout or the sections.

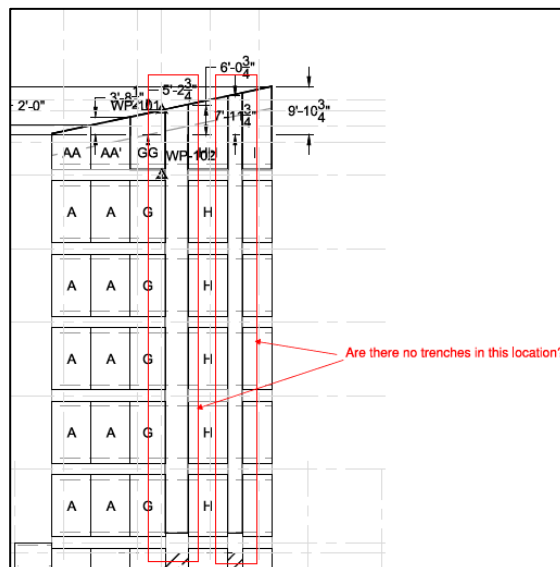


Response 11: See IFB Drawing S-116 issued under Addendum 7.

12. IFB Drawing S-116: Please see attached detail sheets with questions on trench details. Please clarify details.

Questions submitted on S-116 (snippet below).

3. Are there no trenches in this location?

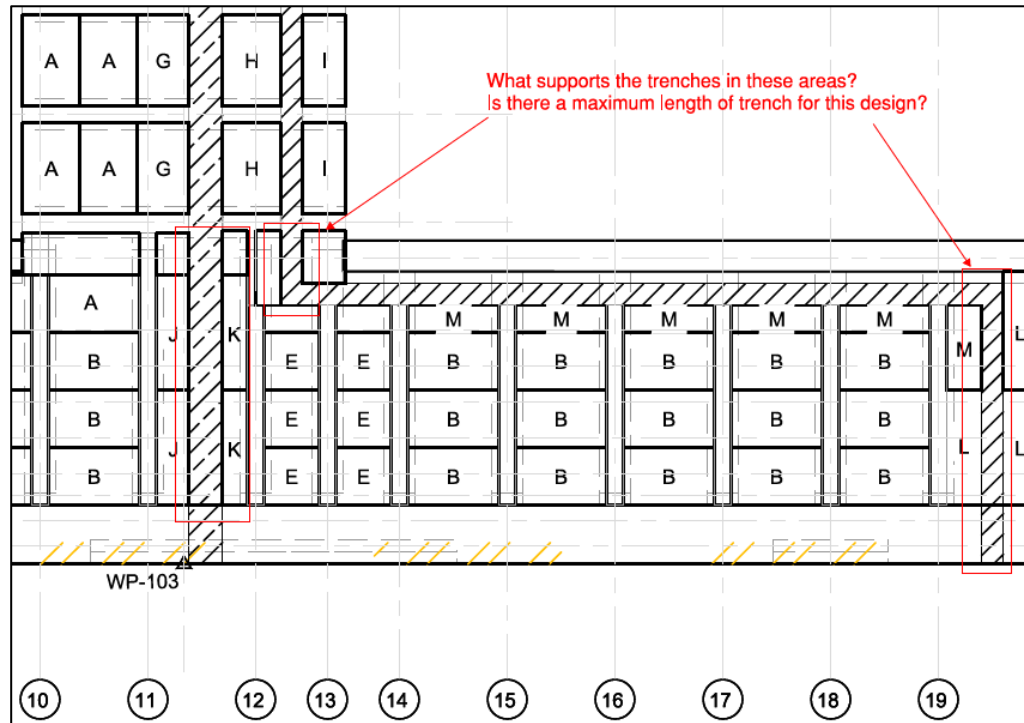


Response 12: See IFB Drawing S-116 issued under Addendum 7.

13. IFB Drawing S-116: Please see attached detail sheets with questions on trench details. Please clarify details.

Questions submitted on S-116 (snippet below).

1. What supports the trenches in these areas?
2. Is there a maximum length of trench for this design?



Response 13: Between Bents 11 and 12 and between 19 and 20, there is a cast-in-place slab and trench walls. See IFB Drawings S-126, S-129 and S-151 issued under Addendum 11.

See IFB Drawings S-126 and S-140 issued under Addendum 11 for the support at the 90 degree bend in the trench between Bents 12 and 13.

See Addendum 10, Response 10 for the maximum length of trench of sections.

14. IFB Drawing S-116: What are the actual extents of the Electrical and Mechanical Precast trench components? Are they precast where the trenches are parallel with the beams (between P/S & 11/12 and P/S & 19/20)? They show a break in the trenches at G line.

Response 14: See Addendum 10, Response 10 for the maximum length of trench of sections and IFB Drawing S-116 issued under Addendum 11 for extents of trenches.

See Response 13 above for trenches between Bents 11 and 12 and between 19 and 20

15. IFB Drawing S-120: Right right side of the sheet has a call out which says "CAST-IN-PLACE CONCRETE TOPPING w/#4 @ 12" E.W. (6" MIN. - THICKNESS)" on the right side of the drawing there is a

dimension that appears to show the deck thickness as 4" MIN. at the curb line. Please confirm if the deck is to be 4" thick at the curb line.

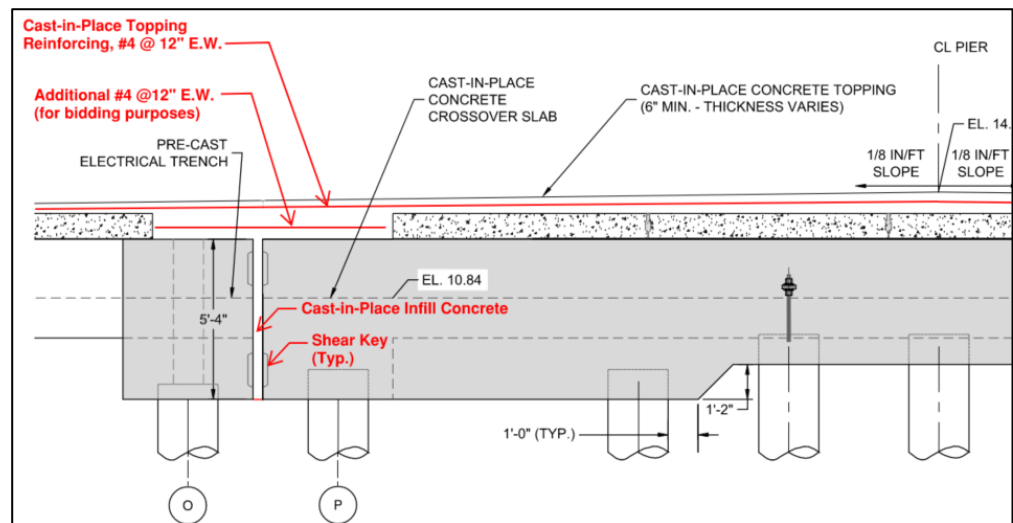
Response 15: **DELETE** the 4" Min. dimension. The cast-in-place concrete topping shall be 6" minim. See Detail 1 on IFB Drawing S-153 issued under Addendum 11.

16. IFB Drawing S-121: The pile cap on the left side of the section is called out as a "Type 6 Pre-Cast Pile Cap", the pile cap and beam framing plan on S-115 does not show a type 6 precast element. Please advise.

Response 16: See IFB Drawing S-121 issued under Addendum 4..

17. IFB Drawing S-130: Please provide Section K for the North Edge Beam on Drawing S-130.

Response 17: From Bent 10 to Bent 13, except at the mechanical trench and electrical trench, the spacing between the North Edge Beam and the north end of the pile caps shall have cast-in-place concrete infill with shear keys in the North Edge Beam and pile caps. Provide an additional lower level of reinforcing steel, #4 at 12" each way, in the deeper cast-in-place concrete topping. See sketch below for bidding purposes.



North Edge Beam Detailing, Bent 10 to Bent 13 (For Bidding Purposes)

18. IFB Drawing S-132: The detail for the precast pile caps on the pile appears to depict a 2" CLR. gap between the top of the pile and the bottom of the precast cap.

Please clarify if a 2" air gap is what this detail is depicting.

Response 18: There is no air gap. It is infill grout. See IFB Drawing S-132 issued under Addendum 11.

19. IFB Drawing S-132: Are dowels with terminators depicted in the details on S-132 required to have any kind of coating on them?

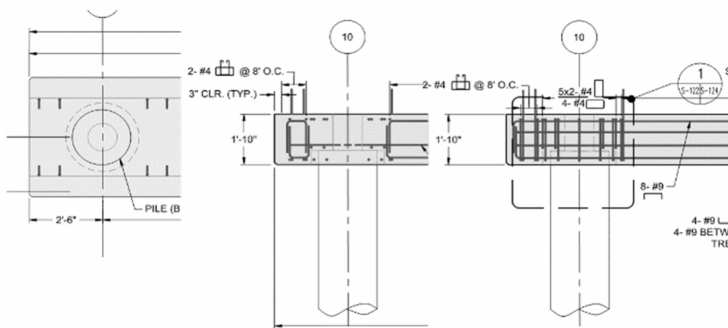
Response 19: Yes. All reinforcing steel shall be epoxy-coated per G-004, Concrete Note 3 and the revisions to IFB Specification Section 03 31 30.

20. IFB Drawing S-133: 24" Pile Cleanout and Rock Sockets will generate an estimated 1400 CY neat solids.

Question: Can these spoils be directed to previously drilled which does not require concrete backfill? Such as S-133 Pier Pile, which are drawn with a "cement grout plug" and only shows the concrete fill above MHW +4.7.

Response 20: See Addendum 6, Response 11.

21. IFB Drawing S-135 - S-139: 1. The Precast Pier Pile Cap Details show light colored and dotted lines in section view projecting above the pile and beside the pile. A note in the plan view indicates a "Pile Blockout and Grout Hole (TYP.)". Please confirm this is a bond-out in the precast pile cap. 2. Please clarify the intent of the bondout, further the pile plans call for a concrete plug, if this bondout is for the purposes of placing material in the pile, please clarify whether the material placed in the pier pile is required to be grout or concrete. 3. The pile bondout which seems to be indicated on the drawings, appears to be partial depth with an annular space around the pile extending to the bottom of the pile cap. Please confirm this is the intent of the drawing. If this is the intent, will grout tubes be permitted to be cast into the precast pile cap to permit grouting of the annular space after the pile cap has been installed on the pile. Please see the screen shot below for reference.



Response 21: The precast pile caps have a blockout (bondout) to facilitate grout placement for the pile cap connection. See IFB Drawing S-132 issued under Addendum 11.

22. IFB Drawing S-137: Section callout in section 2 references sheet S-124, though it is on sheet S-137 and refers to sheet S-127 which is a section of Pile Cap Type 5A and not a Pile Cap Type 2 as it should be. Please revise to correct sheets to be referenced.

Response 22: See IFB Drawing S-137 issued under Addendum 6.

23. IFB Drawing S-141: There are differing dimensions for the mechanical trench notch in plan view and section view, please advise which is correct.

Response 23: The mechanical trench notch is 5'-6 1/2" wide.

24. IFB Drawing S-143: Cast in place details (S-143) for the type 2A/2D issued in addendum #6; do not appear to align with the north and south edge beam section based on their location. Please see the attached drawings and clarify the detail for these cast in place beams.

Response 24: The information in this drawing is for the reinforcing of the pile. The batter piles in the edge beams are not shown.

25. IFB Drawing S-155: please provide detail and surface area of deteriorated concrete repair.

Response 25: See IFB Drawings S-155 and S-156 issued under Addendum 11..

26. IFB Drawing S-161: Sheet S-113 refers to detail on S-161 regarding the foam filled fenders at the new pier. Please provide the detail.

Response 26: Per IFB Drawing S-113, foam fenders are 5' dia x 10' long. Design of chains and hardware shall be by the manufacturer and submitted for review. See Spec Section 35 59 13 for requirements. Note that in the specification, Part 1 and Part 3 apply to all fender types and components.

On IFB Drawing S-113, in the foam filled fender callout, **DELETE** "See Sheet S-161."

27. IFB Drawing S-169: Detail 1 on Sheet S-169 calls for recoating of the 20" diameter steel guide piles. Please provide the field coating specification for this scope of work.

Response 27: On IFB Drawing S-169, in the callout for the 20" diameter pile coating, **REPLACE** "mudline to top of pile" with "Top of Pile to MLW".

RECOAT 20" DIA. STEEL PIPE GUIDE PILES FROM MUDLINE TO TOP OF PILE TO MLW (TYP., 12 - PILES). (SEE NOTE 2)

For recoating existing steel:

- From top of pile to 2 feet above MHHW, the coating product shall coal tar epoxy. Material to meet specification for coating of new piles per IFB Specification 09 97 13.26.
- From 2 feet above MHHW to MLLW, the coating product shall be Denso SeaShield 525 Epoxy, or an acceptable equivalent product.
- Surface preparation shall be in accordance with coating manufacturer's recommendations.

28. IFB Drawing S-169: There appears to be no literature involved with the recoating of the steel pipe piles.

- A. Will the surface preparation for all steel piles be the same?
- B. SSPC-SP6/NACE 3 Commercial Blast is the manufacturers recommended surface preparation for the most obvious product. The manufacturers literature also states "high-pressure water

blasting is acceptable and shall be done at a minimum of 3,500 psi". Can the engineer please specify a standard for the 12 piles requiring recoating from mudline to top of pile?

Response 28: See Response 27.

29. IFB Drawing S-169: Please specify the dimension of the damaged float module shown on sheet s-169.

Response 29: See Reference Drawings 2023 & 1994 MMA Inner (bulkhead side) float system shop drawing for the float module size.

30. IFB Drawing S-177: Sheet S-177 calls for an 80mil pile wrap on the timber piles. Section 2.2 of the Pile Protection System Specification, paragraph B calls for a 60mil HDPE pile wrap. Please clarify.

Response 30: Timber pile wraps shall be 80 mil HDPE.

RESPONSE TO IFB PROJECT MANUAL QUESTIONS

31. IFB Specification 03 40 00, Part 2.2.6.1: Reinforcing Bars states that reinforcing bars shall be ASTM A615/615M, grade 60. Will the marine precast require epoxy coated reinforcing steel?

Response 31: Reinforcing steel shall be epoxy coated. Epoxy coating of straight bars shall be in accordance with ASTM A 775. Epoxy coating of bent bars shall be in accordance with ASTM A 934 (coated after fabrication).

32. IFB Specification 03 31 30: Specification 03 31 30 Section 1.5 Part 2 Concrete Mixture Design states "The mixture shall be prepared by an accredited laboratory experience in this field and under the direction of a licensed/registered civil engineer, who shall sign all reports and designs.

The submittal shall clearly indicate where each mixture will be used. The submittal shall be stamped by a registered Professional Engineer in the State of Maine."

Please consider removing the requirement for a PE to sign all reports and designs and to stamp the mix design submittal, as this will extend the time needed to compile these submittals and increase the cost of the concrete.

Response 32: Concrete mixture designs shall be signed and stamped by a registered Professional Engineer in the State of Maine.

33. IFB Specification 03 31 30: Specification 03 31 30 Section 3.11 Part B states that all vertical surfaces exposed to public view shall have a smooth-rubbed finish. Does this apply to vertical surfaces under the pier that could be visible at low tide?

Response 33: Yes.

34. IFB Specification 03 31 30: Type II cement from one source is specified. Due to the current cement supply situation in the region it will be necessary to use multiple types (II and/or IL) and brands of cement and slag to supply this project. Will this be allowed?

Response 34: Cement may be Type II or a blended Type I/II. A given concrete mixture shall be compromised of one brand of cement. A concrete mixture design submittal is required of each concrete mixture and for each mixture using different brands.

35. IFB Specification 03 31 30: Availability of a cement that is always under 10% C3A and 0.8% Na₂CO may be difficult in this region. Can this be waived?

Response 35: Cement shall meet the requirements stated in the project specifications.

36. IFB Specification 03 31 30: The allowable fineness modulus of the concrete sand is reduced to 2.80 +/- 0.20 from standard limits. Will the full/normal range be allowed?

Response 36: Fine aggregate shall meet the requirements stated in the project specifications.

37. IFB Specification 03 31 30: The water-soluble chloride ion limit is specified 0.15%. Will testing of the mixes be required to prove this prior to starting?

Response 37: Testing will not be required, if previous test results within 6 months for the same concrete mixture can be provided.

38. IFB Specification 03 31 30: The specification allow 50% slag but require a minimum of 505#/cy cement. Does this mean to use slag at 50% the minimum cementitious material is 1,010#?

Response 38: No. The 505 lb/cy of cement is the minimum required. IFB Specification Section 03 31 30, Paragraph 2.11.B provides the maximum allowable percentages for the other cementitious materials.

39. IFB Specification 03 31 30: Local aggregates require mitigation of ASR, concrete suppliers use slag to do so and show the results per ASTM 1567. Is this permitted?

Response 39: Contractor shall submit test results per ASTM C1260 or ASTM C1567 showing that proposed coarse and fine aggregates are either: innocuous to alkali silica reaction; or that reactivity has been mitigated by the proposed cementitious materials.

40. IFB Specification 03 31 30: Local concrete plants are not NRMCA certified but are MDOT certified. Is this acceptable?

Response 40: Maine DOT certification is acceptable.

41. IFB Specification 03 31 30: Due to travel times from local concrete plants, it will be necessary to extend the placement window with the use of a hydration stabilizer. Will this be acceptable?

Response 41: Modifications to the placement window with use of a hydration stabilizer shall be submitted for review with the concrete mixture designs. Provide a detailed description of proposed dosage, procedure, timing, etc.

42. IFB Specification 03 31 30: MDOT has a 5 year cycle for Alkali Silica Reactivity test results for concrete plants. Will results from this testing this be acceptable for submittal with concrete mix designs or will additional testing specifically for this project be required?

Response 42: If results approved by Maine DOT within the current 5-year cycle are provided for the materials of the proposed concrete mixture(s), additional testing will not be required.

43. IFB Specification 03 31 30: Where will onsite QC sampling of concrete occur? At the truck, under a bucket, or the end of the pump?

Response 43: At the truck is acceptable.

44. IFB Specification 03 31 30: Reference specification section 03 31 30. Anti-washout Admixture is required when concrete is placed underwater or within the tidal zone. This applies to concrete filled pile and the bottom 18" of the south edge beam. Please confirm the anti-washout admixture is required at both locations. Will the anti-washout admixture requirement be waived if concrete is placed in the dry during a low tide cycle?

Response 44: Concrete placed in the dry and for pile fill do not require anti-washout admixture.

45. IFB Specification 03 40 00: Spec 03 40 00 2.2.1.1 requires a Type II cement with a maximum alkali content of 0.40%. Is this correct?

Response 45: Cement for precast concrete shall be in accordance with IFB Specification Section 03 31 30 Marine Concrete.

46. IFB Specification Section 05 05 23.16: Specifications require AWS D1.1 certified welders. Are ASME B31.1 certifications an acceptable alternative?

Response 46: Yes.

47. IFB Specification Section 31 00 00.01: 31 00 00.05 -6, D Onsite Suitable Fill Materials, Note 5: talk about all displaced material needs to go to a landfill and engineer will determine if existing material can be reused onsite. Can the excess material be sent and disposed of at the same location as dredge spoils?

Response 47: Yes, if the facility accepts it.

48. IFB Specification Section 31 00 00.01: 31 00 00.01 -4 D Informational Submittals Note 4 Requires Delivery tickets but later the spec says weight tickets. There are no certified scales between our pit and the project. Would company delivery slips be acceptable?

Response 48: Delivery slips are acceptable.

49. IFB Specification Section 31 25 00: Erosion and Sedimentation Controls, Section 3.4 - Turbidity Curtains, Paragraph D states, "Height shall provide sufficient slack to allow top of curtain to rise to maximum expected high-water level (including waves), while bottom edge of curtain maintains

continuous contact with bottom of water body." Due to the nature of the tide, 10' to 12' of curtain will be laying on the bottom at low tide. This may create additional turbidity as the curtain moves with the current and wave action. This will also allow bottom sediment to accumulate on the curtain throughout the low tide cycle and may prevent the flotation element from functioning properly. Please consider allowing the curtain to be roughly 15' shorter than the water depth at high tide to prevent the curtain from dragging on the bottom while still providing containment of construction related turbidity and allowing sediment to contact the barrier and settle to the bottom.

Response 49: See Response 6.

50. IFB Specification Section 31 25 00: When turbidity curtains are deployed during Phases 2 & 3, are there any concerns for the NMSV's Sea Strainers which provide cooling for the ships mechanical equipment?

Response 50: Turbidity curtain locations for Phase 2 and 3 shall be coordinated with MMA' Waterfront Director.

51. IFB Specification 31 62 19.15: Part 2, sub 2.2 B. Wording specifies a minimum of 60-mil HDPE outer cover. Contract drawings specify a minimum of 80 mil HDPE. Can this please be specified?

Response 51: Timber pile wraps shall be 80 mil HDPE.

52. IFB Specification 31 62 19.15: Part 2, sub 2.2 C&D. Only the series 160 specifies nails per the manufacturer. Series 100 specifies straps. Can the engineer please specify which product they would like used? If the engineer is unable to provide this information can assurances be made in the event of voided warranty or guarantee by supplier or contractor if manufacturer's recommendation's are not adhered to?

Response 52: Product shall be in accordance with the manufacturer's recommendations. Nails or strapping may be used per IFB Specification Section 31 62 19.15, Paragraph 2.2.

53. IFB Specification 31 62 19.15: Part 3, sub 3.1 (A) 1-4. Only steps 1&2 are recommended by the manufacturer. Steps 3&4 provide a surface preparation that is "oranges to apples" from 1&2. Can the engineer specify if this level of preparation outside of the manufacturer's recommendation is needed.

Response 53: See Response 27

54. IFB Specification 31 62 19.15: If sspc-sp12/nace 5 hp-wj preparation is required per the contract, will step 2 still need to be performed as step 3 will eliminate the need for step 2 altogether?

Response 54: See Addendum 10, Response 24 and Response 3 above.

55. IFB Specification 31 62 19.15: If sspc-sp12/nace 5 hp-w preparation remains in place, will a time limit between pile preparation and wrap application be specified?

Response 55: See Response 27

56. IFB Specification 31 62 19.15: Part 3, section 3.2 B3&4. The presumed manufacturer's application suggestions for the relevant product do not employ the use of nails for fastening the system that will most likely be used. The manufacturer also does not specify a type of banding to be used for this particular product. The manufacturer also leaves the bottom strap as optional if needed. The engineers specifications appear to be a hybrid of two different systems that are not alike in materials or application. Can we please get clarification on a methos and materials needed on the installation that are not "optional" and do not have potential to contradict the manufacturers suggestions? If not, clarification should be allowed in regards to warranties and guarantees to both supplier and contractor.

Response 56: See Response 51 and Response 52.

57. IFB Specification 31 62 19.15: Should contractors expect any delays in production for review by the clients engineer or third parties between steps of the process or is the specified documentation all that should be anticipated?

Response 57: No delays by the client's engineer are expected. The Contractor shall keep installation records per IFB Specification Section 31 62 19.15, Paragraph 3.3.

58. IFB Specification Section 31 62 19.15: Will a time limit between preparation of piles and application of the wraps be required? If so, please specify.

Response 58: There is no time limit. However, should a delay in installation of the pile wrap result in corrosion of the pile surface or re-establishment of marine growth, the Contractor will be required to reclean the pile to meet the surface requirements at no additional cost to the Owner.

59. IFB Specification Section 31 62 19.15: There appears to be no literature involved with the recoating of the steel pipe piles.

Response 59: See Response 27.

60. IFB Specification Section 31 62 19.15: Currently I see no specification regarding the "underwater coating" as depicted on drawing S-169. We are still reviewing plans, but if information is not available could the engineer please provide specifics on materials and procedures?

Response 60: See Response 27.

61. IFB Specification Section 31 62 19.15: Please provide specification on underwater coatings

Response 61: See Response 27.

62. IFB Specification Section 31 62 23.13: The new pile table located in Specification 31 62 23.13 - Steel Pipe Piles indicates 1 pile in each dolphin is required to be PDA tested. Please clarify whether it is the intent of the specification to perform PDA testing on socketed piles.

Response 62: PDA testing will be performed by the Owner's engineer.
PDA testing on rock socketed piles will not be required.

Refer to IFB Specification Section 31 62 23.13 issued under Addendum 7, Paragraph G.

63. IFB Specification Section 35 20 23: During the pre-bid contractor meeting, the release of drill spoils on site within the turbidity curtain was discussed. Is this construction method approved?

Response 63: No. See Addendum 6, Response 11.

64. IFB Specification Section 35 20 23: do you have a date when further information will be provided on dredging scope?

Response 64: See Response 4.

65. IFB Specification Section 35 51 13.24: Would a post-tension system be an acceptable alternative to the system described in the Concrete Floating Breakwater Specification?

Response 65: Substitutions shall be submitted for review by the Contractor after contract award.

OTHER REVISIONS TO IFB SPECIFICATIONS

Intentionally left blank.

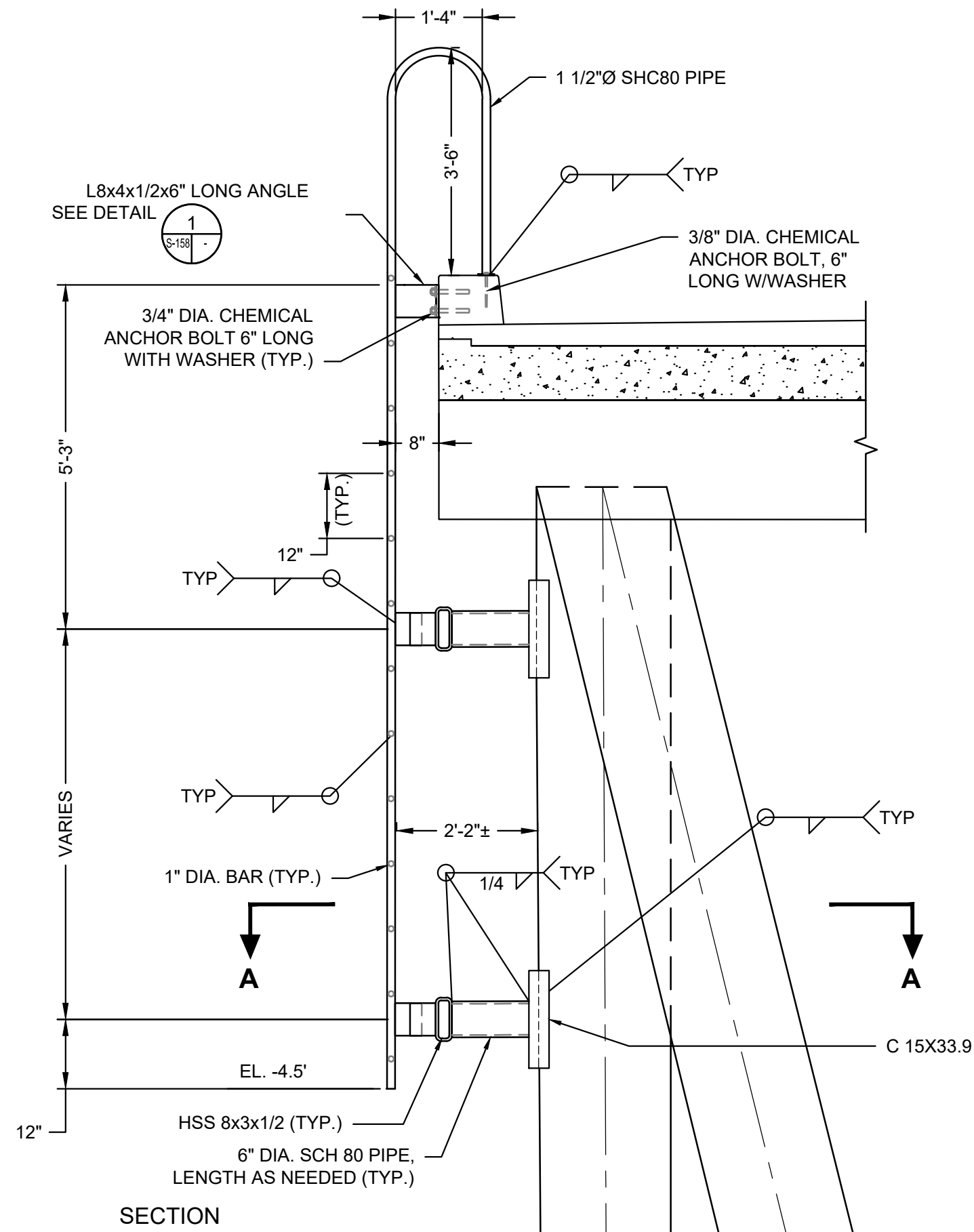
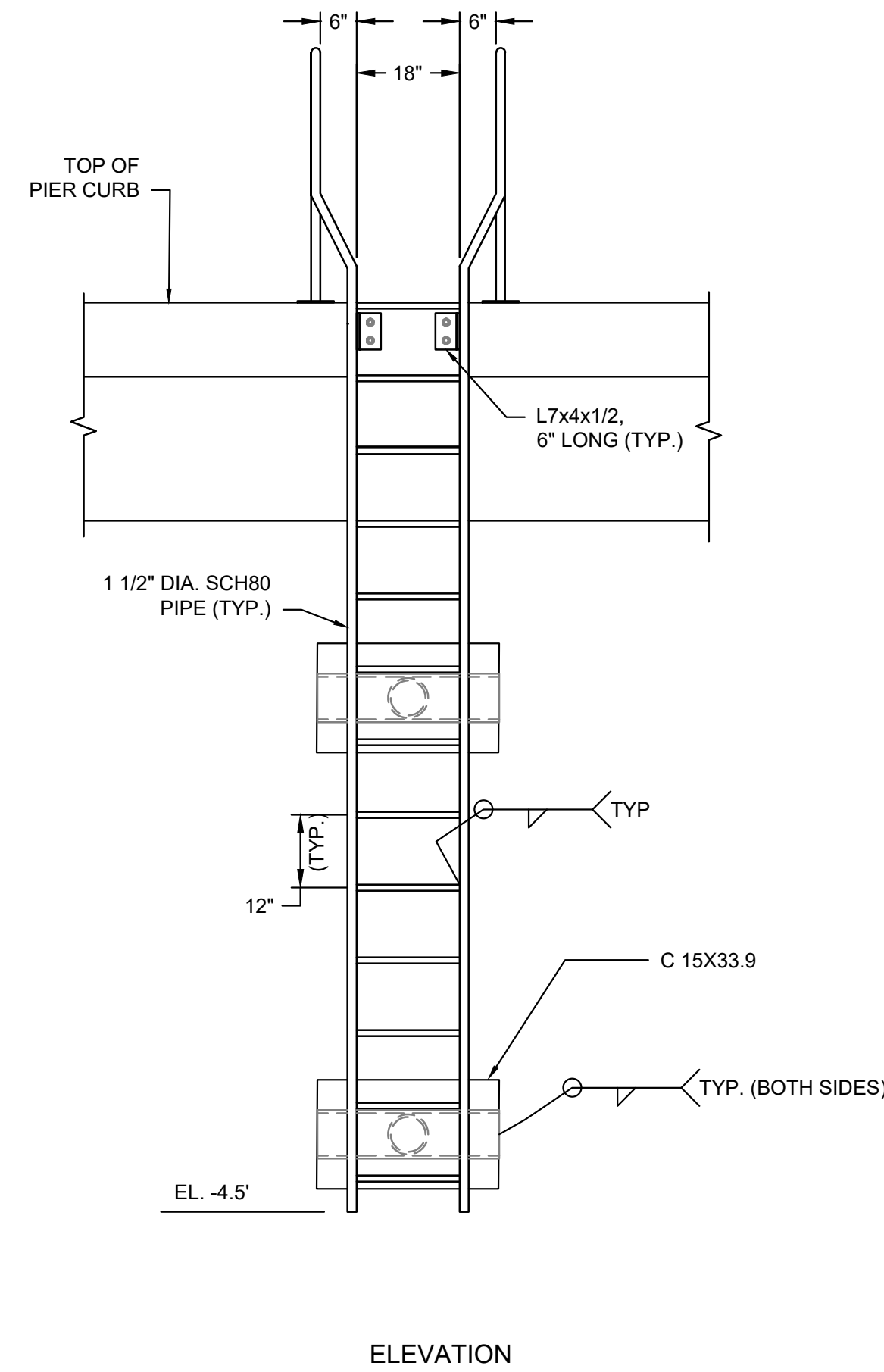
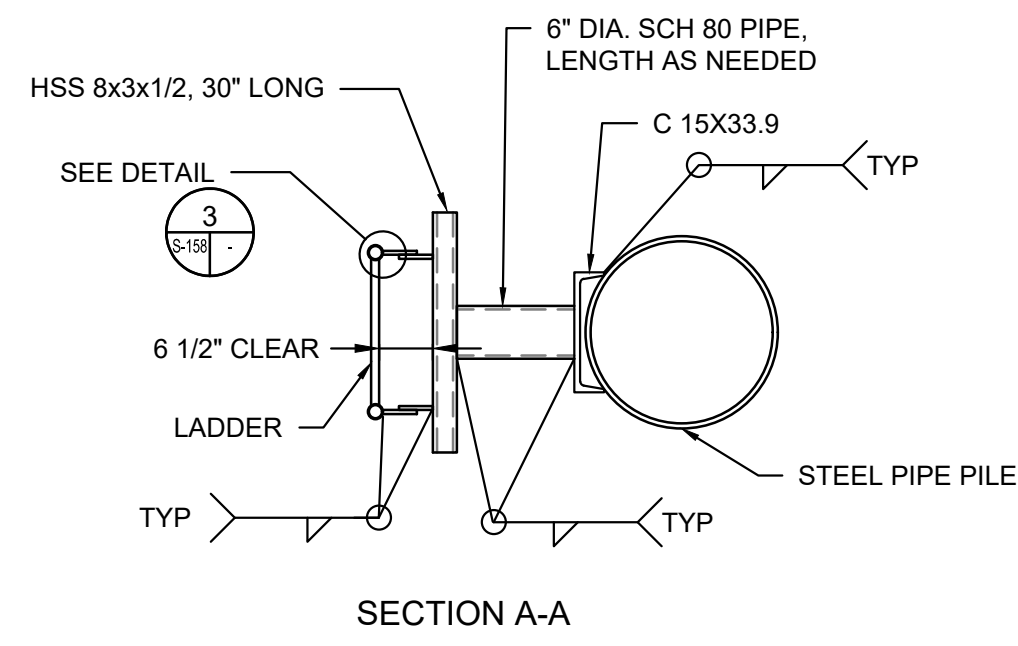
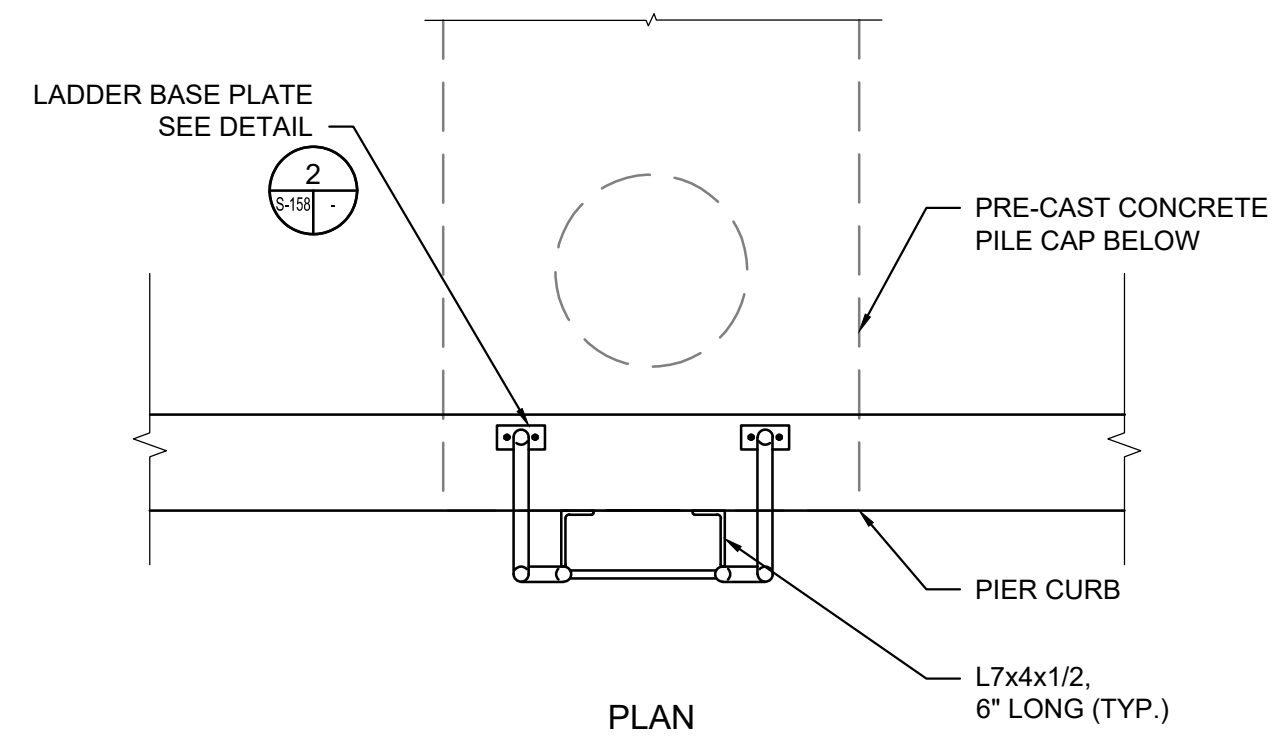
OTHER REVISIONS TO IFB DRAWINGS

IFB Drawing Sheet G-004, under the Concrete Notes, **ADD**

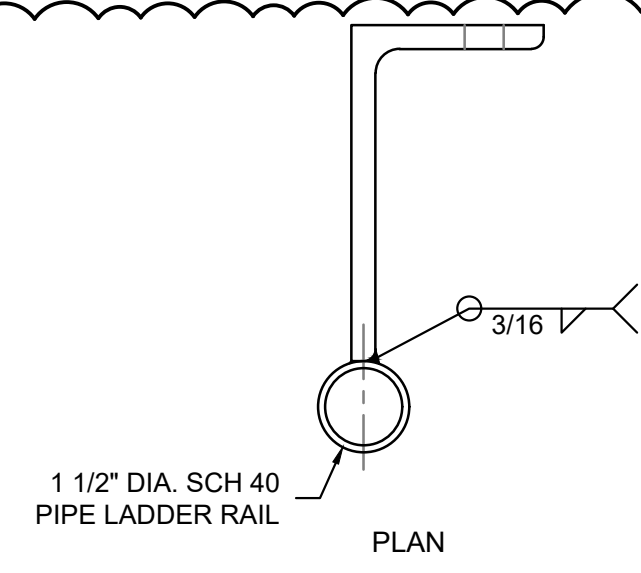
13. Unless noted otherwise, provide ¼ inch asphalt impregnated felt bearing pads (ASTM D 1751) under all precast concrete bearing surfaces.

REPLACE the following IFB Drawing Sheets with the attached.

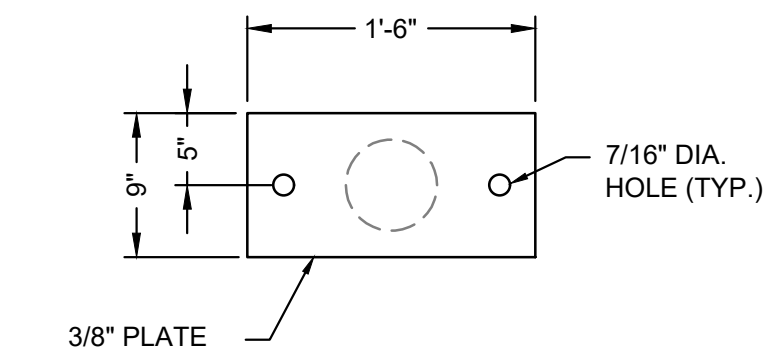
1. S-158 Miscellaneous Details -2



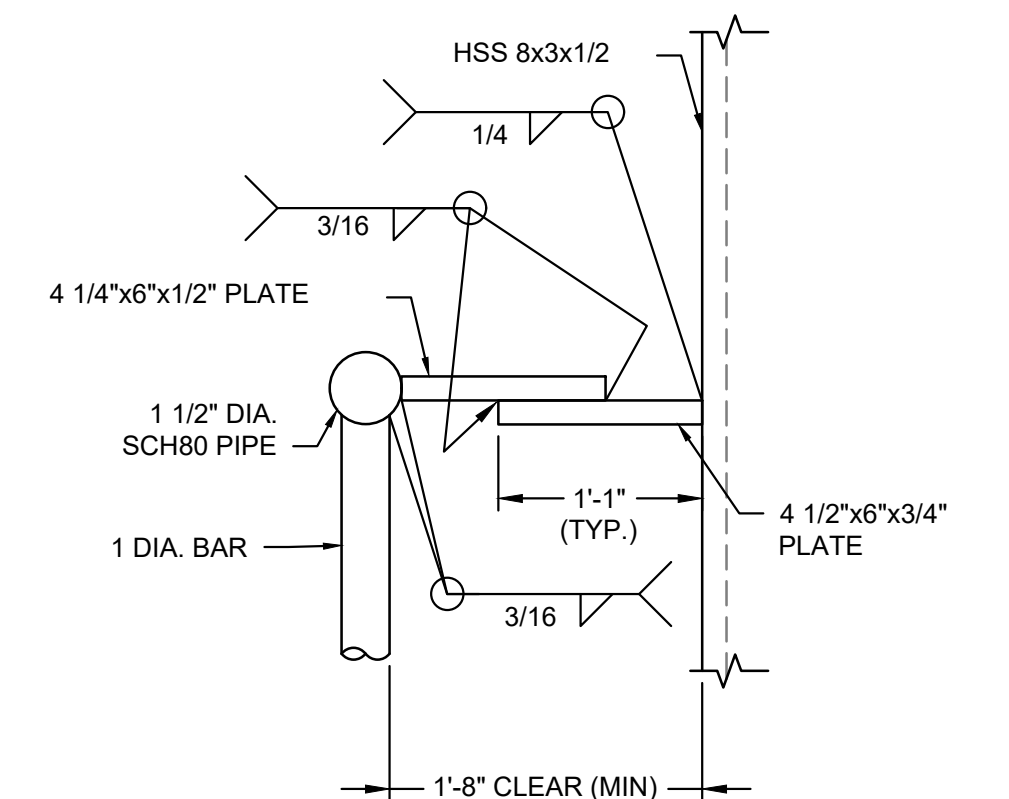
1 DETAIL - TYPICAL PIER SAFETY LADDER
NOTE:
CONNECTIONS ARE SIMILAR FOR PIER HEAD SAFETY LADDERS.



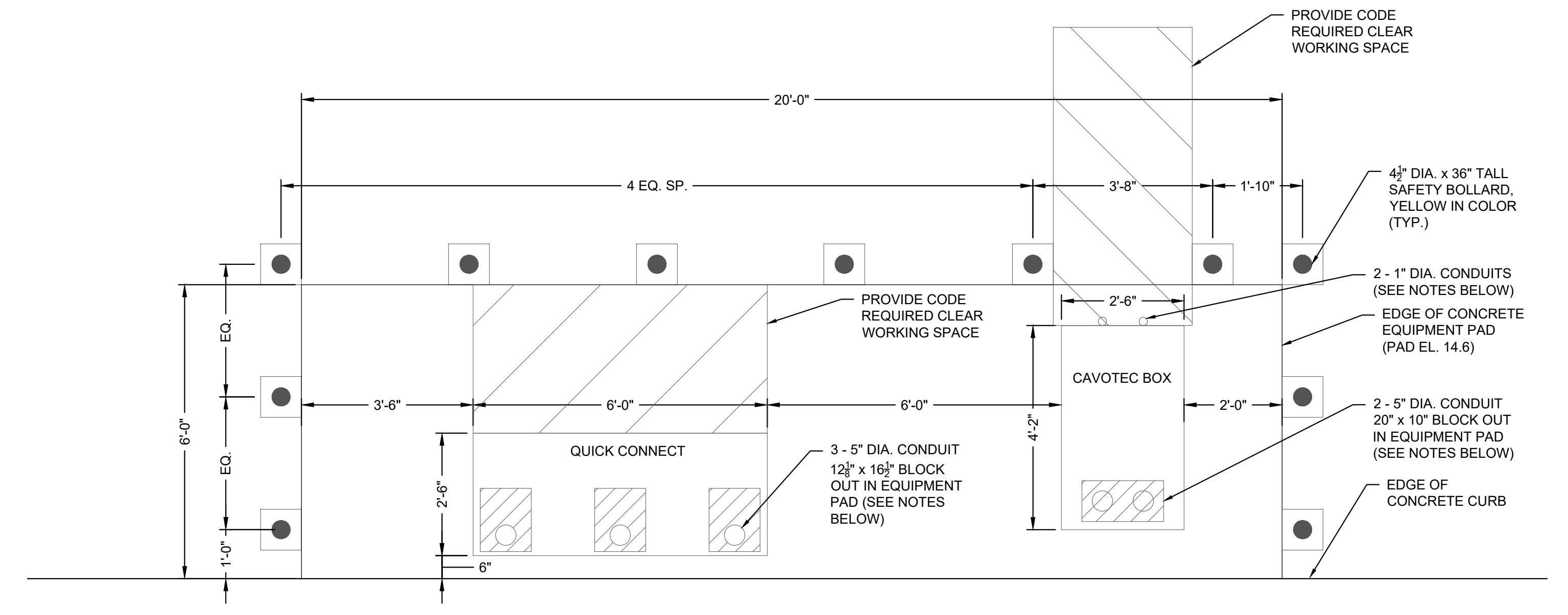
1 LADDER ANGLE DETAIL
NOT TO SCALE



2 LADDER BASE PLATE DETAIL
NOT TO SCALE



3 DETAIL
NOT TO SCALE



2 DETAIL - ELECTRICAL EQUIPMENT PAD
SCALE: 1" = 2'

I.F.B.
NOT FOR CONSTRUCTION
JANUARY 26, 2024

1

NO.	ISSUE/DESCRIPTION	BY	DATE
1	ADDENDUM #12	DDF	4/10/2024

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MAINE MARITIME ACADEMY WATERFRONT CAMPUS
PIER UPGRADES AND WATERFRONT IMPROVEMENTS
CASTINE, MAINE

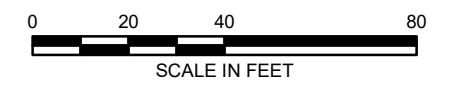
MISCELLANEOUS DETAILS -2

PREPARED BY: GZA GeoEnvironmental, Inc. www.gza.com	PREPARED FOR: MAINE MARITIME ACADEMY CASTINE, ME
PROJ MGR: RKC DESIGNED BY: AFS DATE: JANUARY 2024	REVIEWED BY: CWC DRAWN BY: MEA PROJECT NO.: 35109.00
CHECKED BY: DDF SCALE: AS NOTED REVISION NO.:	DRAWING S-158 SHEET NO. 87 OF 142

© 2023 - GZA GeoEnvironmental, Inc. \\GZAPROVIDENCE\jobs\Geo\35109_rke\Figures\GIS\Fig-7_Pre-Dredge_SampleLocation.mxd, October 20, 2023 - 12:07:25 PM, Elizabeth, Fulton



Service Layer Credits: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus DS



UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

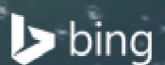
MAINE MARITIME ACADEMY WATERFRONT CAMPUS
1 PLEASANT STREET, CASTINE, MAINE

MMA WATERFRONT IMPROVEMENTS PROJECT
PRE-DREGE SAMPLE LOCATION PLAN

Legend

- Pre-Dredge Sample Location
- Approximate Dredge Limit

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: MAINE MARITIME ACADEMY	
PROJ MGR: CWC	REVIEWED BY: CWC	CHECKED BY: CWC	FIG/DWG
DESIGNED BY: CLM	DRAWN BY: EAF	SCALE: 1 in = 40 ft	8
DATE: 10/20/2023	PROJECT NO: 03.0035109.00	REVISION NO:	





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(207) 879-9190
<http://www.gza.com>

Engineers and
Scientists

JOB 03.0035109.00

SHEET NO 1 OF 1

Calculated By B. CARDALI Date 10/12/23

Checked By _____ Date _____

Scale _____

MMA DREDGE MATERIAL

DSS-1

Gray/brown, Fine to Coarse SAND, little Fine Gravel, trace Silt WITH some Shells. One wood Fragment in sample.

DSS-2

Gray/brown, Fine to Coarse SAND, some Fine to Coarse Gravel, trace Silt, some Shells.

DSS-3

Dark gray, SILT, little Fine to medium Sand, little Gravel, trace shells with Organic Fibers. Organic odor.

DSS-4

Gray/brown, CLAYEY SILT, some Fine to Medium Sand, trace shells, with wood Fragments

Maine Maritime Academy
Pre-Dredge Sediment Sample Results

Parameter	Threshold Limit (mg/kg)	DSS-1 0-11'	DSS-2 0-7'	DSS-3 0-3.1'	DSS-4 0-6.5'
		Concentration (mg/kg) ⁽¹⁾	Concentration (mg/kg) ⁽¹⁾	Concentration (mg/kg) ⁽¹⁾	Concentration (mg/kg) ⁽¹⁾
1-METHYLNAPHTHALENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
2-METHYLNAPHTHALENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
ACENAPHTHENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
ACENAPHTHYLENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
ANTHRACENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
PCB-1016	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1221	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1232	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1242	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1248	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1254	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1260	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1262	2.7	< 0.02	< 0.02	< 0.2	< 0.02
PCB-1268	2.7	< 0.02	< 0.02	< 0.2	< 0.02
ARSENIC	16	2.9	2.7	7.3	4.1
BENZO(A)ANTHRACENE	13	0.11	< 0.08	< 0.9	< 0.09
BENZO(A)PYRENE	1.3	0.12	< 0.08	< 0.9	< 0.09
BENZO(B)FLUORANTHENE	13	0.15	< 0.08	< 0.9	< 0.09
BENZO(G,H,I)PERYLENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
BENZO(K)FLUORANTHENE	134	< 0.09	< 0.08	< 0.9	< 0.09
CADMIUM	22	< 1.2	< 1.2	< 1.8	< 1.3
CHROMIUM	100	14	18	32	28
CHROMIUM, HEXAVALENT	3.6	< 1.23	< 0.998	7.24	< 1.04
CHRYSENE	1340	0.14	< 0.08	< 0.9	< 0.09
DIBENZO(A,H)ANTHRACENE	1.3	< 0.09	< 0.08	< 0.9	< 0.09
FLUORANTHENE	NA	0.23	< 0.08	1.5	0.11
FLUORENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
INDENO(1,2,3-CD)PYRENE	13	< 0.09	< 0.08	< 0.9	< 0.09
LEAD	200	29	5.3	15	3.7 J
MERCURY	27	0.036 J	< 0.058	0.051 J	< 0.066
NAPHTHALENE	NA	< 0.09	< 0.08	< 0.9	< 0.09
PHENANTHRENE	NA	0.11	< 0.08	< 0.9	< 0.09
PYRENE	NA	0.27	< 0.08	1.3	0.11
SOLIDS, TOTAL (ALPHA)	NA	65.2%	80.2%	52.6%	76.8
TOTAL SOLIDS (MEL)	NA	84.2%	87.0%	56.7%	76.3%

Notes

(1) Units mg/kg unless otherwise noted (i.e., %)

J = Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

NA = Not Applicable

Red, bolded value indicates the sample result exceeded the threshold limit.

Samples were collected on 6/8/23.

Maine Maritime Academy
Pre-Dredge Sediment Sample Results

Chemical	Dioxin TEF ¹	Concentration (ng/kg) ²				Dioxin TEQ (pg/g) ³			
		DSS-1 0-11'	DSS-2 0-7'	DSS-3 0-3.1'	DSS-4 0-6.5'	DSS-1 0-11'	DSS-2 0-7'	DSS-3 0-3.1'	DSS-4 0-6.5'
1,2,3,4,6,7,8-HpCDD	0.01	19	18	350	45	0.19	0.18	3.5	0.45
1,2,3,4,6,7,8-HpCDF	0.01	< 5	< 5	63	9.3	0.05	0.05	0.63	0.093
1,2,3,4,7,8,9-HpCDF	0.01	< 5	< 5	< 5	< 5	0.05	0.05	0.05	0.05
1,2,3,4,7,8-HxCDD	0.1	< 5	< 5	< 5	< 5	0.5	0.5	0.5	0.5
1,2,3,4,7,8-HxCDF	0.1	< 5	< 5	9.5	< 5	0.5	0.5	0.95	0.5
1,2,3,6,7,8-HxCDD	0.1	< 5	< 5	15	< 5	0.5	0.5	1.5	0.5
1,2,3,6,7,8-HxCDF	0.1	< 5	< 5	< 5	< 5	0.5	0.5	0.5	0.5
1,2,3,7,8,9-HxCDD	0.1	< 5	< 5	8.7	< 5	0.5	0.5	0.87	0.5
1,2,3,7,8,9-HxCDF	0.1	< 5	< 5	< 5	< 5	0.5	0.5	0.5	0.5
1,2,3,7,8-PeCDD	1	< 5	< 5	< 5	< 5	5	5	5	5
1,2,3,7,8-PeCDF	0.03	< 5	< 5	6.9	< 5	0.15	0.15	0.207	0.15
2,3,4,6,7,8-HxCDF	0.1	< 5	< 5	< 5	< 5	0.5	0.5	0.5	0.5
2,3,4,7,8-PeCDF	0.3	< 5	< 5	< 5	< 5	1.5	1.5	1.5	1.5
2,3,7,8-TCDD	1	< 1	< 1	< 1	< 1	1	1	1	1
2,3,7,8-TCDF	0.1	< 1	< 1	5.1	1.1	0.1	0.1	0.51	0.11
OCDD	0.0003	170	180	3100	450	0.051	0.054	0.93	0.135
OCDF	0.0003	< 1	< 1	120	22	0.0003	0.0003	0.036	0.0066
Total HpCDD	--	76	73	650	100	--	--	--	--
Total HpCDF	--	< 5	< 5	150	28	--	--	--	--
Total HxCDD	--	13	6.7	84	15	--	--	--	--
Total HxCDF	--	< 5	< 5	67	6.1	--	--	--	--
Total PeCDD	--	< 5	< 5	< 5	< 5	--	--	--	--
Total PeCDF	--	< 5	< 5	28	< 5	--	--	--	--
Total TCDD	--	< 1	< 1	4.7	5.2	--	--	--	--
Total TCDF	--	< 1	< 1	29	8.7	--	--	--	--
PCB-1016	7.05E-08	< 20,000	< 20,000	< 200,000	< 20,000	0.001	0.001	0.014	0.001
PCB-1221	3.67E-08	< 20,000	< 20,000	< 200,000	< 20,000	0.001	0.001	0.007	0.001
PCB-1232	2.59E-06	< 20,000	< 20,000	< 200,000	< 20,000	0.052	0.052	0.519	0.052
PCB-1242	4.06E-06	< 20,000	< 20,000	< 200,000	< 20,000	0.081	0.081	0.812	0.081
PCB-1248	1.17E-05	< 20,000	< 20,000	< 200,000	< 20,000	0.233	0.233	2.331	0.233
PCB-1254	7.66E-06	< 20,000	< 20,000	< 200,000	< 20,000	0.153	0.153	1.532	0.153
PCB-1260	6.76E-07	< 20,000	< 20,000	< 200,000	< 20,000	0.014	0.014	0.135	0.014
PCB-1262	3.87E-07	< 20,000	< 20,000	< 200,000	< 20,000	0.008	0.008	0.077	0.008
PCB-1268	1.97E-07	< 20,000	< 20,000	< 200,000	< 20,000	0.004	0.004	0.039	0.004
Total (pg/g)						12.1	12.1	24.1	12.5
Threshold (pg/g)⁴						55.8	55.8	55.8	55.8

Notes:

- Dioxin Toxicity Equivalence Factor (TEF) from Maine Department of Environmental Protection Remedial Action Guidelines (RAGs), May 1, 2021, Table 3 (<https://www.maine.gov/dep/spills/publications/guidance/rags/Maine-Remedial-Action-Guidelines-2021-05-01.pdf>). TEFs for Aroclor mixtures (PCB-XXXX) calculated as described in the following table.
- Concentration measured in samples collected on June 8, 2023. Chemicals that were not detected above reporting limits are shown as "< RL", where RL is the corresponding reporting limit.
- Dioxin Toxicity Equivalent (TEQ) calculated by multiplying the concentration of each chemical by its corresponding TEF and then summing the product for all chemicals. For chemicals that were not detected above reporting limits, the concentration of the chemical was conservatively assumed to be equal to the reporting limit.
- Dioxin TEQ threshold from 06-096 Maine Solid Waste Management Rules Chapter 418(7)(A)(3).

Maine Maritime Academy
Pre-Dredge Sediment Sample Results

PCB Congener	TEF ¹	Concentration of PCB Congener in Aroclor (ug/g of Aroclor) ²								
		PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268
PCB-77	0.0001	40.9	12.6	2150	2590	4400	174	33.8	84.6	36.1
PCB-81	0.0003	1.96	0.51	111	156	221	16.4	3.33	4.63	1.35
PCB-105	0.00003	69.5	55.9	3030	4840	17300	33800	434	764	107
PCB-114	0.00003	6.03	4.04	248	443	1320	1930	17	46	5.86
PCB-118	0.00003	110	88.1	4460	6980	24200	78900	5610	1980	101
PCB-123	0.00003	4.72	3.33	164	277	806	1150	5.02	27.8	3.24
PCB-126	0.1	0.56	0.28	21	33.6	98	37.3	2.13	2.28	1.76
PCB-156	0.00003	3.72	7.49	90.7	255	654	8440	4860	946	17.6
PCB-157	0.00003	1.03	1.46	22	70.9	171	1870	252	63.8	7.92
PCB-167	0.00003	1.1	2.52	32.4	80.7	207	3100	1990	278	4.96
PCB-169	0.03	0.13	0.08	0.17	0.11	0.21	0.81	0.82	0.4	0.32
PCB-189	0.00003	0.12	1.17	4.36	4.53	11	246	1290	451	4.4

TEF of Aroclor Mixture ³									
PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	PCB-1262	PCB-1268	
7.05E-08	3.67E-08	2.59E-06	4.06E-06	1.17E-05	7.66E-06	6.76E-07	3.87E-07	1.97E-07	

Notes:

1. Dioxin Toxicity Equivalence Factor (TEF) from Maine Department of Environmental Protection Remedial Action Guidelines (RAGs), May 1, 2021, Table 3 (<https://www.maine.gov/dep/spills/publications/guidance/rags/Maine-Remedial-Action-Guidelines-2021-05-01.pdf>).
2. PCB congener concentrations in Aroclor mixtures from Generating the Right Data: Determination of Aroclor Versus PCB Congeners, November 2207, Table III (<https://semspub.epa.gov/work/06/9559387.pdf>)
3. TEF of each Aroclor mixture calculated by multiplying the concentration of each congener (in grams of congener or gram of Aroclor) by its corresponding TEF and then summing the product for all congeners.

Maine Environmental Laboratory

1 Main Street, Yarmouth, ME 04096 Tel.: 207-846-6569 FAX: 207-846-9066 Email: melab@mel-lab.com

Report of Analyses

Report Prepared for:

Aimee Mountain
GZA Geoenvironmental, Inc
707 Sable Oaks Dr., Suite 150
South Portland, ME 04106

Report Information:

Batch ID: GZA 15061
Report ID: 15061-230925-0927
Date of Issue: September 25, 2023

The complete report consists of the following parts:

Maine Environmental Laboratory report
Chain of Custody form
Alpha Analytical report
Eastern Analytical, Inc. report
Pace Analytical - MN report

R1: Added total chromium to samples.

REPORT NARRATIVE:

Enclosed are results of the analyses for your samples as received by the laboratory. Results are for the exclusive use of the client named on the report and will not be released to a third party without written consent. This report shall not be reproduced except in full without the written consent of the laboratory.

Maine Environmental Laboratory is accredited by the States of Maine (Cert. #ME00028) and New Hampshire (NH ELAP) (Cert. #2031) and is TNI/NELAP accredited. Please refer to our website www.maineenvironmentallaboratory.com for a copy of our Maine and NH ELAP certificates and accredited parameters. When a subcontracted laboratory is listed above, the data produced is by a Maine accredited laboratory accredited for the fields of testing performed.

Unless otherwise noted:

- Samples were received in acceptable condition and analyzed within method hold times.
- Soils, sediments, solids and tissues are reported on dry weight basis. Wipes are reported on an "as received" basis.
- All quality control data demonstrated acceptable limits
- The results reported herein conform to the most current NELAP standards where applicable.
- Analysis of solids for pH, flash point, ignitability, paint filter, corrosivity, conductivity and specific gravity are reported on an "as received" basis.
- Results for "immediate" field parameters tested at the lab such as pH were run outside of the EPA-recommended hold time.
- %RPD is not calculated when the native sample concentration is below 5 x LOQ.

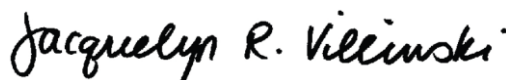
DEFINITIONS:

- LOQ / RL - The Limit of Quantitation / Reporting Limit is the minimum level for reporting quantitative data.
LOD / MDL - The Limit of Detection / Method Detection Limit is the minimum level for reporting estimated data.
J - Data reported between the Limit of Quantitation and Limit of Detection is J-flagged as "estimated."
ND or U - Not detected below the LOD / MDL
B - Detected in QC blank
S - Detection Limits increased due to sample matrix
4X - Native sample concentration was greater than 4 times the spike concentration so the spike added could not be distinguished from the native concentration.
% Rec - Percent Recovery; RPD - Relative Percent Difference
D - Duplicate sample
R - Reanalysis
DO - BOD: insufficient dissolved oxygen depletion to calculate Matrix Spike and MSD recoveries.

METHOD REFERENCES:

- SM2540G: Standard Methods for the Examination of Water and Wastewater, 18th edition.
SW3050B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.
SW6010C: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.
SW7471B: SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition. Updates I-IV, 2007.

This report has been reviewed and authorized by
Jacquelyn R. Villinski, Laboratory Director:



Maine Environmental Laboratory**Report of Analyses**

One Main Street, Yarmouth, ME 04096

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Aimee Mountain
 GZA Geoenvironmental, Inc
 707 Sable Oaks Dr., Suite 150
 South Portland, ME 04106

September 25, 2023

Report ID: 15061-230925-0927
 Batch ID: GZA 15061
 Date received: 06/08/23
 Project ID: MMA - Dredge Sampling

Sample ID: DSS-1 0-11'
 Sample date: 06/08/23 8:35
 Sample matrix: SD - composite
 Laboratory ID: 230608O005

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	84.22	%	06/13/23	15:45		0.01	SM2540G	DJC
Mercury, total	0.036 J	mg/kg	06/20/23	8:00	0.024	0.06	SW7471B	DWS
Arsenic, total	2.9	mg/kg	06/26/23	10:00	0.36	1.2	SW3050B/SW6010C	AEC
Cadmium, total	ND	mg/kg	06/26/23	10:00	0.36	1.2	SW3050B/SW6010C	AEC
Chromium, total	14	mg/kg	09/16/23	14:40	1.2	3.6	SW3050B/SW6010C	DWS
Lead, total	29	mg/kg	06/26/23	10:00	1.2	3.6	SW3050B/SW6010C	AEC

Notes:

Maine Environmental Laboratory**Report of Analyses**

One Main Street, Yarmouth, ME 04096

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FAX: 207-846-9066

Email: melab@mel-lab.com

Aimee Mountain
 GZA Geoenvironmental, Inc
 707 Sable Oaks Dr., Suite 150
 South Portland, ME 04106

September 25, 2023

Report ID: 15061-230925-0927
 Batch ID: GZA 15061
 Date received: 06/08/23
 Project ID: MMA - Dredge Sampling

Sample ID: DSS-2 0-7'
 Sample date: 06/08/23 8:50
 Sample matrix: SD - composite
 Laboratory ID: 230608O006

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	86.97	%	06/13/23	15:45		0.01	SM2540G	DJC
Mercury, total	ND	mg/kg	06/20/23	8:00	0.023	0.058	SW7471B	DWS
Arsenic, total	2.7	mg/kg	06/26/23	10:00	0.35	1.2	SW3050B/SW6010C	AEC
Cadmium, total	ND	mg/kg	06/26/23	10:00	0.35	1.2	SW3050B/SW6010C	AEC
Chromium, total	18	mg/kg	09/16/23	14:40	1.2	3.5	SW3050B/SW6010C	DWS
Lead, total	5.3	mg/kg	06/26/23	10:00	1.2	3.5	SW3050B/SW6010C	AEC

Notes:

Maine Environmental Laboratory

Report of Analyses

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

Aimee Mountain
 GZA Geoenvironmental, Inc
 707 Sable Oaks Dr., Suite 150
 South Portland, ME 04106

September 25, 2023

Report ID: 15061-230925-0927
 Batch ID: GZA 15061
 Date received: 06/08/23
 Project ID: MMA - Dredge Sampling

Sample ID: DSS-3 0-3.1'
 Sample date: 06/08/23 9:20
 Sample matrix: SD - composite
 Laboratory ID: 230608O007

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	56.68	%	06/13/23	15:45		0.01	SM2540G	DJC
Mercury, total	0.051 J	mg/kg	06/20/23	8:00	0.035	0.088	SW7471B	DWS
Arsenic, total	7.3	mg/kg	06/26/23	10:00	0.53	1.8	SW3050B/SW6010C	AEC
Cadmium, total	ND	mg/kg	06/26/23	10:00	0.53	1.8	SW3050B/SW6010C	AEC
Chromium, total	32	mg/kg	09/16/23	14:40	1.8	5.3	SW3050B/SW6010C	DWS
Lead, total	15	mg/kg	06/26/23	10:00	1.8	5.3	SW3050B/SW6010C	AEC

Notes:

Maine Environmental Laboratory**Report of Analyses**

One Main Street, Yarmouth, ME 04096

Tel.: 207-846-6569

FAX: 207-846-9066

Email: melab@mel-lab.com

Aimee Mountain
 GZA Geoenvironmental, Inc
 707 Sable Oaks Dr., Suite 150
 South Portland, ME 04106

September 25, 2023

Report ID: 15061-230925-0927
 Batch ID: GZA 15061
 Date received: 06/08/23
 Project ID: MMA - Dredge Sampling

Sample ID: DSS-4 0-6.5'
 Sample date: 06/08/23 9:40
 Sample matrix: SD - composite
 Laboratory ID: 230608O008

Parameter	Results	Units	Date Analyzed	Time Analyzed	LOD	LOQ	Method	Tech
Total Solids	76.28	%	06/13/23	15:45		0.01	SM2540G	DJC
Mercury, total	ND	mg/kg	06/20/23	8:00	0.026	0.066	SW7471B	DWS
Arsenic, total	4.1	mg/kg	06/26/23	10:00	0.39	1.3	SW3050B/SW6010C	AEC
Cadmium, total	ND	mg/kg	06/26/23	10:00	0.39	1.3	SW3050B/SW6010C	AEC
Chromium, total	28	mg/kg	09/16/23	14:40	1.3	3.9	SW3050B/SW6010C	DWS
Lead, total	3.7 J	mg/kg	06/26/23	10:00	1.3	3.9	SW3050B/SW6010C	AEC

Notes:

Maine Environmental Laboratory

Report of Analyses

One Main Street, Yarmouth, ME 04096

Tel: 207-846-6569

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Aimee Mountain
GZA Geoenvironmental, Inc
707 Sable Oaks Dr., Suite 150
South Portland, ME 04106

Date of Issue: 9/25/2023

Report ID: 15061-230925-0927

QC Data Method Blanks, Laboratory Control Samples, Sample QC

Analyte	QCType	Result	Value	Units	Max	Min	Reference	Ref. Value	Units	Lab SampleID
Arsenic, total	Duplicate - S	RPD	0.0	%	31		Conc	4.1	mg/kg	230608O008
Arsenic, total	LCS - S	Rec	97	%	131	69	Conc	25.75	mg/kg	
Arsenic, total	Matrix Spike - S	Rec	98	%	126	74				230608O005
Arsenic, total	Method Blank - S	Conc	-0.15 U	mg/kg	1.4					
Cadmium, total	Duplicate - S	RPD	0.0	%	31		Conc	-0.35	mg/kg	230608O008
Cadmium, total	LCS - S	Rec	109	%	131	69	Conc	111.8	mg/kg	
Cadmium, total	Matrix Spike - S	Rec	102	%	126	74				230608O005
Cadmium, total	Method Blank - S	Conc	-0.030 U	mg/kg	1.4					
Chromium, total	Duplicate - S	RPD	1.0	%	31		Conc	18	mg/kg	230608O006
Chromium, total	LCS - S	Rec	96	%	131	69	Conc	69.03	mg/kg	
Chromium, total	LCS - S	Rec	98	%	131	69	Conc	70.43	mg/kg	
Chromium, total	Matrix Spike - S	Rec	117	%	126	74				230608O007
Chromium, total	Method Blank - S	Conc	0.030 U	mg/kg	3.4					
Chromium, total	Method Blank - S	Conc	0.030 U	mg/kg	3.4					
Lead, total	Duplicate - S	RPD	0.0	%	31		Conc	11	mg/kg	230608O008
Lead, total	LCS - S	Rec	117	%	131	69	Conc	130.4	mg/kg	
Lead, total	Matrix Spike - S	Rec	112	%	126	74				230608O005
Lead, total	Method Blank - S	Conc	0.23 U	mg/kg	3.4					
Mercury, total	LCS - S	Rec	119	%	121	79	Conc	0.597	mg/kg	
Mercury, total	LCS - S	Rec	107	%	121	79	Conc	1.07	mg/kg	
Mercury, total	Matrix Spike - S	Rec	113	%	121	79				230608O005
Mercury, total	Method Blank - S	Conc	0 U	mg/kg	0.054					
Total Solids	LCS - S	Rec	100	%	121	79	Conc	49.9	mg/kg	
Total Solids	Method Blank - S	Conc	0 U	mg/kg	0.014			0.01		

MAINE ENVIRONMENTAL LABORATORY- Chain of Custody One Main Street Yarmouth, ME 04096-6716 Tel: (207) 846-6569 Fax: (207) 846-9066 Email: info@mel-lab.com Web: MaineEnvironmentalLaboratory.com										ANALYSES RCRA, NPDES, SDWA or required method					LABORATORY REPORT # GZA 15061									
REPORT TO: <u>Aimee Mountain</u> EMAIL: <u>aimee.mountain@gza.com</u> TELEPHONE: <u>207-344-9704</u>										PAHs PAHs Dioxin PAHs PCBs PAHs Hex Cr PAHs Total Solids (As, Cd, Hg, Pb) Total Solids (w/ Hex Cr) Total Chromium added 8/28/23 per A. Mountain JV 8/28/23					SAMPLE RECEIVING Within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Good Condition? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Preserved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Custody Seal? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Del. by: <u>Client</u> Temp. °C: <u>2.0</u>									
COMPANY: <u>GZA Geoenvironmental, Inc.</u> BILL TO / PURCHASE ORDER #															LABORATORY ID 2306080005									
ADDRESS: <u>707 Sable Oaks Dr., Suite 150. South Portland, ME 04106</u>															006 007 008									
PROJECT NAME: <u>MMA - Dredge Sampling</u> SAMPLER NAME: <u>Alex Meyer</u> QUOTE #																								
SAMPLE IDENTIFICATION	# CONTAINERS	TYPE OF CONTAINERS	FIELD FILTRATION		SAMPLE TYPE	GRAB	COMP.	METHOD PRESERVED	SAMPLING															
			YES	NO					DATE	TIME														
DSS-1 0-11'	6	P4G		X	sediment		X		6/8/23	8:35														
DSS-2 0-7'	6	P4G		X	sediment		X		6/8/23	8:50														
DSS-3 0-3.1'	6	P4G		X	sediment		X		6/8/23	9:20														
DSS-4 0-6.5'	6	P4G		X	sediment		X		6/8/23	9:40														
TURNAROUND REQUEST: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Priority (SURCHARGE)										REPORTING REQUIREMENTS?: <input checked="" type="checkbox"/> Standard Report <input type="checkbox"/> ME DEP EGAD EDD <input type="checkbox"/> DEP TaxSheet <input type="checkbox"/> DW Compliance (sent to State) <input type="checkbox"/> CC Results to _____					COMMENTS:									
RELINQUISHED BY SAMPLER: <u>[Signature]</u>										DATE:	TIME:	RECEIVED BY:												
RELINQUISHED BY:										6.6.23	2:16													
RELINQUISHED BY:										DATE:	TIME:	RECEIVED BY LABORATORY:												
RELINQUISHED BY:										6/6/23	14:16	Hanee Garrison												



ANALYTICAL REPORT

Lab Number:	L2332553
Client:	Maine Environmental Labs One Main Street Yarmouth, ME 04096
ATTN:	Jackie Villinski
Phone:	(207) 846-6569
Project Name:	GZA 15061
Project Number:	GZA 15061
Report Date:	06/22/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2332553-01	DSS-1 0-11'	SOIL	Not Specified	06/08/23 08:35	06/09/23
L2332553-02	DSS-2 0-7'	SOIL	Not Specified	06/08/23 08:50	06/09/23
L2332553-03	DSS-3 0-3.1'	SOIL	Not Specified	06/08/23 09:20	06/09/23
L2332553-04	DSS-4 0-6.5'	SOIL	Not Specified	06/08/23 09:40	06/09/23

Project Name: GZA 15061**Lab Number:** L2332553**Project Number:** GZA 15061**Report Date:** 06/22/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23


Case Narrative (continued)

Hexavalent Chromium

The WG1793405-4 Insoluble MS recovery for chromium, hexavalent (48%), performed on L2332553-04, is outside the acceptance criteria. The Soluble MS recovery for chromium, hexavalent (51%) was also outside criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 85%.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 06/22/23

INORGANICS & MISCELLANEOUS

Project Name: GZA 15061

Lab Number: L2332553

Project Number: GZA 15061

Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2332553-01

Date Collected: 06/08/23 08:35

Client ID: DSS-1 0-11'

Date Received: 06/09/23

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	65.2		%	0.100	NA	1	-	06/14/23 13:02	121,2540G	ROI
Chromium, Hexavalent	ND		mg/kg	1.23	--	1	06/19/23 22:30	06/20/23 13:42	1,7196A	LOF



Project Name: GZA 15061

Lab Number: L2332553

Project Number: GZA 15061

Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2332553-02

Date Collected: 06/08/23 08:50

Client ID: DSS-2 0-7'

Date Received: 06/09/23

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.2		%	0.100	NA	1	-	06/14/23 13:02	121,2540G	ROI
Chromium, Hexavalent	ND		mg/kg	0.998	--	1	06/19/23 22:30	06/20/23 13:42	1,7196A	LOF



Project Name: GZA 15061

Lab Number: L2332553

Project Number: GZA 15061

Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2332553-03

Date Collected: 06/08/23 09:20

Client ID: DSS-3 0-3.1'

Date Received: 06/09/23

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	52.6		%	0.100	NA	1	-	06/14/23 13:02	121,2540G	ROI
Chromium, Hexavalent	7.24		mg/kg	1.52	--	1	06/19/23 22:30	06/20/23 13:42	1,7196A	LOF



Project Name: GZA 15061

Lab Number: L2332553

Project Number: GZA 15061

Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2332553-04

Date Collected: 06/08/23 09:40

Client ID: DSS-4 0-6.5'

Date Received: 06/09/23

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.8		%	0.100	NA	1	-	06/14/23 13:02	121,2540G	ROI
Chromium, Hexavalent	ND		mg/kg	1.04	--	1	06/19/23 22:30	06/20/23 13:42	1,7196A	LOF



Project Name: GZA 15061

Lab Number: L2332553

Project Number: GZA 15061

Report Date: 06/22/23

**Method Blank Analysis
Batch Quality Control**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1791109-2										
Solids, Total	99.5		%	0.100	NA	1	-	06/14/23 13:02	121,2540G	ROI
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1793405-1										
Chromium, Hexavalent	ND		mg/kg	0.800	--	1	06/19/23 22:30	06/20/23 13:42	1,7196A	LOF



Lab Control Sample Analysis Batch Quality Control

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1793405-2								
Chromium, Hexavalent	84		-		80-120	-		20

Matrix Spike Analysis Batch Quality Control

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1793405-4 QC Sample: L2332553-04 Client ID: DSS-4 0-6.5'												
Chromium, Hexavalent	ND	1700	820	48	Q	-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1793405-6 QC Sample: L2332553-04 Client ID: DSS-4 0-6.5'						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20



Project Name: GZA 15061**Project Number:** GZA 15061

Serial_No:06222319:31

Lab Number: L2332553**Report Date:** 06/22/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2332553-01A	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		ME-TS-2540(7)
L2332553-01B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HEXCR-7196(30)
L2332553-02A	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		ME-TS-2540(7)
L2332553-02B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HEXCR-7196(30)
L2332553-03A	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		ME-TS-2540(7)
L2332553-03B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HEXCR-7196(30)
L2332553-04A	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		ME-TS-2540(7)
L2332553-04B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HEXCR-7196(30)

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: GZA 15061**Lab Number:** L2332553**Project Number:** GZA 15061**Report Date:** 06/22/23**Data Qualifiers**

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: GZA 15061
Project Number: GZA 15061

Lab Number: L2332553
Report Date: 06/22/23

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 20

Department: **Quality Assurance**

Published Date: 6/16/2023 4:52:28 PM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALP

L2332553



Maine Environmental Laboratory - Subcontract Chain of Custody

Report To: J. Villinski

Email: sub-lab-reports@mel-lab.com

Phone: (207) 846-6569

Project: GZA 15061

Requested Due Date: ~~6/20/2023~~ Standard

Project	Customer Sample ID	Matrix	Collected	Notes
GZA 15061	DSS-1 0-11'	SL - composite	6/8/2023 8:35	
	Hex Cr _____		Total Solids _____	
GZA 15061	DSS-2 0-7'	SL - composite	6/8/2023 8:50	
	Hex Cr _____		Total Solids _____	
GZA 15061	DSS-3 0-3.1'	SL - composite	6/8/2023 9:20	
	Hex Cr _____		Total Solids _____	
GZA 15061	DSS-4 0-6.5'	SL - composite	6/8/2023 9:40	
	Hex Cr _____		Total Solids _____	

Report Format & Comments:

Quote:

Standard

Level II QC

ME EGAD EDD

EDD Project Name:

"MMA-Dredge Sampling"

NH DES EMD EDD

Relinquished	6/9/23 11:41	<i>[Signature]</i> AAL	Received	6/9/23 11:41
Relinquished	6/9/23 17:45	<i>[Signature]</i> AAL	Received	6/9/23 17:45
Relinquished	6-9-23 19:50	<i>[Signature]</i> AAL	Received	<i>[Signature]</i>



Jackie Villinski
Maine Environmental Laboratory, LLC
One Main Street
Yarmouth, ME 04096



Laboratory Report for:

Eastern Analytical, Inc. ID: 261674
Client Identification: GZA 15061
Date Received: 6/9/2023

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the written approval of the laboratory.

The following standard abbreviations and conventions apply to all EAI reports:

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R : % Recovery

Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072) and West Virginia (9910C). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992
- ASTM International

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

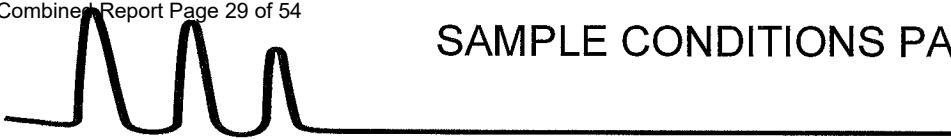
We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,


Lorraine Olashaw, Lab Director

6-19-23
Date

SAMPLE CONDITIONS PAGE



EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**Client Designation: **GZA 15061****Temperature upon receipt (°C): 2.2****Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
261674.01	DSS-1 0-11'	6/9/23	6/8/23 08:35	soil	75.0	Adheres to Sample Acceptance Policy
261674.02	DSS-2 0-7'	6/9/23	6/8/23 08:50	soil	86.5	Adheres to Sample Acceptance Policy
261674.03	DSS-3 0-3.1'	6/9/23	6/8/23 09:20	soil	37.3	Adheres to Sample Acceptance Policy
261674.04	DSS-4 0-6.5'	6/9/23	6/8/23 09:40	soil	80.6	Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

LABORATORY REPORT

EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**Client Designation: **GZA 15061**

Client Sample ID: DSS-1 0-11'
 Lab Sample ID: 261674.01
 Matrix: soil
 Date Sampled: 6/8/23
 Date Received: 6/9/23

	Result	RL	Dilution Factor	Units	Date / Time		Method	Analyst
					Analyzed			
Naphthalene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
2-Methylnaphthalene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
1-Methylnaphthalene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Acenaphthylene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Acenaphthene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Fluorene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Phenanthrene	0.11	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Anthracene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Fluoranthene	0.23	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Pyrene	0.27	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Benzo[a]anthracene	0.11	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Chrysene	0.14	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Benzo[b]fluoranthene	0.15	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Benzo[k]fluoranthene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Benzo[a]pyrene	0.12	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Indeno[1,2,3-cd]pyrene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Dibenz[a,h]anthracene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
Benzo[g,h,i]perylene	< 0.09	0.09	1	mg/kg	6/12/23	18:29	8270E	JMR
p-Terphenyl-D14 (surr)	54 %R			%	6/12/23	18:29	8270E	JMR

LABORATORY REPORT

EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**Client Designation: **GZA 15061**

Client Sample ID: DSS-2 0-7'
 Lab Sample ID: 261674.02
 Matrix: soil
 Date Sampled: 6/8/23
 Date Received: 6/9/23

	Result	RL	Dilution Factor	Units	Date / Time		Method	Analyst
					Analyzed			
Naphthalene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
2-Methylnaphthalene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
1-Methylnaphthalene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Acenaphthylene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Acenaphthene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Fluorene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Phenanthrene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Anthracene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Fluoranthene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Pyrene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Benzo[a]anthracene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Chrysene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Benzo[b]fluoranthene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Benzo[k]fluoranthene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Benzo[a]pyrene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Indeno[1,2,3-cd]pyrene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Dibenz[a,h]anthracene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
Benzo[g,h,i]perylene	< 0.08	0.08	1	mg/kg	6/12/23	18:49	8270E	JMR
p-Terphenyl-D14 (surr)	48 %R			%	6/12/23	18:49	8270E	JMR

LABORATORY REPORT

EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**Client Designation: **GZA 15061**

Client Sample ID: DSS-3 0-3.1'
 Lab Sample ID: 261674.03
 Matrix: soil
 Date Sampled: 6/8/23
 Date Received: 6/9/23

	Result	RL	Dilution		Date / Time		Method	Analyst
			Factor	Units	Analyzed			
Naphthalene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
2-Methylnaphthalene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
1-Methylnaphthalene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Acenaphthylene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Acenaphthene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Fluorene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Phenanthrene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Anthracene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Fluoranthene	1.5	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Pyrene	1.3	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Benzo[a]anthracene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Chrysene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Benzo[b]fluoranthene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Benzo[k]fluoranthene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Benzo[a]pyrene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Indeno[1,2,3-cd]pyrene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Dibenz[a,h]anthracene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
Benzo[g,h,i]perylene	< 0.9	0.9	12	mg/kg	6/12/23	19:09	8270E	JMR
p-Terphenyl-D14 (surr)	51 %R			%	6/12/23	19:09	8270E	JMR

Detection limits elevated due to low solids content and in response to the lower initial mass used for analysis.

LABORATORY REPORT

EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**Client Designation: **GZA 15061**

Client Sample ID: DSS-4 0-6.5'
 Lab Sample ID: 261674.04
 Matrix: soil
 Date Sampled: 6/8/23
 Date Received: 6/9/23

	Result	Dilution		Units	Date / Time		Method	Analyst
		RL	Factor		Analyzed			
Naphthalene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
2-Methylnaphthalene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
1-Methylnaphthalene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Acenaphthylene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Acenaphthene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Fluorene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Phenanthrene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Anthracene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Fluoranthene	0.11	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Pyrene	0.11	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Benzo[a]anthracene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Chrysene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Benzo[b]fluoranthene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Benzo[k]fluoranthene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Benzo[a]pyrene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Indeno[1,2,3-cd]pyrene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Dibenz[a,h]anthracene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
Benzo[g,h,i]perylene	< 0.09	0.09	1	mg/kg	6/12/23	19:30	8270E	JMR
p-Terphenyl-D14 (surr)	49 %R			%	6/12/23	19:30	8270E	JMR

QC REPORT

EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**

Batch ID: 638221-56223/S061223PAH1

Client Designation: **GZA 15061**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Naphthalene	< 0.007	1.2 (75 %R)	1.1 (66 %R) (12 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
2-Methylnaphthalene	< 0.007	1.3 (79 %R)	1.2 (71 %R) (11 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
1-Methylnaphthalene	< 0.007	1.3 (76 %R)	1.1 (68 %R) (12 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Acenaphthylene	< 0.007	1.2 (72 %R)	1.1 (64 %R) (11 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Acenaphthene	< 0.007	1.3 (81 %R)	1.2 (71 %R) (12 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Fluorene	< 0.007	1.4 (81 %R)	1.2 (74 %R) (10 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Phenanthrene	< 0.007	1.3 (77 %R)	1.2 (72 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Anthracene	< 0.007	1.3 (78 %R)	1.2 (73 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Fluoranthene	< 0.007	1.3 (76 %R)	1.2 (70 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Pyrene	< 0.007	1.3 (80 %R)	1.2 (75 %R) (7 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Benzo[a]anthracene	< 0.007	1.2 (74 %R)	1.1 (68 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Chrysene	< 0.007	1.3 (80 %R)	1.2 (74 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Benzo[b]fluoranthene	< 0.007	1.2 (75 %R)	1.2 (70 %R) (7 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Benzo[k]fluoranthene	< 0.007	1.4 (81 %R)	1.3 (76 %R) (6 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Benzo[a]pyrene	< 0.007	1.3 (80 %R)	1.2 (74 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Indeno[1,2,3-cd]pyrene	< 0.007	1.2 (70 %R)	1.1 (64 %R) (8 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Dibenz[a,h]anthracene	< 0.007	1.3 (77 %R)	1.2 (72 %R) (7 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
Benzo[g,h,i]perylene	< 0.007	1.3 (77 %R)	1.2 (72 %R) (7 RPD)	6/12/2023	mg/kg	40 - 140	30	8270E
p-Terphenyl-D14 (surr)	70 %R	73 %R	69 %R	6/12/2023	mg/kg	30 - 130		8270E

*! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

LABORATORY REPORT



EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**

Client Designation: **GZA 15061**

Client Sample ID: DSS-1 0-11'

Lab Sample ID: 261674.01

Matrix: soil

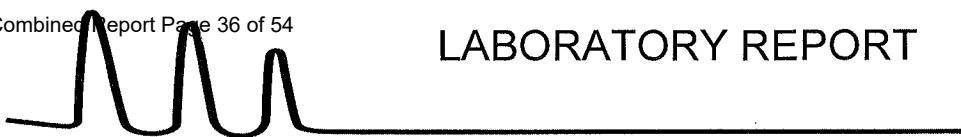
Date Sampled: 6/8/23

Date Received: 6/9/23

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method		
							Prep	Analytical	Analyst
PCB-1016	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1221	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1232	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1242	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1248	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1254	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1260	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1262	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
PCB-1268	< 0.02	0.02	1	mg/kg	6/15/23 14:41	6/13/23	3540C	8082A	MB
TMX (surr)	81 %R			%	6/15/23 14:41	6/13/23	3540C	8082A	MB
DCB (surr)	67 %R			%	6/15/23 14:41	6/13/23	3540C	8082A	MB

Acid clean-up was performed on the samples and associated batch QC.

LABORATORY REPORT



EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**

Client Designation: **GZA 15061**

Client Sample ID: DSS-2 0-7'

Lab Sample ID: 261674.02

Matrix: soil

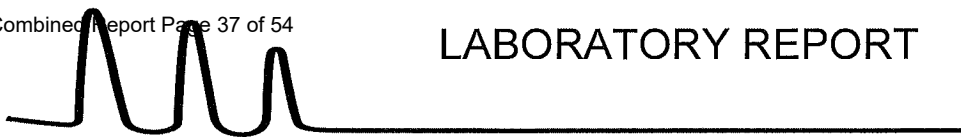
Date Sampled: 6/8/23

Date Received: 6/9/23

	Result	RL	Dilution Factor	Units	Date / Time		Method		Analyst
					Analyzed	Prepared	Prep	Analytical	
PCB-1016	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1221	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1232	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1242	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1248	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1254	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1260	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1262	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
PCB-1268	< 0.02	0.02	1	mg/kg	6/13/23 14:16	6/12/23	3540C	8082A	MB
TMX (surr)	75 %R			%	6/13/23 14:16	6/12/23	3540C	8082A	MB
DCB (surr)	63 %R			%	6/13/23 14:16	6/12/23	3540C	8082A	MB

Acid clean-up was performed on the samples and associated batch QC.

LABORATORY REPORT



EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**

Client Designation: **GZA 15061**

Client Sample ID: DSS-3 0-3.1'

Lab Sample ID: 261674.03

Matrix: soil

Date Sampled: 6/8/23

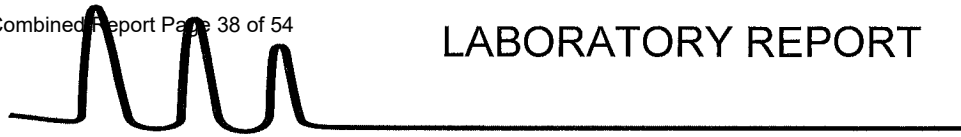
Date Received: 6/9/23

	Result	RL	Dilution		Date / Time		Date		Method	
			Factor	Units	Analized	Prepared	Prep	Analytical	Analyst	
PCB-1016	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1221	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1232	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1242	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1248	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1254	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1260	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1262	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
PCB-1268	< 0.2	0.2	13	mg/kg	6/13/23	14:26	6/12/23	3540C	8082A	MB
TMX (surr)	82 %R			%	6/13/23	14:26	6/12/23	3540C	8082A	MB
DCB (surr)	68 %R			%	6/13/23	14:26	6/12/23	3540C	8082A	MB

Acid clean-up was performed on the samples and associated batch QC.

Detection limits elevated due to sample matrix, a low solids content and in response to the lower initial mass used for analysis.

LABORATORY REPORT



EAI ID#: 261674

Client: **Maine Environmental Laboratory, LLC**

Client Designation: **GZA 15061**

Client Sample ID: DSS-4 0-6.5'

Lab Sample ID: 261674.04

Matrix: soil

Date Sampled: 6/8/23

Date Received: 6/9/23

	Result	RL	Dilution Factor	Units	Date / Time		Method		Analyst	
					Analyzed	Prepared	Prep	Analytical		
PCB-1016	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1221	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1232	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1242	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1248	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1254	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1260	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1262	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
PCB-1268	< 0.02	0.02	1	mg/kg	6/13/23	14:35	6/12/23	3540C	8082A	MB
TMX (surr)	83 %R			%	6/13/23	14:35	6/12/23	3540C	8082A	MB
DCB (surr)	71 %R			%	6/13/23	14:35	6/12/23	3540C	8082A	MB

Acid clean-up was performed on the samples and associated batch QC.

QC REPORT



EAI ID#: 261674

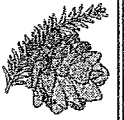
Client: **Maine Environmental Laboratory, LLC**

Batch ID: 638221-62646/S061223PCB1

Client Designation: **GZA 15061**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
PCB-1016	< 0.02	0.11 (85 %R)	0.11 (84 %R) (1 RPD)	6/13/2023	mg/kg	40 - 140	30	8082A
PCB-1221	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1232	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1242	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1248	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1254	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1260	< 0.02	0.10 (78 %R)	0.11 (81 %R) (3 RPD)	6/13/2023	mg/kg	40 - 140	30	8082A
PCB-1262	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
PCB-1268	< 0.02	< 0.02 (%R N/A)	< 0.02 (%R N/A) (RPD N/A)	6/13/2023	mg/kg			8082A
TMX (surr)	83 %R	87 %R	85 %R	6/13/2023	% Rec	30 - 150	30	8082A
DCB (surr)	80 %R	81 %R	84 %R	6/13/2023	% Rec	30 - 150	30	8082A

*! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.



Maine Environmental Laboratory - Subcontract Chain of Custody

EAF 261674

Report To: J. Villinski
 Project: GZA 15061
 Email: sub-lab-reports@mel-lab.com
 Requested Due Date: 6/20/2023

Phone: (207) 846-6569

Project	Customer Sample ID	Matrix	Collected	Notes
GZA 15061	DSS-1-0-1'	SL - composite	6/8/2023 8:35	PCB - subcontracted PAHs (SVOCs)
GZA 15061	DSS-2-0-7'	SL - composite	6/8/2023 8:50	PCB - subcontracted PAHs (SVOCs)
GZA 15061	DSS-3-0-3-1'	SL - composite	6/8/2023 9:20	PCB - subcontracted PAHs (SVOCs)
GZA 15061	DSS-4-0-6-5'	SL - composite	6/8/2023 9:40	PCB - subcontracted PAHs (SVOCs)

Report Format & Comments:
 Quote: MEL3126101-25
 Standard
 Level II OC
 ME EGAD EDD
 EDD Project Name: "MMA-Dredge Sampling"
 NH DES EMD EDD

For'd 6/18/23 HEB

Relinquished	Francis Garrison	6/9/23	11:15	Erin Kallala	Received
Relinquished	Erin Kallala	6-9-23	1415	BAF	2-2-20
Relinquished					Received for 1



Pace Analytical Services, LLC.

1700 Elm Street

Minneapolis, MN 55414

Phone: 612.607.1700

Fax: 612.607.6444

Report Prepared for:

Susannah Miller
Maine Environmental Laboratory
One Main Street
Yarmouth ME 04096

**REPORT OF
LABORATORY
ANALYSIS FOR
PCDD/PCDF**

Report Information:

Pace Project #: 10657634

Sample Receipt Date: 06/15/2023

Client Project #: GZA 15061

Client Sub PO #: N/A

State Cert #: MN00064

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Kirsten Hogberg, your Pace Project Manager.

This report has been reviewed by:

June 29, 2023

Kirsten Hogberg, Project Manager

(612) 607-6407

(612) 607-6444 (fax)

kirsten.hogberg@pacelabs.com

Report Prepared Date:

June 29, 2023



Report of Laboratory Analysis

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The results relate only to the samples included in this report.



DISCUSSION

This report presents the results from the analyses performed on four samples submitted by a representative of Maine Environmental Laboratory. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using USEPA Method 1613B. The reporting limits were set to correspond to the lowest calibration points and a nominal 10-gram sample amount, and the sensitivity was verified by signal-to-noise measurements. The quantitation limits, adjusted for sample extraction amount, may be somewhat higher or lower than the reporting limits provided in this report. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations.

Second column confirmation analyses of 2,3,7,8-TCDF values obtained from the primary (DB5-MS) column are performed only when specifically requested for a project and only when the values are above the concentration of the lowest calibration standard. Typical resolution for this isomer using the DB5-MS column ranges from 25-30%.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 49-95%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits.

A laboratory spike sample was also prepared with the sample batch using clean reference matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 93-112%. These results were within the target ranges for the method. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

REPORT OF LABORATORY ANALYSIS

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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Missouri	10100
Alabama	40770	Montana	CERT0092
Alaska-DW	MN00064	Nebraska	NE-OS-18-06
Alaska-UST	17-009	Nevada	MN00064
Arizona	AZ0014	New Hampshire	2081
Arkansas - WW	88-0680	New Jersey	MN002
Arkansas-DW	MN00064	New York	11647
California	2929	North Carolina-	27700
Colorado	MN00064	North Carolina-	530
Connecticut	PH-0256	North Dakota	R-036
Florida	E87605	Ohio-DW	41244
Georgia	959	Ohio-VAP (170	CL101
Hawaii	MN00064	Ohio-VAP (180	CL110
Idaho	MN00064	Oklahoma	9507
Illinois	200011	Oregon-Primary	MN300001
Indiana	C-MN-01	Oregon-Second	MN200001
Iowa	368	Pennsylvania	68-00563
Kansas	E-10167	Puerto Rico	MN00064
Kentucky-DW	90062	South Carolina	74003
Kentucky-WW	90062	Tennessee	TN02818
Louisiana-DEQ	AI-84596	Texas	T104704192
Louisiana-DW	MN00064	Utah	MN00064
Maine	MN00064	Vermont	VT-027053137
Maryland	322	Virginia	460163
Michigan	9909	Washington	C486
Minnesota	027-053-137	West Virginia-D	382
Minnesota-Ag	via MN 027-053	West Virginia-D	9952C
Minnesota-Petr	1240	Wisconsin	999407970
Mississippi	MN00064	Wyoming-UST	via A2LA 2926.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444
www.pacelabs.com

Appendix A

Sample Management

REPORT OF LABORATORY ANALYSIS

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Pace



Maine Environmental Laboratory - Subcontract Chain of Custody

Report To: J. Villinski

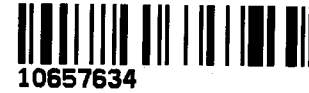
Email: sub-lab-reports@mel-lab.com

Phone: (207) 846-6569

Project: GZA 15061

Requested Due Date: 6/20/2023

WO#: 10657634



Project	Customer Sample ID	Matrix	Collected	Not
GZA	15061	DSS-1 0-11'	SL - composite	6/8/2023 8:35

Dioxin _____ 001

GZA	15061	DSS-2 0-7'	SL - composite	6/8/2023 8:50
-----	-------	------------	----------------	---------------

Dioxin _____ 002

GZA	15061	DSS-3 0-3.1'	SL - composite	6/8/2023 9:20
-----	-------	--------------	----------------	---------------

Dioxin _____ 003

GZA	15061	DSS-4 0-6.5'	SL - composite	6/8/2023 9:40
-----	-------	--------------	----------------	---------------

Dioxin _____ 004

Report Format & Comments:

Quote:

- Standard
- Level II QC
- ME EGAD EDD
- EDD Project Name: "MMA - Dredge Sampling"
- NH DES EMD EDD

Hande Garrison 6/14/23 10:16 am ~~10:00~~ mpa/pace 6/15/23 850 4.0

Relinquished _____ Date, Time _____ Received _____

Relinquished _____ Date, Time _____ Received _____

Relinquished _____ Date, Time _____ Received _____

DC#_Title: ENV-FRM-MIN4-0150 v13_Sample Condition Upon Receipt (SCUR)

Effective Date: 4/14/2023

Sample Condition Upon Receipt	Client Name: <u>Maine Env. Lab</u>	Project #:	WO#: 10657634
Courier: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Commercial		PM: KNH Due Date: 06/29/23 CLIENT: MAINE ENV	
Tracking Number: <u>6092 7237 3828</u>		<input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142	

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Biological Tissue Frozen? Yes No N/A
Packing Material: Bubble Wrap Bubble Bags None Other
 Temp Blank? Yes No
Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) T9(0727) 01339252/1710
 Type of Ice: Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Were All Container Temps Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: <u>4.2</u> °C		Average Corrected Temp (no temp blank only): _____ °C	
Correction Factor: <u>-0.2</u> Cooler Temp Corrected w/temp blank: <u>4.0</u> °C		<input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142 <input type="checkbox"/> 1 Container	

USDA Regulated Soil: (N/A, water sample/other: _____)
 Date/Initials of Person Examining Contents: MK4 6/15/23
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one):	Duluth	Minneapolis	Virginia	COMMENTS
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		6.
Sufficient Sample Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9.
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		11. If no, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in Methyl Mercury Container?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	13.
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
3 Trip Blanks Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____
Project Manager Review: Isaac Johnson **Date:** 6/15/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).
Labeled By: MK4 **Line:** 1



Pace Analytical Services, LLC
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Reporting Flags

- A = Reporting Limit based on signal to noise (EDL)
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- H2 = Extracted outside of holding time
- I = Isotope ratio out of specification
- J = Estimated value
- L = Suppressive interference, analyte may be biased low
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Appendix B

Sample Analysis Summary

REPORT OF LABORATORY ANALYSIS

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Method 1613B Sample Analysis Results

Client - Maine Environmental Laboratory

Client's Sample ID	GZA 15061 DSS-1 0-11'		
Lab Sample ID	10657634001		
Filename	Y230627A_06		
Injected By	SMT		
Total Amount Extracted	13.6 g	Matrix	Solid
% Moisture	20.6	Dilution	NA
Dry Weight Extracted	10.8 g	Collected	06/08/2023 08:35
ICAL ID	Y230607	Received	06/15/2023 08:50
CCal Filename(s)	Y230626B_16	Extracted	06/16/2023 15:55
Method Blank ID	BLANK-106895	Analyzed	06/27/2023 14:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.0	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	ND	----	1.0	2,3,7,8-TCDD-13C	2.00	58
				1,2,3,7,8-PeCDF-13C	2.00	70
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	70
				1,2,3,4,7,8-HxCDF-13C	2.00	68
1,2,3,7,8-PeCDF	ND	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	63
Total PeCDF	ND	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	61
				1,2,3,4,7,8-HxCDD-13C	2.00	58
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	62
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	53
				1,2,3,4,7,8,9-HpCDF-13C	2.00	54
1,2,3,4,7,8-HxCDF	ND	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	63
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	54
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37Cl4	0.20	56
1,2,3,6,7,8-HxCDD	ND	----	5.0			
1,2,3,7,8,9-HxCDD	ND	----	5.0			
Total HxCDD	13	----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 0.025 ng/Kg		
Total HpCDF	ND	----	5.0	(Lower-bound - Using MEDEP Factors)		
1,2,3,4,6,7,8-HpCDD	19	----	5.0			
Total HpCDD	76	----	5.0			
OCDF	ND	----	10			
OCDD	170	----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

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Method 1613B Sample Analysis Results

Client - Maine Environmental Laboratory

Client's Sample ID	GZA 15061 DSS-2 0-7'		
Lab Sample ID	10657634002		
Filename	Y230627A_07		
Injected By	SMT		
Total Amount Extracted	13.6 g	Matrix	Solid
% Moisture	15.6	Dilution	NA
Dry Weight Extracted	11.5 g	Collected	06/08/2023 08:50
ICAL ID	Y230607	Received	06/15/2023 08:50
CCal Filename(s)	Y230626B_16	Extracted	06/16/2023 15:55
Method Blank ID	BLANK-106895	Analyzed	06/27/2023 15:28

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.0	2,3,7,8-TCDF-13C	2.00	79
Total TCDF	ND	----	1.0	2,3,7,8-TCDD-13C	2.00	70
				1,2,3,7,8-PeCDF-13C	2.00	82
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	85
Total TCDD	ND	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	81
				1,2,3,4,7,8-HxCDF-13C	2.00	81
1,2,3,7,8-PeCDF	ND	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	74
Total PeCDF	ND	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	69
				1,2,3,4,7,8-HxCDD-13C	2.00	69
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	64
				1,2,3,4,7,8,9-HpCDF-13C	2.00	60
1,2,3,4,7,8-HxCDF	ND	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	ND	----	5.0			
1,2,3,7,8,9-HxCDD	ND	----	5.0			
Total HxCDD	6.7	----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 0.022 ng/Kg		
Total HpCDF	ND	----	5.0	(Lower-bound - Using MEDEP Factors)		
1,2,3,4,6,7,8-HpCDD	18	----	5.0			
Total HpCDD	73	----	5.0			
OCDF	ND	----	10			
OCDD	180	----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

ND = Not Detected
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Method 1613B Sample Analysis Results

Client - Maine Environmental Laboratory

Client's Sample ID	GZA 15061 DSS-3 0-3.1'		
Lab Sample ID	10657634003		
Filename	Y230627A_08		
Injected By	SMT		
Total Amount Extracted	17.6 g	Matrix	Solid
% Moisture	45.6	Dilution	NA
Dry Weight Extracted	9.59 g	Collected	06/08/2023 09:20
ICAL ID	Y230607	Received	06/15/2023 08:50
CCal Filename(s)	Y230626B_16	Extracted	06/16/2023 15:55
Method Blank ID	BLANK-106895	Analyzed	06/27/2023 16:12

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	5.1	----	1.0	2,3,7,8-TCDF-13C	2.00	89
Total TCDF	29	----	1.0	2,3,7,8-TCDD-13C	2.00	74
				1,2,3,7,8-PeCDF-13C	2.00	93
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	93
Total TCDD	4.7	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	95
				1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	6.9	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	74
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	77
Total PeCDF	28	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	71
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	75
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	67
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	9.5	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	62
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	67	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	15	----	5.0			
1,2,3,7,8,9-HxCDD	8.7	----	5.0			
Total HxCDD	84	----	5.0			
1,2,3,4,6,7,8-HpCDF	63	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 2.9 ng/Kg		
Total HpCDF	150	----	5.0	(Lower-bound - Using MEDEP Factors)		
1,2,3,4,6,7,8-HpCDD	350	----	5.0			
Total HpCDD	650	----	5.0			
OCDF	120	----	10			
OCDD	3100	----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

ND = Not Detected
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 NC = Not Calculated

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Method 1613B Sample Analysis Results

Client - Maine Environmental Laboratory

Client's Sample ID	GZA 15061 DSS-4 0-6.5'		
Lab Sample ID	10657634004		
Filename	Y230627A_09		
Injected By	SMT		
Total Amount Extracted	15.4 g	Matrix	Solid
% Moisture	24.1	Dilution	NA
Dry Weight Extracted	11.6 g	Collected	06/08/2023 09:40
ICAL ID	Y230607	Received	06/15/2023 08:50
CCal Filename(s)	Y230626B_16	Extracted	06/16/2023 15:55
Method Blank ID	BLANK-106895	Analyzed	06/27/2023 16:55

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.1	----	1.0	2,3,7,8-TCDF-13C	2.00	89
Total TCDF	8.7	----	1.0	2,3,7,8-TCDD-13C	2.00	73
				1,2,3,7,8-PeCDF-13C	2.00	88
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	5.2	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	88
				1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	ND	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	79
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	ND	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	73
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	60
1,2,3,4,7,8-HxCDF	ND	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	6.1	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	ND	----	5.0			
1,2,3,7,8,9-HxCDD	ND	----	5.0			
Total HxCDD	15	----	5.0			
1,2,3,4,6,7,8-HpCDF	9.3	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 0.25 ng/Kg		
Total HpCDF	28	----	5.0	(Lower-bound - Using MEDEP Factors)		
1,2,3,4,6,7,8-HpCDD	45	----	5.0			
Total HpCDD	100	----	5.0			
OCDF	22	----	10			
OCDD	450	----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

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Method 1613B Blank Analysis Results

Lab Sample Name	DFBLKWT	Matrix	Solid
Lab Sample ID	BLANK-106895	Dilution	NA
Filename	Y230627A_05	Extracted	06/16/2023 15:55
Total Amount Extracted	10.5 g	Analyzed	06/27/2023 14:02
ICAL ID	Y230607	Injected By	SMT
CCal Filename(s)	Y230626B_16		

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.0	2,3,7,8-TCDF-13C	2.00	79
Total TCDF	ND	----	1.0	2,3,7,8-TCDD-13C	2.00	67
				1,2,3,7,8-PeCDF-13C	2.00	87
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	ND	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	87
				1,2,3,4,7,8-HxCDF-13C	2.00	88
1,2,3,7,8-PeCDF	ND	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	78
				1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	76
				1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	ND	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	80
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	66
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37CI4	0.20	64
1,2,3,6,7,8-HxCDD	ND	----	5.0			
1,2,3,7,8,9-HxCDD	ND	----	5.0			
Total HxCDD	ND	----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	5.0	(Lower-bound - Using MEDEP Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	5.0			
Total HpCDD	ND	----	5.0			
OCDF	ND	----	10			
OCDD	ND	----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

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Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-106896	Matrix	Solid
Filename	Y230627A_01	Dilution	NA
Total Amount Extracted	10.3 g	Extracted	06/16/2023 15:55
ICAL ID	Y230607	Analyzed	06/27/2023 11:10
CCal Filename	Y230626B_16	Injected By	SMT
Method Blank ID	BLANK-106895		

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDF	10	10	7.5	15.8	105
2,3,7,8-TCDD	10	11	6.7	15.8	108
1,2,3,7,8-PeCDF	50	48	40.0	67.0	97
2,3,4,7,8-PeCDF	50	46	34.0	80.0	93
1,2,3,7,8-PeCDD	50	48	35.0	71.0	96
1,2,3,4,7,8-HxCDF	50	48	36.0	67.0	97
1,2,3,6,7,8-HxCDF	50	50	42.0	65.0	101
2,3,4,6,7,8-HxCDF	50	49	35.0	78.0	97
1,2,3,7,8,9-HxCDF	50	50	39.0	65.0	100
1,2,3,4,7,8-HxCDD	50	54	35.0	82.0	107
1,2,3,6,7,8-HxCDD	50	47	38.0	67.0	95
1,2,3,7,8,9-HxCDD	50	51	32.0	81.0	101
1,2,3,4,6,7,8-HpCDF	50	50	41.0	61.0	100
1,2,3,4,7,8,9-HpCDF	50	50	39.0	69.0	99
1,2,3,4,6,7,8-HpCDD	50	47	35.0	70.0	94
OCDF	100	110	63.0	170.0	108
OCDD	100	110	78.0	144.0	112
2,3,7,8-TCDD-37Cl4	10	5.3	3.1	19.1	53
2,3,7,8-TCDF-13C	100	63	22.0	152.0	63
2,3,7,8-TCDD-13C	100	56	20.0	175.0	56
1,2,3,7,8-PeCDF-13C	100	72	21.0	192.0	72
2,3,4,7,8-PeCDF-13C	100	72	13.0	328.0	72
1,2,3,7,8-PeCDD-13C	100	71	21.0	227.0	71
1,2,3,4,7,8-HxCDF-13C	100	67	19.0	202.0	67
1,2,3,6,7,8-HxCDF-13C	100	65	21.0	159.0	65
2,3,4,6,7,8-HxCDF-13C	100	67	22.0	176.0	67
1,2,3,7,8,9-HxCDF-13C	100	64	17.0	205.0	64
1,2,3,4,7,8-HxCDD-13C	100	60	21.0	193.0	60
1,2,3,6,7,8-HxCDD-13C	100	62	25.0	163.0	62
1,2,3,4,6,7,8-HpCDF-13C	100	61	21.0	158.0	61
1,2,3,4,7,8,9-HpCDF-13C	100	60	20.0	186.0	60
1,2,3,4,6,7,8-HpCDD-13C	100	66	26.0	166.0	66
OCDD-13C	200	110	26.0	397.0	56

Cs = Concentration Spiked (ng/mL)

Cr = Concentration Recovered (ng/mL)

Rec. = Recovery (Expressed as Percent)

Control Limit Reference: Method 1613, Table 6, 10/94 Revision

R = Recovery outside of control limits

Nn = Value obtained from additional analysis

* = See Discussion

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