



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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

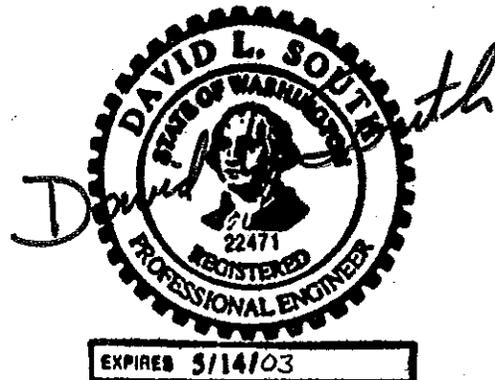
**Professional Engineer's Statement
Everett Smelter Cleanup
March 17, 2003**

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

<u>Address</u>	<u>Owner</u>
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 Jeffrey G. Martz

Address: 108 Skyline Drive
 Everett, WA 98201

Snohomish County
State of Washington
Tax Parcel No. # 005203-000-002-00

For the purposes of sampling to determine the depth to which excavation would be required, this property was divided into five Decision Units, A, B, C, D and E, 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 12 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 12 inches, results of composite sample analyses are below the remediation level of 60 parts per million (ppm). The soil below 12 inches contains arsenic below the cleanup level of 20 ppm. The Decision Unit was partially covered with several large piles of soil that the owner had excavated from this and other areas of the property. The piles extended onto property owned by the City of Everett. Testing by Ecology showed that the soil in the piles should also be excavated and disposed.

Once the piles had been removed, the Decision Unit was excavated. Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 12 inches, except as noted below. The paved driveway, shed and swing set were not removed during excavation. At the request of the owner, the trees along the golf course fence and the three rhododendrons next to the driveway were left in place. Within the drip line of the trees and shrubs, soil was removed from the top of the roots and covered with fabric. Beyond the drip line, soil was removed to a depth of 12 inches.

Within the drip line of the trees along the golf course fence, the fabric was covered with clean material as described in the *Specifications for Everett Residential Soil Remediation* and finished with bark. The area around the three rhododendrons was backfilled with topsoil, covered with weed barrier and finished with bark. The parking area between the garage and the shed (sampling locations A-1 to A-3) was backfilled with 1 - 2 inch rock and topped with crushed rock. The parking area north of the driveway and east of the shed was backfilled with 2 - 4 inch cobble and topped with crushed rock. The remainder of the Decision Unit was backfilled with 2 - 4 inch cobble and finished with bark.

Decision Unit: B

Results of pre-cleanup sampling indicated that no soil needed to be removed from this area. The average arsenic concentration does not exceed 20 ppm nor does any single sample exceed 40 ppm.

Decision Unit C:

Results of pre-cleanup sampling indicated 6 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 6 inches, results of composite and discrete sample analyses are below the remediation levels of 20 parts per million (ppm) and 40 ppm, respectively. However, because the soil below 6 inches contains arsenic above the cleanup level of 20 ppm, a geofabric marker was placed.

A portion of this Decision Unit was covered with a pile of soil that the owner had excavated from this and other areas on the property. Testing by Ecology showed the northern portion of the pile (sample locations P-22 to P-24) should be excavated and disposed while the southern portion of the pile (sample locations P-19 to P-21) was suitable for use as backfill. However, the nature of the material and other considerations made it more cost effective to dispose of the entire pile.

Once the pile had been removed, the Decision Unit was excavated. Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 6 inches, except as noted below. The area adjacent to the block wall was excavated until the geogrid for the wall was exposed. The paved driveway, the walkway between the front door and the driveway, the front steps and the block walls were not removed during

108 Skyline Drive
Everett, WA 98201

excavation. The area at the western end of the steps leading from Decision Unit C, through Decision Unit D to Skyline Drive was not removed. No material was removed from the block terraces between the south side of Decision Unit C and Decision Unit E.

After placing a geofabric marker, the northern two-thirds of the Decision Unit was backfilled with clean material as described in the *Specifications for Everett Residential Soil Remediation*. The southern third was backfilled with 1-2 inch washed drain rock.

Decision Unit D:

Results of pre-cleanup sampling indicated 12 inches of soil would have to be excavated in this decision unit. Attachment B shows that below 12 inches, results of composite sample analyses are below the remediation level of 60 parts per million (ppm). However, because the soil below 12 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 12 inches, except as noted below. The steps in the southeastern corner of the property from Decision Unit B to Skyline Drive and the stairway from Skyline Drive to the water meter were not removed. In order to preserve the stability of the block wall, soils were not removed within three feet of the base. At the request of the owner, the trees and shrubs north of the stairway were left in place. Within the drip line of the trees and shrubs, soil was removed from the top of the roots. Beyond the drip line, soil was removed to a depth of 12 inches.

An 8-inch PVC sewer pipe was installed along the eastern side of the Decision Unit connecting the yard drain near the southeastern corner of the property to the catch basin at the corner of E. Mariue View Drive and Skyline Drive. Drains from the wall near sampling locations D-3 and D-5 were connected to the sewer. A French drain was placed in the lowest portion of the Decision Unit near sampling location D-2 and connected to the storm sewer as well.

After placing a geofabric marker, a two-foot wide strip along the south side of the driveway and adjacent to the street was backfilled with 1-2 inch drain rock. The rest of the Decision Unit was backfilled with clean material as described in the *Specifications for Everett Residential Soil Remediation*, covered with weed barrier and finished with bark.

Decision Unit E:

Attachment B shows that below 12 inches, the results of composite and discrete sample analyses are below the remediation levels of 60 parts per million (ppm) and 150 ppm, respectively. The results of pre-cleanup sampling reported to Ecology indicated 12 inches of soil would have to be excavated in this decision unit. However, due to an administrative error, this decision was based on the results from the adjacent decision unit "D". The samples from the top twelve inches in decision unit E were not analyzed.

108 Skyline Drive
Everett, WA 98201

Because the soil below 12 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 12 inches.

After placing a geofabric marker, the Decision Unit was backfilled with 1-2 inch drain rock and topped with crushed rock.


Daniel R. Cargill
Washington Department of Ecology

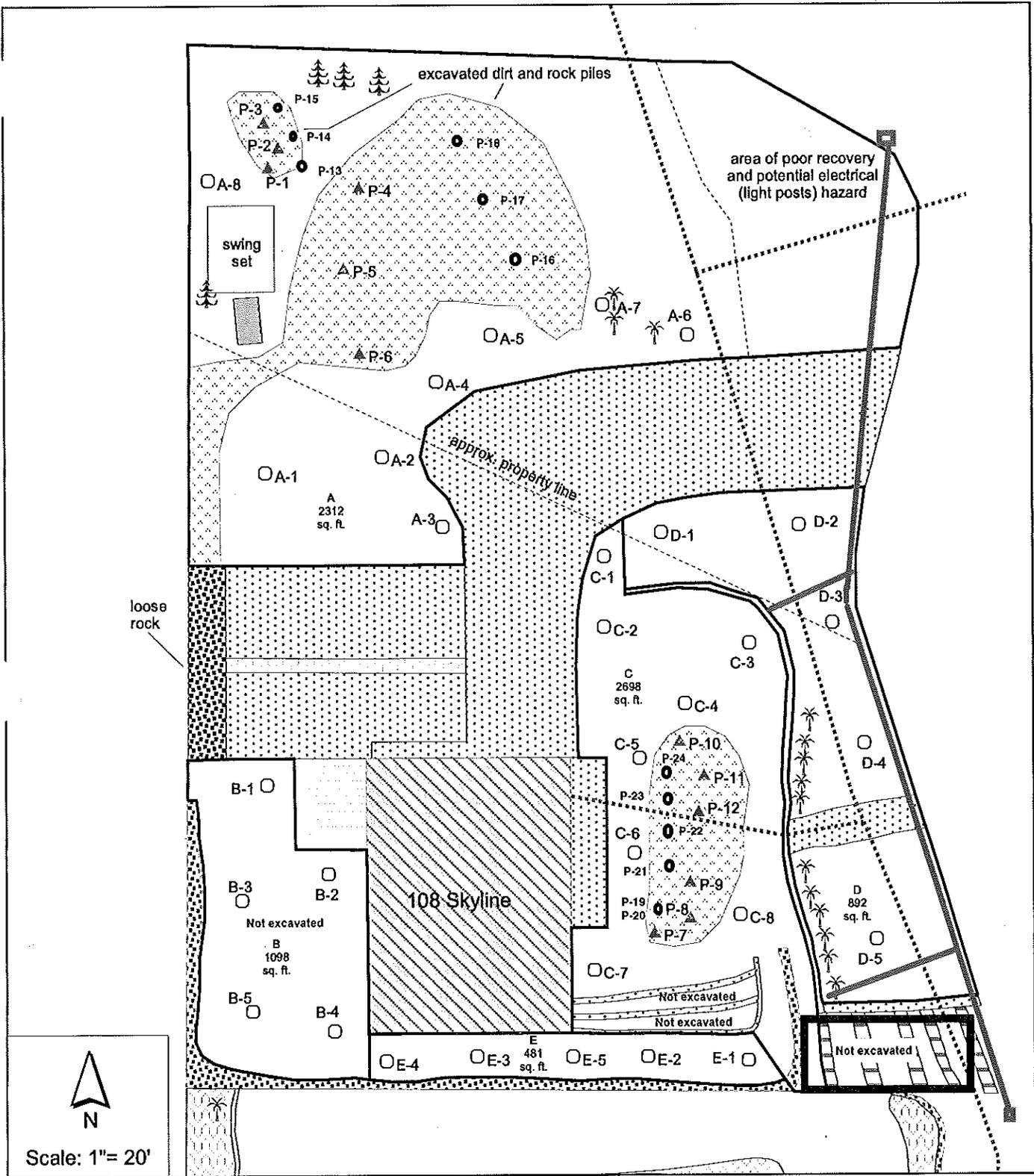
March 17, 2003

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



- LEGEND**
- Decision Unit Samples
 - ▲ Dirt/Rock Pile Samples
 - Sub surface drains
 - Supplemental pile samples

108 Skyline (Home 40)

Everett Smelter Homesite Cleanup
Source: Snohomish Health District

