STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

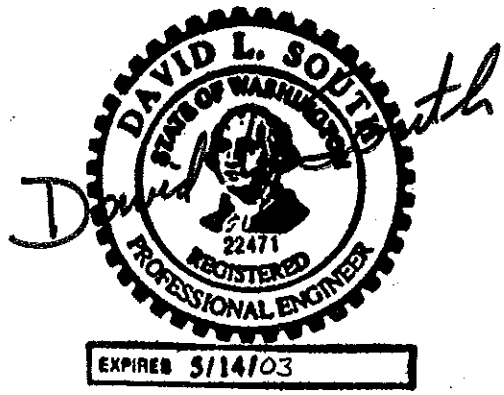
Professional Engineer's Statement
Everett Smelter Cleanup
March 17, 2003

Sampling and soil remediation were carried out at the following homes within the Everett Smelter Site during the period September 2002 to January 2003:

Address	Owner
Jeffrey G. Martz	108 Skyline Drive
William Udman and Alice Shaefer	203 Skyline Drive
Sam Bagley	206 Skyline Drive
Marion O. Lamb	209 Skyline Drive
Beverly Innes	212 Bridgeway
Gertrude L. Vaughn	216 Bridgeway
Scott Schroeder	222 Bridgeway
Mark M. Leonard	226 Bridgeway
Jean M. Burt	232 Bridgeway

Based on the results of testing and inspections, it is my opinion that the soil remediation carried out at these homes was performed in substantial compliance with the plans, specifications, and related documents governing the work.

Remediation work remaining to be done at these homes includes addressing crawl spaces as necessary and carpet and duct cleaning.



Washington Department of Ecology
Everett Smelter Site
2002 Cleanup

Details of Cleanup Activities

The Department of Ecology (Ecology) selected 9 homes within the Everett Smelter Site for cleanup in 2002. Cleanup activities were conducted between September 4, 2002 and January 29, 2003. The cleanup was conducted according to the *Everett Smelter Site: Integrated Final Cleanup Action Plan and Final Environmental Impact Statement for the Upland Area.*

This report describes the cleanup actions that were conducted, what arsenic-contaminated soil was removed and where it remains for the following location:

Property Owner	Mark M. Leonard
Address:	226 Bridgeway Everett, WA 98201
Snohomish County State of Washington Tax Parcel No.	# 005203-000-034-00

For the purposes of sampling to determine the depth to which excavation would be required, this property was divided into three Decision Units, A, B and C, as shown on the attached map. The following is a summary of the work done to remediate the property within each of the decision units.

Decision Unit: A

Results of pre-cleanup sampling indicated 24 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 24 inches, results of composite sample analyses are below the remediation level of 150 parts per million (ppm). However, because the soil below 24 inches contains arsenic above the cleanup level of 20 ppm, a geofabric marker was placed.

Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 24 inches. The terraced planting bed between the street and the upper front yard (sampling location L-1) was treated as part of Decision Unit A and excavated. A rock wall was placed to allow restoration of the original grade as closely as possible. After placing a geofabric marker, the Decision Unit was backfilled with clean material, as described in the *Specifications for Everett Residential Soil Remediation.* After placing the backfill, the area below the rock wall north of the driveway was finished with crushed

rock. The area below the rock wall south of the driveway was filled with topsoil and restored as a planting bed.

Decision Unit: B

Results of pre-cleanup sampling indicated 30 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 30 inches, results of composite and discrete sample analyses are below the remediation levels of 150 parts per million (ppm) and 500 ppm, respectively. Because the soil below 30 inches contains arsenic below the cleanup level of 20 ppm, no geofabric marker was necessary except where soils could not be removed to the required depth. The chain link fences on the northeast and southeast corners of the house were removed and the chain link fence on the north side of the yard was a partially removed to allow access.

Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 30 inches, except as noted below. The planting bed along the west side of the property, from the base of the slope to the chain link fence (sampling locations M-1 & M-2) was not excavated because the concentrations of arsenic are below the cleanup level of 20 ppm. At the request of the owner, the lilac bush in the planting bed along the north side of the property (sample location N-1) was left in place. The roots of a large maple tree located in the back yard of 222 Bridgeway extend into the northwest corner of this yard. Within the drip line of the maple tree and lilac, soil was removed from the top of the roots and covered with fabric. Beyond the drip line, soil was removed to a depth of 30 inches. The planting bed south of the patio (sample location O-1) was not excavated because the concentrations of arsenic are below the cleanup level of 20 ppm. A concrete vault located in this bed was removed.

During excavation, an abandoned septic tank was exposed. Because a significant portion of it is located under the patio, the tank was left in place. Because the location of the concrete sewer pipe through Decision Units B & C made excavation difficult, most of the line was removed and replaced with PVC sewer pipe. The sewer line for the washing machine near the southwest corner of the house was damaged during excavation. The broken section was replaced with plastic sewer pipe. French drains were placed along the base of the slope on the western side of the back yard, through the center of the yard on a north-south line, along the perimeter of the paved patio and along the north and south property lines. The downspouts on the north and south sides of the house were connected to the drains. All of the drainage lines continue through Decision Unit C where they are connected to the storm sewer on Bridgeway.

After placing clean material as described in the *Specifications for Everett Residential Soil Remediation*, the owner installed an irrigation system. Topsoil was placed and the yard was planted with sod. Upon completion of work, the chain link fences were restored to their original locations.

Decision Unit C:

226 Bridgeway
Everett, WA 98201

Results of pre-cleanup sampling indicated 24 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 24 inches, results of composite and discrete sample analyses are below the remediation levels of 150 parts per million (ppm) and 500 ppm, respectively. However, because the soil below 24 inches contains arsenic above the cleanup level of 20 ppm, a geofabric marker was placed.

Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 24 inches except that the paved driveway and walkway to the front door were not removed. A rock wall was placed at the base of the Decision Unit to allow restoration of the original grade as closely as possible.

After placing a geofabric marker, the Decision Unit was backfilled with clean material as described in the *Specifications for Everett Residential Soil Remediation*. The owner replaced the water service line, installed an irrigation system and had an in-ground propane tank installed. The portion of the yard south of the driveway and above the rock wall was backfilled with topsoil and restored as a planting bed. The area between the planting bed and the southeast corner of the house was finished with crushed rock to create a parking area. After placing topsoil in the area north of the driveway, sod and shrubs were planted.

March 13, 2003

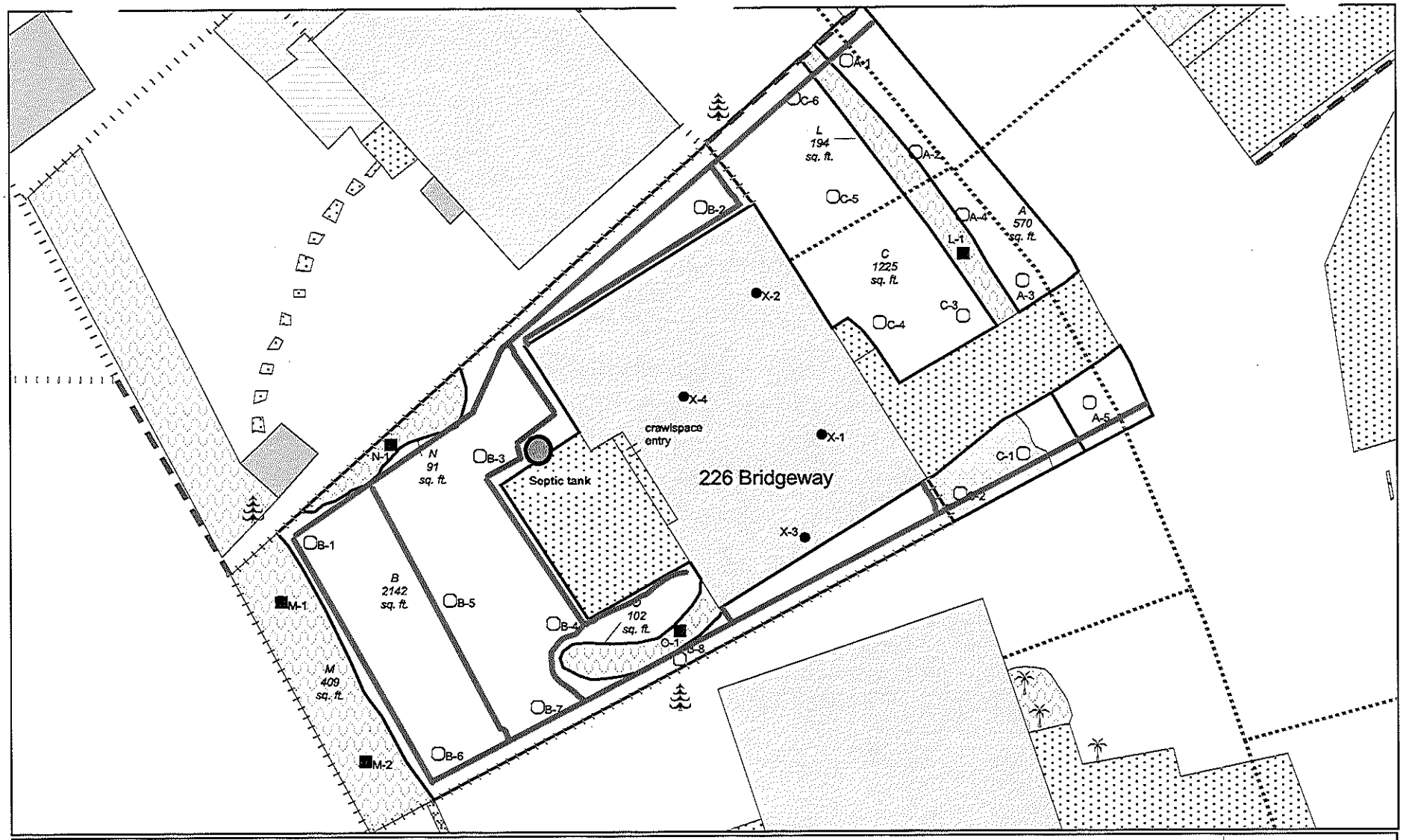
Daniel R. Cargill
Washington Department of Ecology

DRC:dc
Attachments: A. Site Map
B. Graphs of Arsenic Concentration vs. Depth
C. Explanation of graphs

Note: If the attachments listed above do not accompany this document, copies may be obtained from Ecology. Please contact Central Records at Ecology's Northwest Regional Office (NWRO), at (425) 649-7190 for information on obtaining copies.

cc: Ecology Central Files, NWRO
Everett Public Library
Asarco Information Center, Everett
Northeast Everett Community Organization
Northwest Everett Neighborhood Association
City of Everett Public Works
Snohomish PUD
Office of the Attorney General
Ecology Contract Officer
Ecology On-site Coordinator

Tax Parcel No. 005203-000-034-00



LEGEND

- Decision Unit Samples
- Landscape Samples
- Crawlspace Samples
- Sub surface drains

226 Bridgeway (Home 55)

Everett Smelter Homesite Cleanup

Source: Snohomish Health District

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Scale: 1"= 20'