TECHNICAL MEMORANDUM



TO:

Liu, Jing, Washington State Department of Ecology

FROM:

Jeremy Davis, P.E., C.H.M.M., and Larry Beard, P.E., L.G.

DATE:

June 3, 2014

RE:

BOUNDARY FISH INTERIM ACTION - COMPLETION REPORT

WESTMAN MARINE SITE BLAINE, WASHINGTON

This technical memorandum summarizes the completion of the interim action conducted by the Port of Bellingham (Port) to remediate contaminated soil encountered during construction of a new building located partially within the preliminary boundary of the Westman Marine site (Site) in Blaine, Washington (Figure 1). A remedial investigation/feasibility study (RI/FS) is currently underway for the Site under Agreed Order No. DE-9001 (AO) between the Port and the Washington State Department of Ecology (Ecology). The interim action was conducted in accordance with the Washington State Model Toxics Control Act (MTCA) regulations that address interim actions [Washington Administrative Code (WAC) 173-340-430], and in accordance with the approved Interim Action Plan (IAP; Landau Associates 2013).

The Port investigated environmental conditions in the Boundary Fish construction area (Figure 2) and determined that heavy metals, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and diesel-range petroleum hydrocarbons were present in soil at concentrations greater than Site soil screening levels (SLs). The results of the investigation are presented in the IAP along with a discussion of the regulatory basis for conducting the interim action. The MTCA distinguishes an interim action from a cleanup action in that an interim action only partially addresses the cleanup of a site and satisfies one of the following conditions [WAC 173-340-430(1)]:

- Is technically necessary to reduce the threat to human health and the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance [WAC 173-340-430(1)(a)]
- Corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed [WAC 173-340-430(1)(b)]
- Is needed to complete a site hazard assessment, remedial investigation/feasibility study, or design a cleanup action [WAC 173-340-430(1)(c)].

An interim action must also meet one of the following general requirements [WAC 173-340-430(2)]:

- Achieve cleanup standards for a portion of the Site
- Provide a partial cleanup (clean up hazardous substances from all or part of the Site, but not achieve cleanup standards)

• Provide a partial cleanup and not achieve cleanup standards, but provide information on how to achieve cleanup standards.

The interim action was deemed necessary to effectively address the contamination prior to the Port's tenant constructing the building. The Port presented an evaluation of several alternative actions and selection of the proposed action in the IAP. Ecology determined that the action would meet the requirements of MTCA described above by reducing the threat to human health and the environment through eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, as well as correcting a problem that may become substantially worse or more difficult to remediate if action was delayed. Ecology published the IAP and, after holding a public comment period, authorized the Port to proceed with the interim action by removing the contaminated soil, and disposing of the material off site at an appropriate solid waste facility.

The Port excavated the contaminated soil from the construction area based on the analytical results of compliance monitoring soil samples collected both before and after the excavation activities. The iterative process of reviewing compliance monitoring data and conducting additional excavations based on those data resulted in three separate excavation events occurring in October 2013. The excavated soil was temporarily stockpiled on Port property in the vicinity of the Site. The soil was stockpiled on top of plastic sheeting and was completely covered with plastic sheeting secured with sandbags to prevent stormwater contact with the potentially contaminated soil.

The process of developing an approved IAP and allowing for public comments resulted in a temporary stockpile storage time of greater than 90 days. As a result, Whatcom County Health Department personnel visited the Site to confirm the stockpile storage met the performance standards of WAC 173-350-040 and, in February 2014, provided an extension of the 90-day temporary storage period allowing the Port additional time to remove and dispose of the waste.

After receiving an approved waste disposal profile from Republic Services to dispose of the soil as solid waste, the Port contracted with Strider Construction to load the soil stockpile into transport containers and haul the soil to the Ferndale Intermodal Facility for transport to the Roosevelt Regional Landfill in Roosevelt, Washington. The contaminated soil was loaded and transported to the Ferndale Intermodal Facility on March 27 and 28, 2014. Weight tickets for each container are provided in Appendix A and show that in total, about 420 tons of soil was disposed of at the landfill.

As discussed in the IAP, compliance monitoring indicated that a small amount of cPAH-contaminated soil, and possibly metals-contaminated soil, was left in place in the southeast corner of the Boundary Fish building footprint. However, the SLs for metals were developed for the protection of groundwater and preliminary data in the vicinity indicates groundwater is not impacted. As a result, the SLs for metals may be revised upward during the RI/FS process and the residual concentrations may not

exceed final cleanup levels selected by Ecology for the Site. Additionally, the SL for cPAHs is based on protecting human health from direct contact and the new building likely provides an effective barrier to prevent this exposure pathway. These residual concentrations are discussed in the IAP and the Remedial Investigation Upland Data Summary technical memorandum (Landau Associates 2014). Residual soil contamination in the Boundary Fish building area will be further evaluated in the RI and FS reports.

REFERENCES

Landau Associates. 2013. Technical Memorandum: *Boundary Fish Interim Action Plan, Westman Marine Site, Blaine, Washington*. From Larry Beard, P.E., to Jing Liu, Washington State Department of Ecology. December 19.

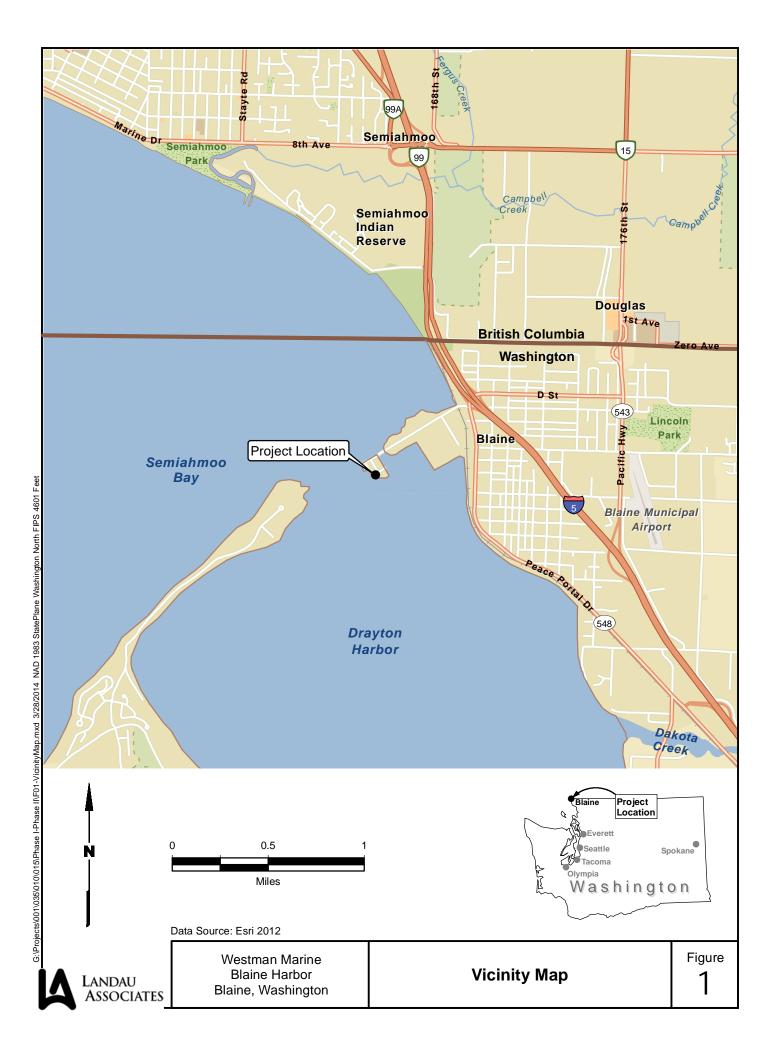
Landau Associates. 2014. Technical Memorandum: *Remedial Investigation Upland Data Summary, Westman Marine Site, Blaine, Washington*. From Larry Beard, P.E., to Jing Liu, Washington State Department of Ecology. February 4.

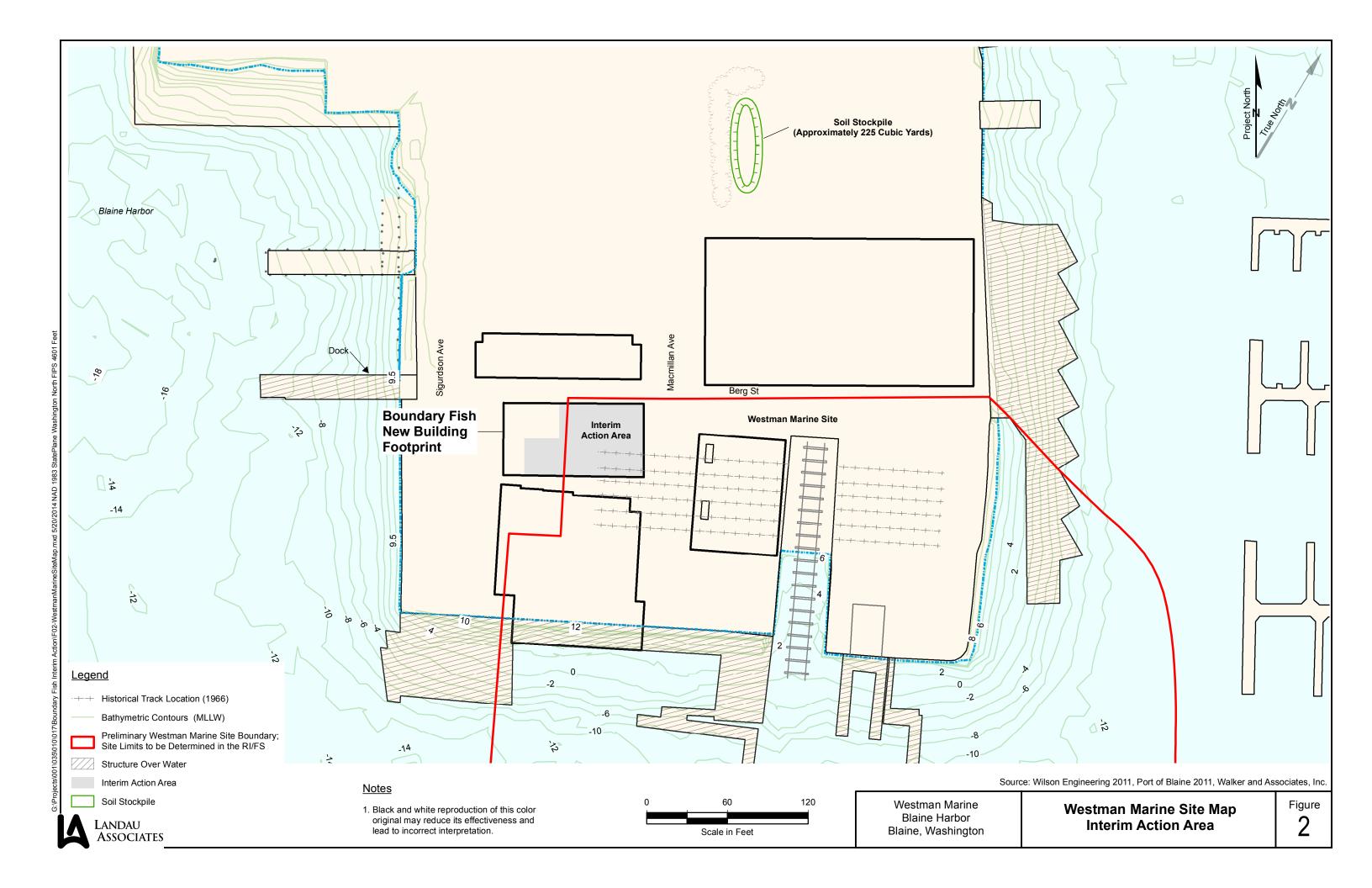
ATTACHMENTS

Figure 1: Vicinity Map

Figure 2: Westman Marine Site Map – Interim Action Area

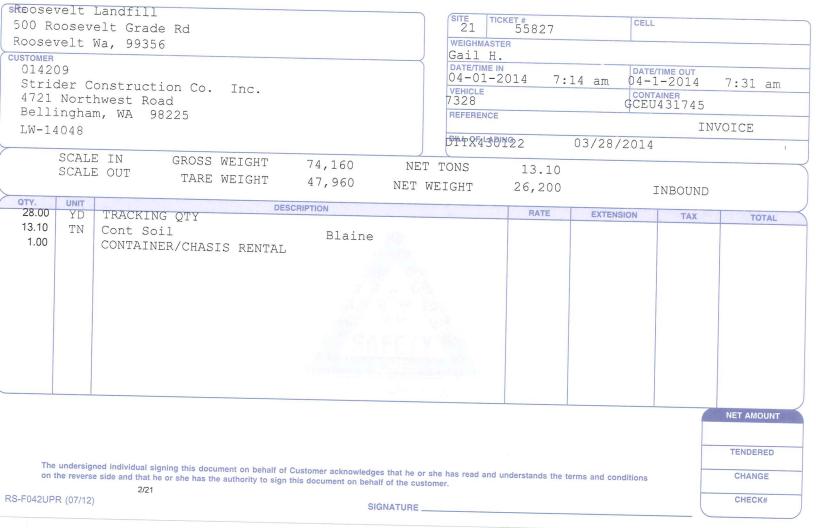
Attachment 1: Disposal Documentation



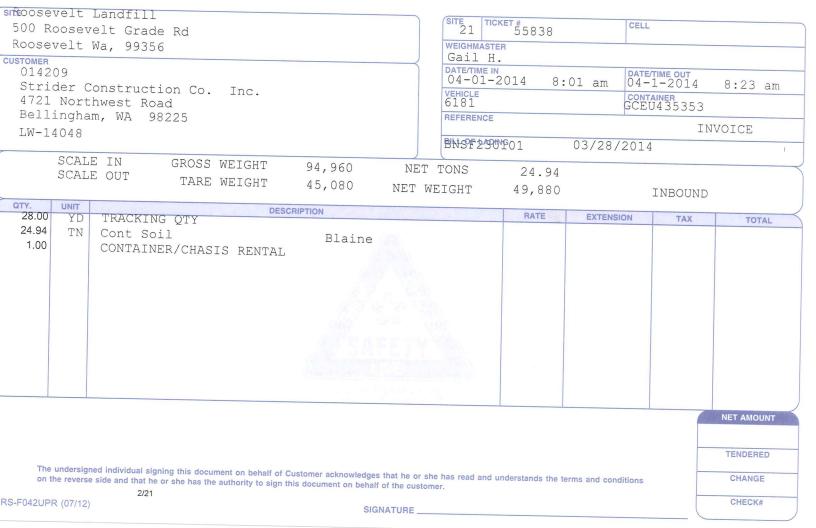


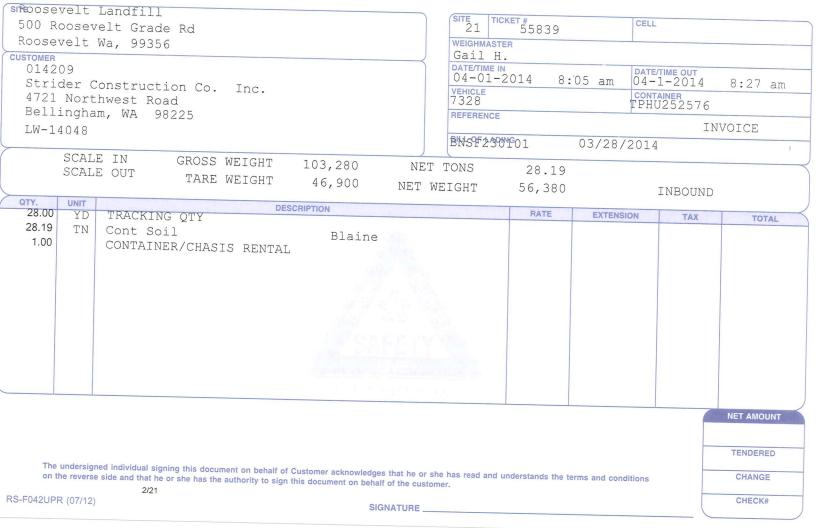
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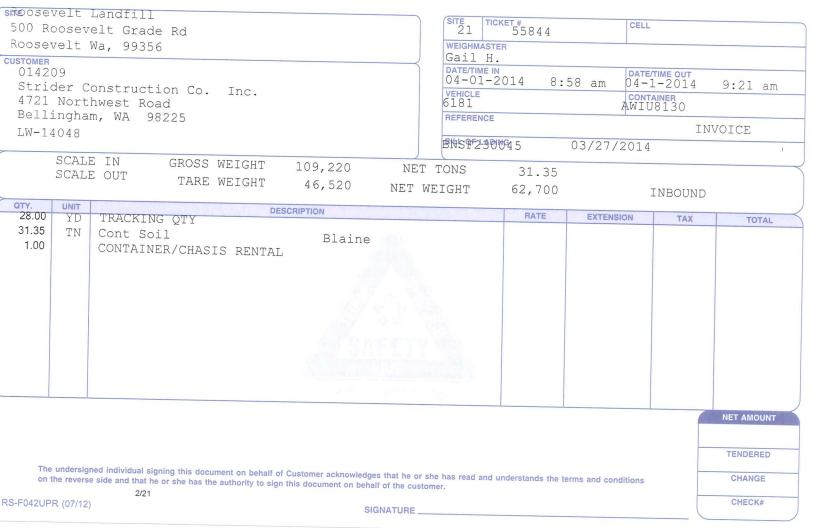


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