Commencement Bay Nearshore/ Tideflats Superfund Site

Asarco Sediments/Groundwater Operable Unit 06 Ruston and Tacoma, Washington

Record of Decision

July 2000

Site Name and Location

Commencement Bay Nearshore/Tideflats (CB/NT) Superfund Site

Asarco Sediments/Groundwater Operable Unit 06

Tacoma and Ruston, Washington

U.S. Environmental Protection Agency (EPA) ID No. WAD980726368

Statement of Basis and Purpose

This decision document presents the Selected Remedy for Asarco Sediments/Groundwater Operable Unit 06 (OU 06) in Tacoma and Ruston, Washington. The Selected Remedy was chosen in accordance with Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Contingency Plan (NCP). This decision is based on the Administrative Record for this Site.

The State of Washington Department of Ecology (Ecology) concurs with the Selected Remedy.

Assessment of the Site

The response action selected in this Record of Decision (ROD) is necessary to protect public health, welfare, or the environment from actual or threatened releases of hazardous substances into the environment. Such a release or threat of release may present an imminent and substantial endangerment to public health, welfare, or the environment.

Description of the Selected Remedy

The Asarco Sediment/Groundwater Operable Unit (OU 06) Site ("Site") is one of the operable units that specifically addresses contamination coming from, or related to, the Asarco Smelter Facility ("Facility") in Ruston and Tacoma, Washington. The Selected Remedy for the Asarco Sediments/Groundwater Operable Unit 06 includes the following elements:

Groundwater

Groundwater at the Asarco Facility was originally studied in an RI/FS concluded in 1993 (Hydrometrics, August 1993). The Asarco Tacoma Smelter ROD (OU 02 ROD) identified the selected remedy for onsite waste materials, contaminated soil, and surface water (EPA, 1995). However, the OU 02 ROD deferred a remedy decision for groundwater and called for further monitoring. This ROD for OU 06 identifies the Selected Remedy for groundwater.

Although the Selected Remedy for groundwater was not addressed by the OU 02 ROD, a number of elements in the OU 02 remedy will directly benefit groundwater quality. These elements include capture of shallow groundwater in selected areas, construction of a low-

permeability cap across the Facility, and excavation of the most highly contaminated source materials (selected slag material and contaminated soils) and consolidation of these materials into an On-site Contaminant Facility. These OU 02 remedy elements will (1) remove a significant source of contamination that would otherwise impact groundwater quality and (2) significantly reduce the flow of contaminated groundwater to Commencement Bay by minimizing recharge of the shallow aquifer system (e.g., surface water controls and the low-permeability cap will reduce infiltration).

EPA has determined that additional remedial actions, over and above those already being implemented under OU 02, are not necessary to address groundwater under this ROD for OU 06. As a result this ROD summarizes the elements of the remedy for OU 02 that will benefit groundwater and identifies other elements of the groundwater remedy not previously addressed. These other remedy elements include finalization of the groundwater remedial action objectives (RAOs), identification of cleanup levels and groundwater point of compliance, and long-term monitoring requirements.

Specifically, the Selected Remedy for groundwater, as represented by the RODs for OU 02 and OU 06, includes the following elements:

- Reduce groundwater flow and related contaminant loading to Commencement Bay by removing the most significant source materials and limiting groundwater recharge to aquifers beneath the smelter portion of the Facility. Groundwater control will be achieved by intercepting groundwater with subsurface drains in selected locations, diverting surface water and installing a low-permeability cap over the smelter portion of the Facility. These controls will minimize infiltration and recharge of onsite aquifers. (These remedy elements are being accomplished under OU 02 cleanup.)
- Continue to monitor groundwater to evaluate the long-term effects that the Facility cleanup will have on future groundwater quality. (Addressed for the first time in this ROD for OU 06.)
- Implement institutional controls to restrict future use of Facility groundwater. (Addressed for the first time in this ROD for OU 06.)

Sediment

The Selected Remedy for marine sediments includes the following elements:

- Dredge contaminated sediment in the Yacht Basin and place the dredged sediment beneath a low-permeability soil cap to be constructed on the upland portion of the Facility (i.e., OU 02). The sediments will be contained under the low-permeability cap at an elevation such that groundwater will not come in contact with the sediment.
- Monitor the dredged area in the Yacht Basin to verify that it does not become recontaminated.
- Cap contaminated sediments in selected offshore areas.
- 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.

- Use institutional controls to prevent activities that could damage the sediment caps.
- Monitor the areas outside the capped and dredged areas to confirm that these areas meet RAOs.

The Selected Remedy for the Asarco Sediments/Groundwater OU 06 has been chosen to complement the remedy previously selected for OU 02 (EPA, March 1995). The OU 02 remedy is currently being implemented.

Statutory Determinations

The Selected Remedy is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable with the following exceptions. The federal National Toxics Rule (NTR) standard for arsenic of 0.14 µg/L (40 CFR Section 131.36) is a relevant and appropriate requirement for groundwater but is being waived for reasons discussed in Part II of this ROD (Section 12.1.1 of the Decision Summary).

The Selected Remedy for OU 06 does not satisfy the statutory preference for treatment as a principal element of the remedy for the following reasons:

- **Groundwater.** Groundwater treatment is not viable or cost-effective because source materials remain on the Site. Further, a pump and treat remedy for containment purposes would be inefficient due to the direct hydraulic connection that the Site aquifers have with the waters of Commencement Bay. Treatment would require groundwater extraction in perpetuity at very high pumping rates. The most significant source of groundwater contamination is the slag material that is present below the water table throughout most of the Facility. This source material will continue to leach contaminants to groundwater. The Selected Remedy focuses on restricting recharge to, and flow through, the affected water-bearing zones such that the volume of groundwater discharged to Commencement Bay is reduced to the maximum extent practicable.
- **Sediments.** Treatment technologies were evaluated for possible application to sediment cleanup, but were not carried forward because: (1) there are currently no effective and appropriate *in situ* treatment technologies (i.e., treating in place) for sediments similar to those at the Site, and (2) any *ex situ* treatment would require significant material handling (e.g., dredging, de-watering, transporting, processing) and treatment processing at extreme cost (e.g., construction costs could be as high as $75 million to $100 million), with little or no additional benefit to the effectiveness of the remedy.

Because the Selected Remedy will result in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

Data Certification Checklist

The following information is included in the Decision Summary of this ROD (Part 2). Additional information can be found in the Administrative Record for this Site.

- Chemicals of concern and their respective concentrations—**Sections 5 and 7**.
- Baseline risk represented by the chemicals of concern—**Section 7**.
- Cleanup levels established for chemicals of concern and the basis for these levels—**Section 12**.
- How source materials constituting principal threats are addressed—**Section 11**.
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD—**Sections 6 and 7**.
- Potential land and groundwater use that will be available at the Facility as a result of the Selected Remedy—**Section 6**.
- Estimated capital, annual operation and maintenance (O&M), and total present worth costs, and the number of years over which the remedy cost estimates are projected—**Sections 9 and 12**.
- Key factors that led to selecting the remedy—**Section 12**.

Authorizing Signature

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Chuck Findley
Acting Regional Administrator

Date

[Original signed by Chuck Findley on July 14, 2000]