

Commencement Bay Nearshore/Tideflats Superfund Site - Asarco Marine Sediments and Groundwater Operable Unit (OU 06)**Site Description**

The Asarco Site (the site) is part of the Commencement Bay Nearshore/Tideflats Superfund Site (CB/NT Site) in Tacoma, Washington. The site is located on the western shore of Commencement Bay and includes four Operable Units (OUs) associated with the Tacoma Smelter Facility: OU 02, Asarco Tacoma Smelter and Breakwater Peninsula; OU 04, Asarco Off-Property (Ruston/North Tacoma Study Area); OU 06, Asarco Sediments/Groundwater; and OU 07, Asarco Demolition. This summary discusses OU 02 (Smelter Site) and OU 06. OU 06 encompasses the groundwater beneath OU 02, approximately 150 acres of offshore intertidal and subtidal lands, and the Yacht Basin, which is formed by the Slag Peninsula. The primary media at OU 06 that are impacted by constituents of concern (COCs) include sediments and groundwater. OU 06 marine sediments extend from the Smelter Site to approximately 1,000 feet offshore into Commencement Bay. Water within OU 06 in the Yacht Basin reaches depths of approximately 300 feet and serves as a navigational route. The Basin is located offshore of the Slag Peninsula.

Site History

- March 2002 - U.S. Environmental Protection Agency (EPA) issued a unilateral order to Asarco to implement the selected remedy outlined in the July 2000 Asarco Sediment/Groundwater OU 06 Record of Decision (ROD).
- September 2004 - Asarco completed the Remedial Design for OU 06.
- December 2004 - Commencement Bay Nearshore/Tideflats Superfund Site Five-Year Review was released.
- August 2006 – Final Statement of Work (SOW) for OU 02 and OU 06 was issued (EPA, 2006).
- January 2007 – A second amendment to the Consent Decree (CD) to cover OU 02 and OU 06 was entered. The CD was originally entered into on January 3, 1997 and first amended in November 2000 to add significant stipulated penalties for Asarco's failure to achieve specified milestone dates (EPA, 2007a).

Potential Responsible Parties

As Asarco Inc. merged into Asarco LLC in 2005, Asarco LLC became one of the responsible parties. The second responsible party is Point Ruston (owned by MC Construction Consultants, LLC [MC Construction]), which purchased 97 acres of the site in 2006 and assumed cleanup obligations.

Threats and Contaminants

The COCs include arsenic, cadmium, copper and lead (EPA, 2007b).

Cleanup Approach Update Since 2004

The July 2000 ROD outlined the selected remedies for the marine sediments at OU 06 (EPA, 2000), which include the following:

- “Capping is the Selected Remedy for the Nearshore/Offshore (Alternative S-1C) and Northshore (Alternative S-3C) areas. Capping is the Selected Remedy because it will isolate contaminated materials from the benthic organisms. Approximately 88,000 square yards (18 acres) of existing contaminated sediments within the severely impacted portion of the Nearshore/Offshore area (including the sediment under and adjacent to the existing piers) will be capped with a minimum of 3 feet of clean sediment. Approximately 7,000 square yards (1.5 acres) of the severely impacted portion of the Northshore area will also be capped with a minimum of 3 feet of clean sediment. The borrow source(s) for the cap material will be determined during remedial design and will originate from either a marine (in-water) or upland source. The cap will be designed such that it provides chemical isolation, is physically stable, and provides a cap surface that allows recolonization of benthic communities. The results of a capping pilot study will be considered during the remedial design process.
- The Selected Remedy for the Yacht Basin is dredging and upland disposal. Dredging is the Selected Remedy for the Yacht Basin because it would remove the contaminated material. Dredging was also selected because capping in the marina is not possible because the cap would interfere with and be damaged by navigation. An area approximately 75,000 square yards (15.5 acres) will be dredged in the Yacht Basin. It is estimated that approximately 1 to 2 feet of material (up to 50,000 cubic yards) will require

removal. Dredging will occur to depth of approximately 25 feet. Post-dredging confirmatory sampling will also be required to verify that contaminated sediments have been adequately removed. If all of the contaminated sediments in the Yacht Basin cannot be practicably dredged or if slag is encountered, then the remaining contaminated sediment areas will be capped in place to the extent practicable. The dredged material will be contained upland in OU 02; redevelopment activities have reserved capacity for these dredged spoils. Redevelopment includes site grading and the installation of a low-permeability soil cap that will contain the sediments dredged from the Yacht Basin.

- Material dredged from the Yacht Basin will be contained temporarily on the upland portion of the Facility and dewatered. Dewatered sediments will be permanently contained in an upland location in the central part of the Facility. Sediments contained in the upland location will be permanently covered with the low-permeability cap being installed across the Facility under the OU 02 remedial action. Effluent derived from the dewatering of dredged material will be discharged into the Yacht Basin or into Commencement Bay in accordance with best management practices and applicable water quality requirements.
- Monitor the sediment caps to confirm that they remain in place, continue to isolate the underlying contaminated sediment, become recolonized with healthy biological communities, and do not become recontaminated."

The July 2000 ROD total estimated cost for the groundwater and marine sediment remedies was \$19.2 million, which was divided into four parts (EPA, 2000):

- Groundwater remedy - Institutional controls and long-term monitoring = \$1.8 million.
- Marine sediment remedy - Nearshore/Offshore Area = \$11.6 million.
- Marine sediment remedy - Yacht Basin = \$5.1 million.
- Marine sediment remedy - Northshore Area = \$0.7 million.

The July 2000 ROD estimated costs are still applicable currently because the costs were inflated initially (EPA, 2008).

In February 2005, Asarco Inc. merged into Asarco LLC, and Asarco LLC assumed all cleanup obligations outlined in the CD and its amendment. In August 2005, Asarco LLC filed for chapter 11 Bankruptcy. Prior to filing for bankruptcy, Asarco Inc. and Asarco LLC had performed the following remedial activities: 3,700 feet of shoreline armoring on the southern end of the Smelter Site and on the Slag Peninsula (Point Ruston is responsible for armoring the remaining 2,200 feet of the smelter shoreline [middle shoreline]); a 100 meter long by 35 meter wide sediment cap using dredged material from the outer edge of the Puyallup River Delta was placed on the bay side of the Ore Dock, one-half of the cap was 1 foot deep and the second half was 2 feet deep; and Yacht Basin dredging design (EPA, 2008).

In December 2005, Asarco LLC entered into an agreement with MC Construction to sell approximately 97 acres of its real property, located in Tacoma and Ruston, Washington. The purchased property includes parts of both OU 02 and OU 06. Prior to the closing of the sale, MC Construction provided Asarco LLC with a document issued by EPA stating their approval of the transfer of liability. On January 30, 2006, the Bankruptcy Court approved the sale of the Smelter Property to MC Construction. MC Construction subsequently transferred its rights under the Tacoma Purchase Agreement to Point Ruston, a limited liability company in Washington. Point Ruston intends to develop the property as a residential mixed-use (EPA, 2007a).

In August 2006, a Second Amendment to the CD was lodged for the remaining cleanup work at OU 06; it was entered into in January 2007 (EPA, 2007a). This Second Amendment to the CD established that Point Ruston would assume the cleanup obligations on the purchased property, as well as certain cleanup obligations at the site on property that was not owned by Asarco LLC, but that is adjacent to the purchased property. Additionally, the Second Amendment stated that the U.S. would release the lien on property for a payment of \$1,500,000 at the time of closing, and would require contingent payments that total \$4,000,000 based on revenue from the development of the property (EPA, 2007a).

In August 2006, the Final SOW for Remedial Design and Remedial Action, Commencement Bay Nearshore/Tideflats Superfund Site OU 02 – Asarco Tacoma Smelter Facility and Slag Peninsula and OU 06 – Marine Sediments and Groundwater Ruston and Tacoma, Washington was released (EPA, 2006). The SOW presents the remedial actions selected in the ROD that Point Ruston must implement. The design and implementation of the OU 06 remedial actions were divided into Groundwater Remediation, Nearshore/Offshore Sediment Capping, and Yacht Basin Dredging. The ROD for OU 06 (EPA, 2000) supported remedial

alternatives being performed as part of the Smelter Site remediation, such as capping the Smelter Site, and diverting groundwater. Asarco completed a design for OU 06, but did not implement a remedy. The remaining remediation activities for OU 06, which include capping impacted sediments, dredging the Yacht Basin, and monitoring groundwater and surface water, are described below (EPA, 2006):

- Install an 18-acre cap of clean fill over the nearshore/offshore sediment areas, with a minimum thickness of three feet.
- Perform long-term monitoring of the sediment cap to confirm that it remains in place, continues to isolate the underlying impacted sediments and does not become re-impacted with site chemicals.
- Excavate the shallow nearshore sediments from the Yacht Basin and place the excavated sediments under the upland cap.
- Monitor the groundwater to evaluate the long-term effects that remedial activities could have on the future groundwater quality.
- Monitor surface water to ensure that the sediment cap is not re-impacted, and that surface water discharge requirements are met.

In late 2006, Point Ruston placed 10.5 acres of the 18 acre Smelter Site sediment cap. The sediment used for the 10.5 acre portion of the cap was a mixture of sand and silt from the Port of Tacoma waterway dredging event. The placement and material for the remainder of the cap is currently under discussion (EPA, 2008).

References

Environmental Protection Agency (EPA. 2000. Record of Decision - Commencement Bay Nearshore/Tideflats Superfund Site, Asarco Sediments/Groundwater Operable Unit 06, Ruston and Tacoma, Washington, July 2000. (<http://www.epa.gov/r10earth/offices/oec/Ou6rod.pdf>)

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