

**NW Natural ISS Lab Pilot Treatability Study Investigation  
Gasco Sediments Site – Spring 2023  
Field Change Request Form**

**Project Name:** Gasco Sediments Site      **Subconsultant:** Marine Sampling Services

**Field Activity:** Treatability study core collection      **Request Number:** 2

**To:** Hunter Young, U.S. Environmental Protection Agency      **Date:** March 28, 2023

**Field Change Request (FCR) Title:** Treatability study core location acceptance without PTW-NAPL

**Description**

Section 2.1 of the *Revised In Situ Stabilization and Solidification Bench Scale Treatability Study Work Plan* (Work Plan) states that a primary objective of the treatability study is to perform bench scale testing using samples with a range of representative grain sizes that contain principal threat waste (PTW)-nonaqueous phase liquids (NAPL). Existing sediment locations with PTW-NAPL within the proposed in situ stabilization and solidification (ISS) treatment zone were identified using the site-specific definition of PTW-NAPL based on visual observations, as defined in the U.S. Environmental Protection Agency (EPA)-approved *Revised Pre-Remedial Design Data Gaps Work Plan* (Anchor QEA 2019). Proposed treatability study location ISSTS-002 was collocated with historical core location LW2-C278 that was collected in October 2004 as part of the Portland Harbor RI/FS characterization. The core log for LW2-C278 identified “free product lenses between 174-185 cm” and the presence of evenly mixed sands and silts.

Anchor QEA completed core processing at the treatability testing location ISSTS-002 on March 23, 2023. The target sampling depth interval at this location was 4 to 8 feet with target physical characteristics containing an even mix of fine-grained (silts) and coarse-grained (sands), presence of PTW-NAPL, and visible and olfactory signs of contamination. Anchor QEA logged a total of seven cores (six accepted and one rejected) at this location and confirmed the presence of mixed silts/clays/sands with visual and olfactory signs of contamination, but no PTW-NAPL was identified. Anchor QEA completed logging of the remainder of the treatability study locations and all contained the target conditions in ISSTS-002 (i.e., a mixture of silts and sands with the presence of PTW-NAPL and visible and olfactory signs of contamination).

**Recommended Change**

Anchor QEA proposes to accept location ISSTS-002 for treatability testing based on the following multiple lines of evidence evaluation results:

1. As shown in Figures 2-1a through 2-2d of the Work Plan, the target grain size and visual and olfactory signs of contamination are representative of large portions of the Gasco Sediments Site Project Area that do not contain PTW-NAPL, but do contain non-mobile forms of tar-impacted contamination. As stated in EPA General Comment 3 in Appendix E of the Work Plan, these non-mobile forms “also represent sources of highly concentrated contamination with the potential to contribute to long-term leaching” and should be considered for treatability study testing.
2. No other locations were identified in Figures 2-2a through 2-2d of the Work Plan that contain an even mix of silts and sands that contained PTW-NAPL, so no alternative sampling locations can be identified.
3. A representative range of grain sizes (high fines to high sands) containing the presence of PTW-NAPL and visual and olfactory signs of contamination will be tested at locations ISSTS-001, ISSTS-003, and ISSTS-004.
4. As discussed in response to EPA General Comment 8 in Appendix E of the Work Plan, higher fines samples (i.e., those collected at ISSTS-001) require the greatest level of consideration for ISS to ensure increased strength while also reducing permeability.

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Nik Bacher

**Respondent Field Coordinator (or Designee)**



**Signature**

March 28, 2023

**Date**

**Approval:**

Ryan Barth

**Respondent Project Lead**



**Signature**

March 28, 2023

**Date**

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