



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

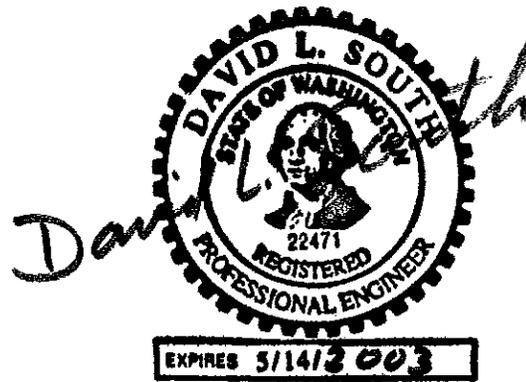
**Professional Engineer's Statement
Everett Smelter Cleanup, 2000-2001**

Sampling and soil remediation were carried out at the following homes within the Everett Smelter Site during the years 2000 and 2001:

Address	Owner
Muriel Jones	110 Bridgeway
Andrew Michels	235 Bridgeway
Jeanette Mempa	236 Bridgeway
Thomas, Christine & Ronnie	240 Bridgeway
Martha Watkins	244 Bridgeway
Joanne Felmer	2803 Medora Way
Terry Tavares & Linda Guy-Tavares	2811 Medora Way
Duane & Edna Rapelje	2817 Medora Way
Dave & Rene Goodrich	2818 Medora Way
Ron & Bonnie Sylvester	2830 Medora Way
Anh Black	528 Hawthorne
Steve & Sherrie Wamba	415 Legion Drive
Gary & Darlene Bunger & Sandra Kane	112 Skyline Drive
Michael Paeth	116 Skyline Drive
Randy Hall	212 Skyline Drive
Willy Pompey	215 Skyline Drive
Dorothy Larson	218 Skyline Drive
Bob & Peggy Redline	221 Skyline Drive
Michael & Sheila Crehan	222 Skyline Drive
Kurt Bertilson	230 Skyline Drive
Louise Hiller	302 Skyline Drive
Margie Hogle	303 Skyline Drive
Fred Brown	307 Skyline Drive
Jackie Robinett	308 Skyline Drive
Al Vandenbosch	316 Skyline Drive
Al Sorenson	320 Skyline Drive
Jo Newland	323 Skyline Drive
John & Christina Bull	328 Skyline Drive

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 evaluation of crawl space data and addressing crawl spaces as necessary and carpet and duct cleaning. Some plant replacement also remains to be done and will be done this Spring.



Washington Department of Ecology Everett Smelter Site 2000 - 2001 Cleanup

Details of Cleanup Activities

The Department of Ecology (Ecology) targeted the yards of 28 homes within the Everett Smelter Site for cleanup in 2000 and 2001. Cleanup activities were conducted between August 2000 and March 2001, and again between July and November, 2001. 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 not removed and where it remains for the following location:

Property Owner Andrew Michaels

Address: 235 Bridgeway
 Everett, WA 98201

Snohomish County
State of Washington
Tax Parcel No. # 005203-000-040-00

This property was divided by Ecology into three Decision Units, A, B and C, as shown on the attached map, for purposes of pre-cleanup sampling and decision-making regarding the depth to which excavation was required. The following is a summary of the work done in the remediation of the property within each of the decision units.

Decision Unit: A

Results of pre-cleanup sampling indicated 30 inches of soil were to be excavated from within this decision unit. Attachment B shows that below 30 inches, results of composite sample analyses are below the remediation levels of 150 parts per million (ppm), and discrete sample analyses are below the remediation level of 500 ppm. However, because the soil below 30 inches contains arsenic levels 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 30 inches. Along the sides of the existing home, supports for the deck and

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE

RESEARCH REPORT

1. Title of the report: [Faint text]

2. Author(s): [Faint text]

3. Abstract: [Faint text]

4. Summary of the work: [Faint text]

5. Conclusions: [Faint text]

6. References: [Faint text]

the sewer line, the excavation was sloped approximately 1:1 away from the foundations to protect the integrity of the structures. Soils under the deck were not removed. A storage shed was moved off the property for the duration of the cleanup and then placed in a location agreeable to the owner. In order to facilitate excavation, the chain-link fence was removed. At the owners' request, the apple tree and the evergreen trees in the landscaped area along the fence, parallel to East Marine View Drive, were not removed. Within the dripline of the trees, only the existing sod was removed; beyond the dripline, 30 inches were excavated. Downspouts from the roof drains were connected with plastic pipe to the six-inch sanitary sewer. After placing a geofabric marker, the Decision Unit was backfilled with clean material, as described in the *Specifications for Everett Residential Soil Remediation*. The western end of the driveway along the north side of the house was finished with approximately 4 inches of crushed rock and compacted. Topsoil was placed, the fence was replaced and sod was planted. Shrubs and trees were planted by the owner. The owner elected to install the lattice-wire mesh barrier to exclude animals from reaching contaminated soils under the deck on his own.

Decision Unit: B

Results of pre-cleanup sampling indicated 24 inches of soil were to be excavated from within this decision unit. Attachment B shows that below 24 inches, results of composite sample analyses are below the remediation level of 150 ppm and discrete sample analyses are below the remediation level of 500 ppm. However, because the soil below 24 inches contains arsenic levels above the cleanup level of 20 ppm, a geofabric marker was placed. In order to facilitate excavation, the chain-link fence was removed

Field measurements by the Ecology on-site coordinator confirmed that soil was removed to a depth of 24 inches. Along the sides of the existing home including the concrete slab west of the carport, the excavation was sloped approximately 1:1 away from the foundations to protect the integrity of the structures. At the owners' request, the large stump in the southeast corner of the yard was not removed. Sod and soil were scraped from the top of the remaining root ball. Beyond the root ball, soils were removed to 24 inches. The evergreen tree on the southern property line was not removed. Within the dripline of the tree only the existing sod was removed; beyond the dripline, 24 inches was removed. After placing a geofabric marker, the Decision Unit was backfilled with clean material, as described in the *Specifications for Everett Residential Soil Remediation*. The driveway along the front of the house was finished with approximately 4 inches of crushed rock and compacted. Topsoil was placed, sod was planted and the fence was replaced. Shrubs and trees were planted by the owner.

Decision Unit: C

Results of pre-cleanup sampling indicated 18 inches of soil were to be excavated from within this decision unit. Attachment B shows that below 18 inches, results of composite sample analyses are below the remediation level of 60 ppm and discrete sample analyses are below the remediation level of 150 ppm. However, because the soil below 18 inches contains arsenic levels 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 18 inches. Along the sides of the existing home, the excavation was sloped approximately 1:1 away from the foundation to protect the integrity of the structure. After placing a geofabric marker, the Decision Unit was backfilled with clean material, as described in the *Specifications for Everett Residential Soil Remediation*. The driveways along the front and the north side of the house were finished with approximately 4 inches of crushed rock and compacted. Topsoil was placed, sod was planted and the fence was replaced. Shrubs and trees were planted by the owner.


Dan Cargill
Washington Department of Ecology

January 8, 2002

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
Office of the Attorney General
Snohomish Health District
City of Everett Public Works
Everett Public Library
Snohomish PUD
Northeast Everett Community Organization
Northwest Everett Neighborhood Association
Asarco Information Center, Everett

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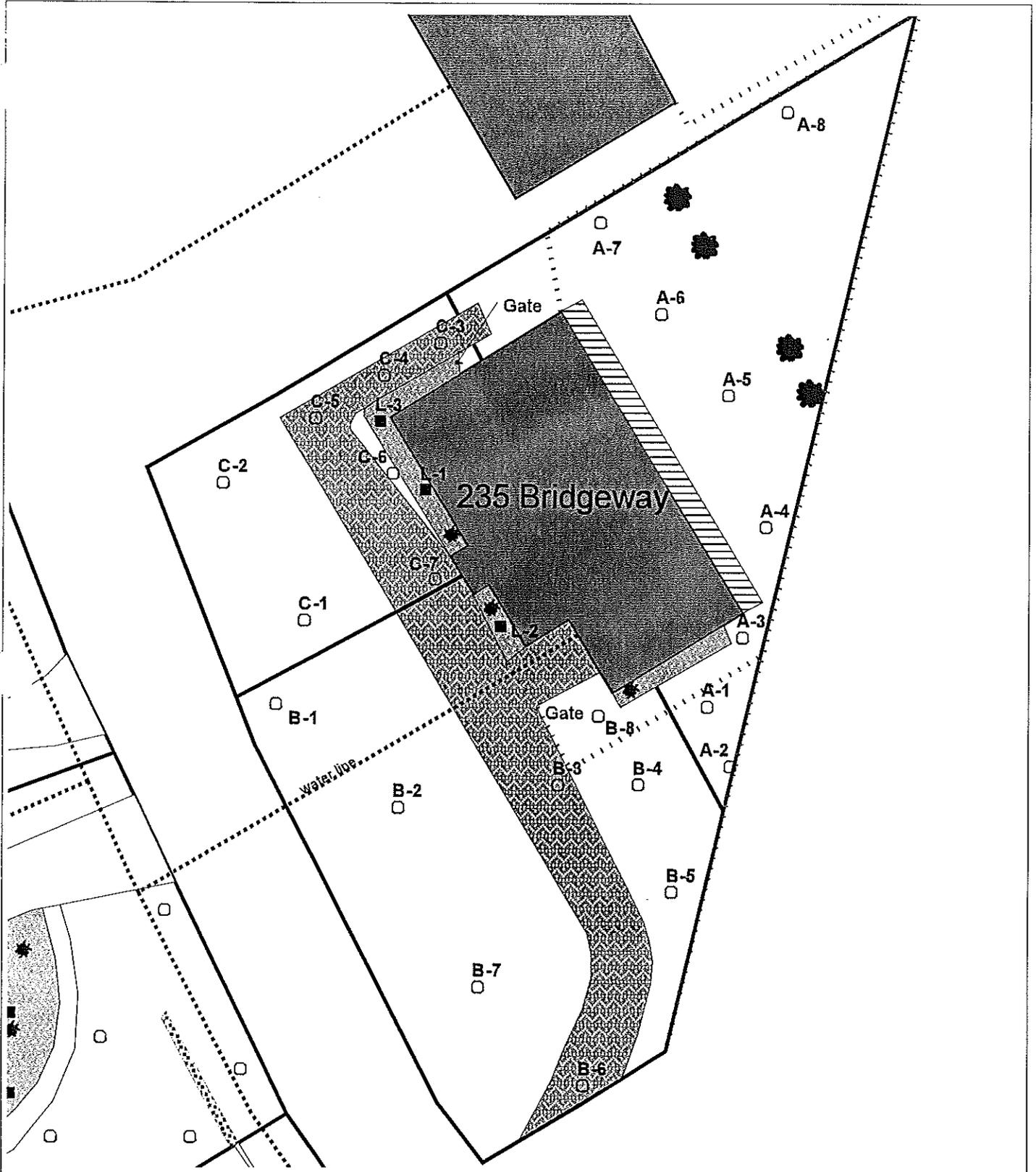
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235 Bridgeway

Everett Smelter Homesite Cleanup

Source: Snohomish Health District

- Landscape Samples
- DU Samples



Not to scale



