Weyerhaeuser

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October 19, 2009

Mary Sue Wilson
Attorney General of Washington
Ecology Division
PO Box 40117
Olympia, WA 98504-0117

Subject: Requested Amendment of Consent Decree -- Weyerhaeuser Everett West Site

Dear Ms. Wilson:

A Consent Decree and Cleanup Action Plan describe the investigation, remedial site cleanup and cleanup standards for the Weyerhaeuser Everett West Site[1]. The groundwater monitoring program has not demonstrated attainment of the groundwater cleanup standard for arsenic. More recent technical assessments and regulatory determinations completed by the Department of Ecology provide strong justification for a change in this groundwater cleanup standard.

Consistent with the administrative process detailed in the Consent Decree Section XV Amendment of Consent Decree, the purpose for this letter is to request the cleanup standard for arsenic in groundwater be changed from 5 ug/l to 36 ug/l, and that this amendment be reflected in Section VI, paragraph B. Cleanup Standards in the Consent Decree, and in Section 4.2 in the Cleanup Action Plan (hereafter, the "CAP"). The Department of Ecology's acceptance of this amendment would have the effect of supporting a determination that all Consent Decree requirements have been achieved.

Background on Site Investigation, Remedial Cleanup and Confirmation Monitoring

Weyerhaeuser shut down the Everett kraft pulp manufacturing facility in 1992, provided notice to the Department of Ecology of a release or threatened release of hazardous substances, and proceeded with a voluntary investigation of the property. The Consent Decree and accompanying Cleanup Action Plan was finalized in October 1994. Soil Remediation and confirmatory soil sampling occurred by early 1995. Following review of the remediation report the Department of Ecology announced in a July 1995 letter that

[1] Consent Decree entered in State of Washington, Department of Ecology v. Weyerhaeuser Company, Snohomish County Superior Court No. 94-2-07559-2 regarding Weyerhaeuser Everett West Site, October 1994

> "Ecology believes that Weyerhaeuser has satisfactorily completed the remedial actions set forth in the Consent Decree. The department certifies that in our best professional judgment the property has met all requirements stated in the West Site Consent Decree."[2]

A restrictive covenant was attached to the deed in April 1995 to prohibit residential development and the withdrawal of water for domestic purposes, and to acknowledge that soil above cleanup levels remains on-site. A groundwater monitoring program was designed and implemented beginning in 1993. Monitoring data from the seven well network shows attainment of the cleanup standard for Total Petroleum Hydrocarbon. Since 2004 four of 17 groundwater samples collected and analyzed for dissolved arsenic exceeded the 5 ug/l cleanup level (with the highest value being 21 ug/l and average <4 ug/l). The required Five-Year Review (scheduled for 1999) did not occur. A Weyerhaeuser letter dated March 2009 summarized the remediation work and confirmatory sampling results, and requested closure of the Consent Decree.[3] The Department of Ecology finalized its Periodic Review of the site in October 2009.[4]

Basis for Arsenic Groundwater Cleanup Standard in the Consent Decree

The CAP explains that the ground water cleanup level was set according to the MTCA Method A standard in WAC 173-340-720. The cleanup level of 5 ug/l is based on "background concentrations for the state of Washington." The point of compliance for the site is "the plant boundary." [5]

Support for Requested Change in Arsenic Groundwater Cleanup Standard

1. As a practical matter, the assumption on the need to establish the arsenic cleanup level based on protecting a drinking water beneficial use was misplaced (WAC 173-340-720(3)(a) *Method A cleanup levels for potable ground water*, which references Table 720-1 and the 5 ug/l arsenic cleanup standard). The hydrogeology of the site does not indicate groundwater will be a future source of drinking water. The site is in a tidally-influenced, estuarine area with an industrial history that included in-filling. Groundwater quality in the uppermost aquifer is naturally high in organic content, tannins, conductivity, and other constituents which make it unsuitable as a potable water source.

2. A Deed Restriction is in place which prohibits the withdrawal of groundwater for domestic purposes from any well on the Everett West Site. Additionally, the Deed restriction prohibits any residential development on the site. These institutional controls effectively moot the original basis for the arsenic cleanup action level linked to protection of a drinking water beneficial use.

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[2] Letter Mike Palko - WDOE, to William Miller - Weyerhaeuser, July 25, 1995.
[3] Letter Jeff King – Pacific Environmental and Redevelopment Corporation, to Glynis Carrosino, WDOE, March 27, 2009
[4] Periodic Review – Weyerhaeuser Everett West Facility Site ID #10, WDOE Toxics Cleanup Program, Joe Hickey, October 8, 2009
[5] Consent Decree, Section VI., paragraph B. Cleanup Standards; Cleanup Action Plan, Section 4.2.

3. The Everett West Site abuts and is down-gradient of the former Everett ASARCO Smelter Site. Department of Ecology-led investigation of the ASARCO Smelter Site strongly implicates ASARCO as having contributed arsenic (soil and groundwater) onto the Weyerhaeuser property.

   First, note the proximity of the ASARCO site to Everett West Site (see attachment 1). The "Historic Plant Area" and "Sampled Properties Awaiting Cleanup" are up-gradient and adjacent to the Weyerhaeuser Everett West Site (located on the "Lowland Area" depicted on the site map). The 10 properties remediated in 2007 (to remove soils contaminated above 20 mg/kg arsenic) are within a few hundred feet of the Everett West Site.

   Second, note comments from Ecology's Everett Smelter Site Cleanup Action Plan which characterize the extent of arsenic contamination from site activities.[6]

   - "The Remedial Investigation found that arsenic is the primary determinant of site risks" (Hydrometrics, 1995a, p. 5-28)[7]
   - "The highest concentrations of contaminants in soil exist on and immediately adjacent to the original smelter property…"[8]
   - "Concentrations of arsenic, lead, and cadmium, which exceed regulatory levels have been detected in runoff from the site. Arsenic concentrations varied over several orders of magnitude between sampling rounds, and higher concentrations were associated with long duration runoff events."[9]
   - "Groundwater in the advance outwash deposits in the vicinity of the former smelter plant boundary, which is the area in which leaching of arsenic from soil and smelter debris would be highest, moves downward through any fill present to the top of the till and moves eastward along the top of the till toward the Lowland Area."[10]
   - "The Peripheral Area outside the former smelter plant boundary was contaminated through airborne deposition of smelter smokestack emissions, although areas closely adjacent to the former smelter plant boundary may also have been impacted by fugitive emissions from smelter operations."[11]

4. The most compelling reason in support of an amended groundwater arsenic cleanup action level is provided by the Department of Ecology's evaluation of exposure pathways and application of criteria for determining cleanup levels for non-potable groundwater for the Everett Smelter Site. The outcome was:

   - Ecology acknowledges that groundwater in the Everett Smelter Site Upland Area will not be used as a drinking water supply.[12]

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[6] Everett Smelter Site - Integrated Final Cleanup Action Plan and Final Environmental Impact Statement for the Upland Area – Volume 1, Washington Department of Ecology, November 1999
[7] Ibid, page 20
[8] Ibid, page 20
[9] Ibid, page 23
[10] Ibid, page 25
[11] Ibid, page 22
[12] Ibid, page 81

- "Cleanup levels for ground water have been established to protect surface water according to Chapter 173-201A WAC. Hence, ground water cleanup levels for both the Fill/Till and the Advance Outwash Aquifer are the same as specified in Section 4.1.4 for surface water."[13] Table 4-1 indicates the groundwater cleanup level selected for the Everett Smelter Upland Area is 190.0 ug/l (which is the chronic freshwater criterion in WAC 173-201A).[14]
- "The Point of Compliance for ground water shall be a conditional point of compliance located at any receiving surface water body in the Upland Area (such as ditches, springs, or other surface water flows) and at the Upland Area boundary, where ground water flows into the Lowland Area."[15]
- Ecology acknowledges the groundwater from the Lowland Area ultimately discharges to the Snohomish River and announces "When cleanup actions are selected for the Lowland Area, the application of marine surface water criteria to groundwater discharging to the Snohomish River will be considered."[16]

Summary of Requested Consent Decree Amendment

1. Groundwater on the Weyerhaeuser Everett West Site is not potable.
2. A Deed Restriction prohibits the withdrawal of ground water from the Everett West Site.
3. The highest beneficial use requiring protection is biota in the Snohomish River.
4. The proposed arsenic ground water cleanup level of 36 ug/l is the chronic, marine water quality criterion from WAC 173-201A-240(3). The Point of Compliance is the property boundary where ground water discharges to the Snohomish River. These determinations would be consistent with WAC 173-340-720(6)(c)(i)(E).
5. This arsenic ground water cleanup level proposed for Everett West Site is based on the Department of Ecology's analysis of exposure pathways and determination of a cleanup level as derived for the Everett Smelter Site.

Agreement by the Department of Ecology of this Consent Decree amendment would then support a determination that all Consent Decree requirements have been achieved.

We look forward to your response to this request.

Sincerely,

Ken Johnson
Corporate Environmental Manager

cc Glynis Carrosino – WDOE
Kim Hughes

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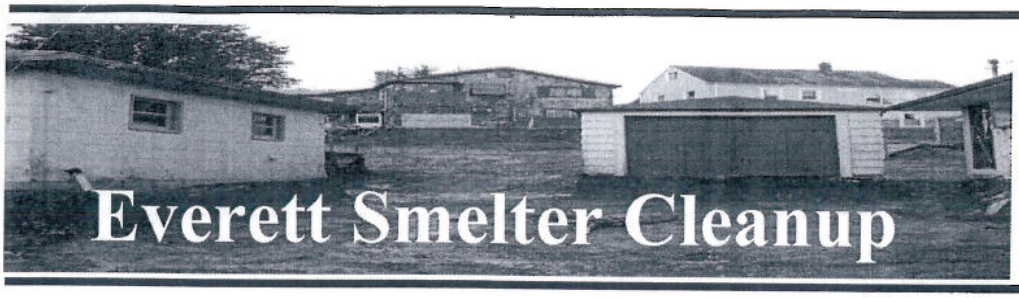
[13] Ibid, page 81
[14] Ibid, page 78
[15] Ibid, page 81
[16] Ibid, page 82



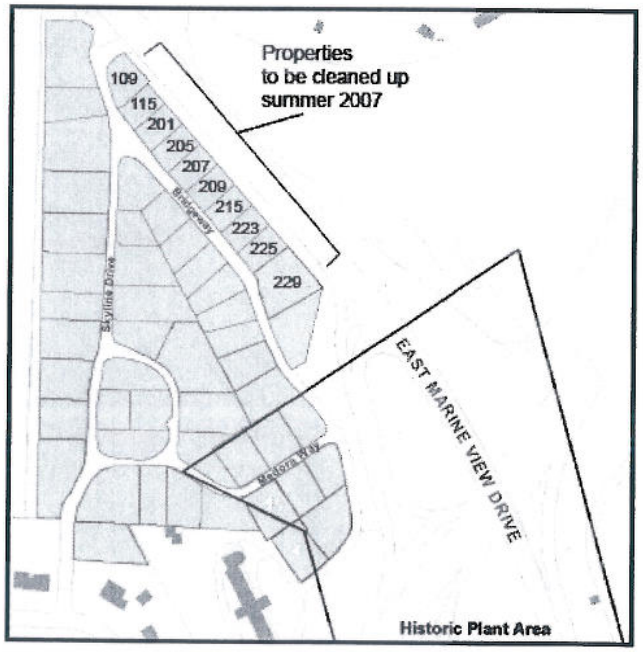
Everett Smelter Cleanup

WASHINGTON STATE DEPARTMENT OF ECOLOGY

What's happening now?

Cleanup work will begin May 21, 2007

Ecology's contractor, Wyser Construction, Inc. will begin cleanup work at the 10 homes located on the east side of Bridgeway in Everett, Washington (see below). These homes are located near the historic Everett Smelter plant. The cleanup will remove and dispose of accessible soil contaminated with arsenic and lead. Soil is accessible if it is not under the house, paved driveways and walkways or patios. All accessible contaminated soil with arsenic levels above 20 mg/Kg that is within one foot of the surface will be removed and replaced with clean topsoil. Below one foot, all accessible contaminated soil that has arsenic above certain specified levels will be removed and replaced with clean backfill and topsoil. The yards will be restored according to the individual home cleanup plans. Restoration will include installing sod lawns, landscape plant replacements, building or reconstructing walls, and restoring fences.



May 2007 Cleanup Update

Cleanup Work Hours:

7:30 a.m. – 4:30 p.m. on weekdays

Review the documents at:

WA Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7190
(Call for an appointment)

Send Technical questions to:

Jerome Cruz
WA Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008
(425) 649-7094

E-mail: jcru461@ecy.wa.gov

On-site Field Coordinator:

Glen Vedera
SAIC coordinator
(206) 852-8247

Facility ID #: 2744

Publication No. 07-09-074

If you have special accommodation needs or require this document in alternative format, please contact Nancy Lui at (425) 649-7117 (Voice). Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 1-800-833-6388 (TTY

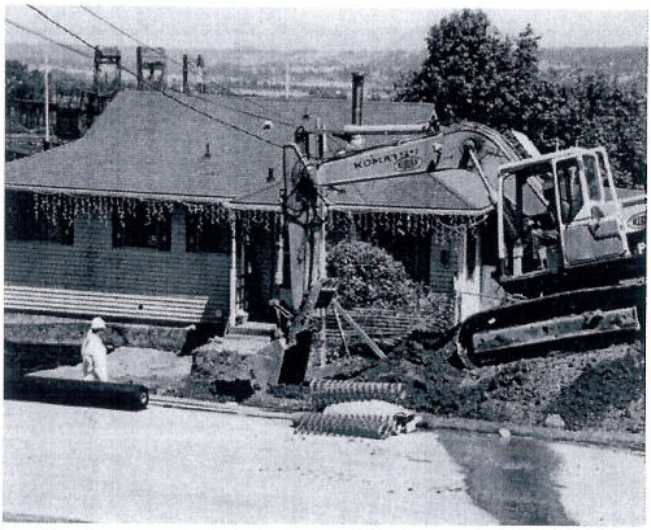
When will the cleanup work begin and for how long?

Wyser Construction Inc., under the oversight of Ecology, will begin cleanup work on **May 21, 2007**. The work is expected to last for three to five months. The cleanup work will take place during the daytime from 7:30 a.m. – 4:30 p.m. on weekdays.

Will there be someone to answer my immediate concerns?

Yes, Ecology has contracted Glen Vedera with Science Applications International Corporation (SAIC) to be the on-site coordinator. He will manage daily activities. The SAIC on-site coordinator will represent Ecology during field activities. Ecology site manager Jerome Cruz will be providing overall project oversight. Any immediate concerns may be presented to Glen Vedera, who will communicate them to Jerome Cruz, or you may contact Jerome Cruz directly at (425)649-7094. Jerome will also be at the site fairly often.

What can you expect to see at the site?



This is a picture of soil excavation. The contaminated soil will be placed into containers to be hauled off by truck from the site. The contaminated dirt will be disposed at a landfill approved to accept this contaminated soil.

What work will be done?

- Excavating contaminated soil for disposal.
- Backfilling with clean sand and topsoil.
- Installing sod and replacing shrubs, fences and other items disturbed during the excavation process.

What areas of my property will be cleaned up?

Each home has an individualized cleanup plan which the owner and Ecology have agreed on. The yard and other landscaped areas will have the topsoil layer removed. The depth of removal depends on the amount of arsenic in the soil and will range from 12 inches to three feet.

There may be places where contaminated soil cannot be removed due to engineering limitations. These include protecting structures such as decks or sheds, or where the stability of a slope may be at risk. Many plants and grasses will be removed during this work. Trees and large shrubs may be left in place or removed according to the cleanup plan. Clean soil will be brought in to replace what is removed. The yards will be restored with plants and grass similar to what will be removed. Trees that are removed will be replaced with saplings. If you have any specific questions, please contact Jerome Cruz (see page 1).

What measures will be taken to minimize impacts?

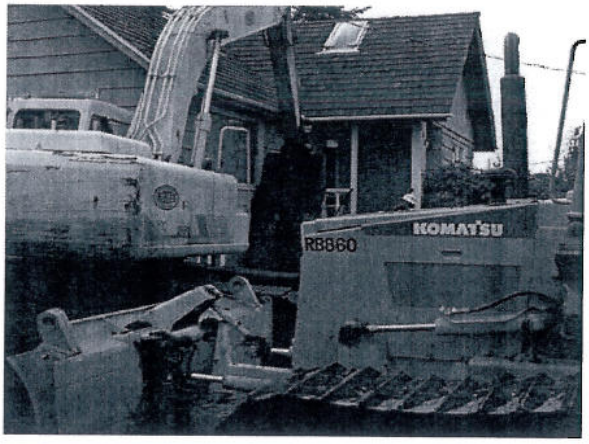
Access

There will be construction equipment in your neighborhood. The road will remain open. There may be short delays in the flow of traffic as equipment is moved or trucks are loaded or deliver fill material and supplies. You may have to park your car on the opposite side of the street. You will be able to enter and leave your home at all times.

Dust Issue

Dust will be kept to a minimum by spraying water on the soil while it is excavated or being loaded for disposal. Air will be tested for arsenic dust, on the workers and from outside the residential work zone over an eight to ten hour period. For the first day(s), monitoring will be done while working on the homes with the highest soil contamination. During past cleanups, controlling visible dust with water spray prevented any hazard to the residents and workers. You should keep windows closed when the crew is digging next to your home.

Noise Issue



The large equipment such as trucks, backhoes, front-end loaders, and bobcats, are equipped with mufflers. However, even with properly functioning mufflers this equipment is still very noisy. Work will not start before 7:30 a.m.

How will public health and safety be protected during removal?

During removal, work areas will be sectioned off with yellow barrier tape. Residents will receive information on when the front or rear door should not be used. Yellow tape or orange barricades will be left at areas designated to be a potential fall hazard. We will establish an agreed upon walkway for residents to enter or exit their home. When notified that residents or visitors will need access to the home, work will stop until the work zone is clear for people to safely enter or exit the home.

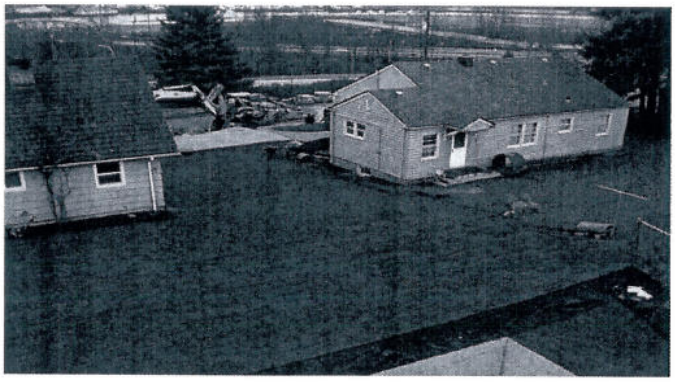
The resident health and safety plan is part of the attachment to the access agreement that has been given to residents/homeowners.

What are Property owner/Tenant responsibilities?

We rely on the cooperation of property owners and residents. This is a short-term inconvenience for the good of the cleanup.

- The home owners/tenants will be responsible for clearing off anything outside your property which you would like to keep.
- Remove any flower bulbs or plants you want to save.
- Keep doors, windows, and skylights closed when work is being done.
- Please keep your pets and children inside while the construction is taking place.
- Alert contractor personnel when leaving or arriving home.
- Beware of fall hazards where soil may be removed from the edges of sidewalks, decks, porches, and stairs.
- Do not enter the work zone until the contractor has stopped work. Use the agreed upon walkway to enter/exit the home.
- After work hours, do not enter the yard. Areas may have trip hazards or exposed utility hazards.
- You will be responsible for watering and maintaining the sod after it has been installed.

What happens next?



After the work on your property is finished, Ecology will provide residents or owners with a notebook containing the soil sampling results, the cleanup plan, the Remediation Summary Report and photos of your home before, during and after the cleanup.

Following cleanup, we will develop a check list of items that require correction or further work if the restoration was not done properly. Residents will find written instructions on new lawn care in their access agreements. Ecology's contractor will fertilize the lawn four times during the first year. Ecology will not water or mow the lawn, weed any part of your yard, or provide any other gardening or landscaping services.

An Ecology representative will return to the yard approximately one year after the cleanup to determine if any sod, lawn, trees, shrubs or other landscaping need replacing under the terms of the access agreement. After this follow-up inspection and any replacement of landscaping, if needed, Ecology will have no further responsibility for the maintenance of your sod, lawn, trees, shrubs or other landscaping.

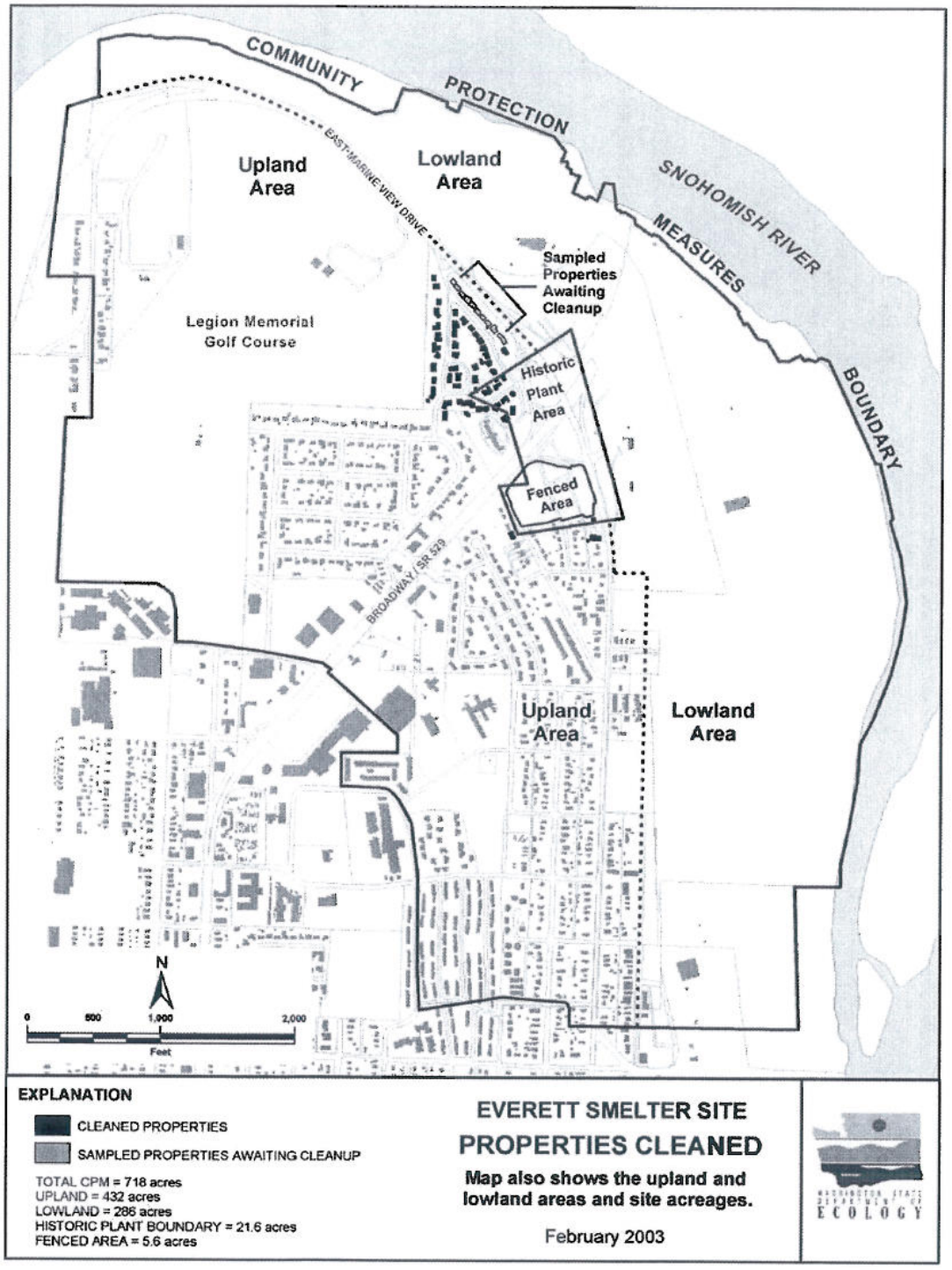
Site Background

The Everett Smelter Site is located in northeast Everett, Snohomish County, Washington. This site is contaminated with lead, arsenic and other metals. The smelter operated from 1894 to 1912. The smelter was built by the Puget Sound Reduction company and sold to ASARCO Incorporated (Asarco) in 1903. Asarco operated the smelter until 1912, and demolished it between 1912 and 1915.

The property was sold in various parcels, with the last parcel owned by Asarco being sold in 1936. Homes were built on many of the parcels. The highway interchange between East Marine View Drive and State Route 529 was built across the old smelter site in the 1950s.

Ecology discovered the contamination problem in October 1990. A local company notified Ecology that they had found elevated concentrations of arsenic and lead in the soil and groundwater during an environmental assessment of their property. Ecology conducted additional investigations of the surrounding area.

The soil at the Everett Smelter Site has higher than normal levels of arsenic, lead, cadmium and other metals. The area includes both the former smelter plant property, which contained the smelter debris, and the surrounding area which was affected by air emissions from the smelter stacks. Areas next to the former smelter property also may have been contaminated by smelter operations, including spilled products and smelter waste.



Everett Smelter Properties Cleaned Map