Professional Engineer's Statement
Everett Smelter Cleanup
June 16, 2008

Soil remediation was carried out at the following homes within the Everett Smelter Site during the period May 2007 to November 2007:

Address	Owner
229 Bridgeway	Arthur Guinn Shaffer
225 Bridgeway	Steffanie Campbell
223 Bridgeway	Godfrey and Ramona Holzinger
215 Bridgeway	Joshua & Michelle Allen
209 Bridgeway	Maria Paulay
207 Bridgeway	Paul D. King
205 Bridgeway	William C. MacPherson
201 Bridgeway	James and Kathleen Pankiewicz
115 Bridgeway	Mark & Lori Childress
109 Bridgeway	Bud E. Kast

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

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REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/14/2009

Washington Department of Ecology
Everett Smelter Site
2007 Cleanup

Details of Cleanup Activities for 205 Bridgeway

In 2007, Department of Ecology (Ecology) selected 10 homes within the Everett Smelter Site for cleanup. These homes are located along the east side of Bridgeway in north Everett. Cleanup activities were conducted from May 21, 2007 – November 30, 2007. The cleanup was conducted according to the "Everett Smelter Site: Integrated Final Cleanup Action Plan and Final Environmental Impact Statement for the Upland Area" (see Document Repository information on page 4).

Where used for the first time, definitions for words marked in ***bold italics*** may be found in the definition section following this summary.

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

Property Owner	William C. Macpherson
Address:	205 Bridgeway Everett, WA 98201
Snohomish County State of Washington Tax Parcel No.	# 005203-000-049-00

Purpose of Sampling

The purpose of sampling was to determine the required depth of excavation for this property. The property was divided into two ***Decision Units*** A and B, as shown on the attached map in Attachment A. Attachment B graphically shows the sample results, and an explanation of the graphs is in Attachment C. A ***rotating laser level*** was used to measure the depth of the excavated soil in each decision unit.

The following is a summary of the work done to remediate the property within each of the decision units or other areas on the property.

DECISION UNIT A

Cleanup Activities

Results of pre-cleanup sampling indicated 12 inches of soil would have to be excavated in this decision unit. The on-site coordinator witnessed the soil being removed to the target depth of 12 inches.

Attachment B shows that:

- Below 12 inches, the composite sample analyses are below the remediation levels of 60 ***parts per million (ppm)*** and 150 ppm.
- Below 12 inches, the composite sample analyses are below the cleanup level of 20 ppm; therefore, no ***geofabric*** was placed.

The decision unit was backfilled with clean material as described in the "Specifications for Everett Residential Soil Remediation" (see Document Repository on page 4). Approximately 6 inches of clean topsoil was placed above the ***backfill***, and the surface was restored with sod.

Deck

Beneath the large backyard deck, the soil was excavated to the target depth of 12 inches. A ***1:1 slope*** was maintained beneath the support columns. Numerous drainage pipes were installed to facilitate drainage beneath this area. The area was backfilled with clean sandy material and finished with gravel.

An ***animal barrier*** was constructed around the deck area.

DECISION UNIT B

Cleanup Activities

Results of pre-cleanup sampling indicated 24 inches of soil would have to be excavated in this decision unit. The on-site coordinator witnessed the soil being removed to a depth of 24 inches.

Attachment B shows that:

- Below 24 inches, the composite sample analyses are below the remediation level of 150 parts per million (ppm).
- Below 24 inches, the soil contains arsenic above the cleanup level of 20 ppm; therefore, a geofabric marker was placed.

After placing a geofabric marker, the decision unit was ***backfilled*** with clean material as described in the "Specifications for Everett Residential Soil Remediation" (see Document

Repository on page 4). Approximately 6 inches of clean topsoil was placed above the backfill, and the surface was restored with sod unless noted otherwise.

At the request of the owner, the front yard area was made flatter by adding another ***block wall*** terrace. This additional block wall terrace, adjoining steps, and a concrete pad along the front of the house were constructed at the homeowner's expense.

The top (street-level) terrace was finished with bark. The top of the second terrace was finished with sod, and the patch of land adjoining the northwest wall of the house was finished with ***crushed rock***.

RESTORATION SUMMARY

- As part of the property restoration, all roof drain downspouts were connected to a 4" corrugated plastic pipe subsurface drain system that surfaces at the down slope eastern property line.
- Numerous through-deck downspouts were connected to the subsurface drain system that leads off-site.
- Steep slopes along the north and south sides of the house were covered with gravel and not sodded, as per homeowner request during construction
- Timber and gravel stairs were constructed in both the north and south side yards to facilitate access across the steep side yard slopes and into the back yard.
- Chain link fencing was reconfigured during restoration, wherein only the north property line fence and side yard gate were restored.

MATERIAL QUANTITIES

Quantity of contaminated soil removed:	305.56 Tons
Quantity of clean backfill used:	97.50 Cubic Yards
Quantity of clean topsoil used:	24 Cubic Yards

Jerome Cruz
Washington Department of Ecology
3190 160th Ave SE
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January 31, 2008

Attachments: A. Site Map
B. Graphs of Arsenic Concentration vs. Depth

C. Explanation of graphs

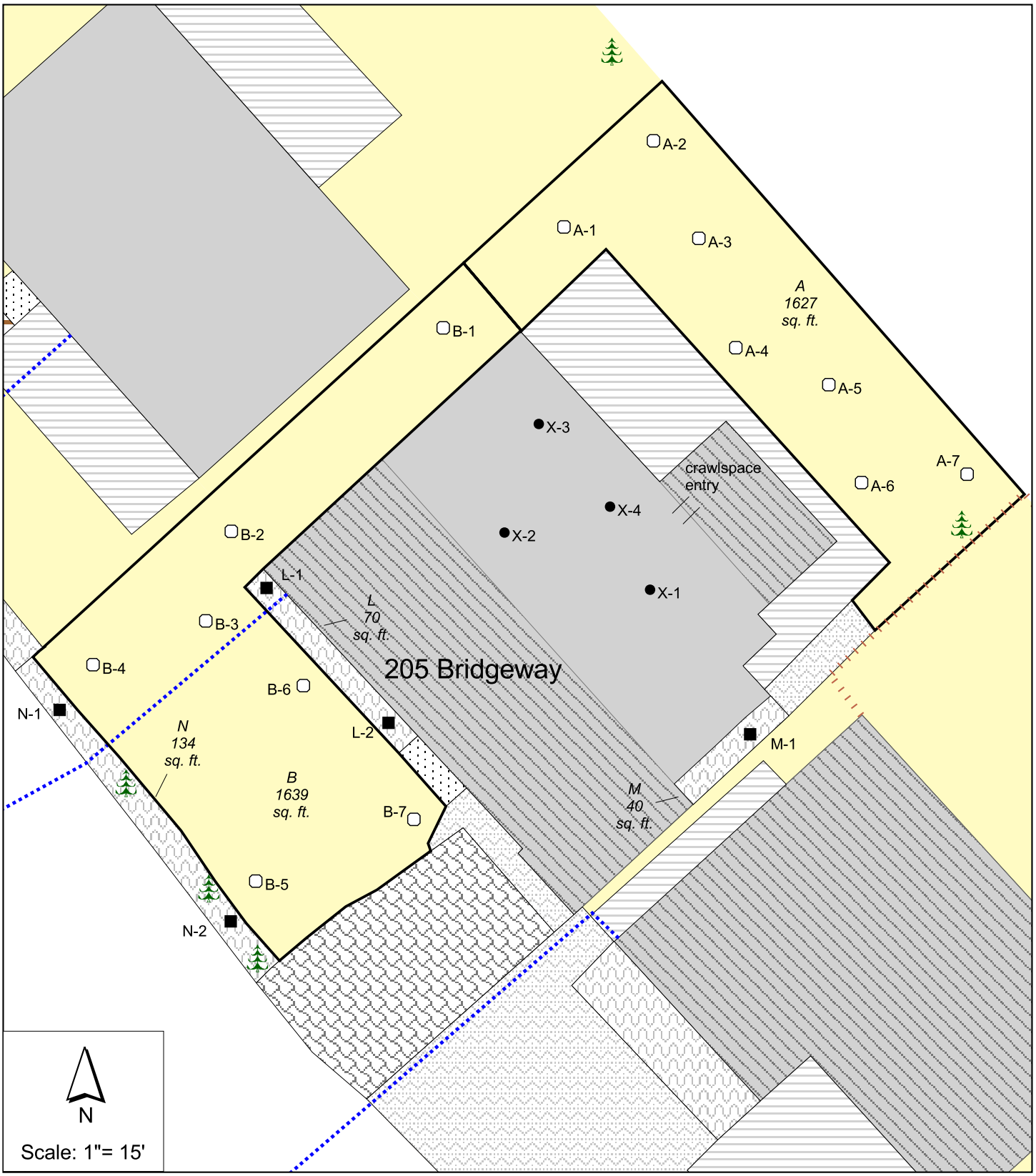
Note:

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.

Document Repository
These following documents can also be found at NWRO:

- Integrated Final Cleanup Action Plan
- Final Environmental Impact Statement for the Upland Area
- Specifications for Everett Residential Soil Remediation

cc: City of Everett Public Works
Ecology Central Files, Northwest Regional Office
Ecology Contract Officer, Headquarters
Ecology, Office of the Attorney General
Ecology On-site Coordinator, SAIC
Everett Public Library
Northeast Everett Community Organization
Northwest Everett Neighborhood Association
Snohomish PUD
Wyser Construction, Inc.



LEGEND

- Decision Unit Samples
- Landscape Samples
- Crawlspace Samples

205 Bridgeway (Home 46)

Everett Smelter Homesite Cleanup

Source: Snohomish Health District