



**EPA**

# **Superfund Record of Decision:**

**Northwest Transformer -  
Mission Pole (Amendment),  
WA**

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16. Abstract (Limit: 200 words)  The 1.6-acre Northwest Transformer - Mission Pole site, is former transformer storage and salvage facility, is 2 miles south of Everson in Whatcom County, Washington. The site is bordered by low-density residential areas to the north and east, and farmland to the south. Storage and salvage operations were conducted in an onsite barn where PCB-contaminated dielectric fluid was drained from the transformers prior to dismantling. Transformer casings and associated parts were incinerated onsite, and some of the recovered oil was burned to heat the barn. Spills and leakages of PCB-laden oil onto the ground occurred frequently. Additionally, oil was dumped directly into a seepage pit onsite, and contaminated soil and possibly ground water. EPA studies from 1977 to 1985 identified PCB concentrations as high as 38,000 mg/kg in onsite media. In 1985, EPA removed 1,400 cubic yards of PCB-contaminated soil and debris, 6,660 gallons of PCB-contaminated liquids, and several contaminated transformer casings. In addition EPA initiated a ground water monitoring program and imposed site access restrictions. In 1987, sufficient PCB contamination was identified in the soil to warrant further site remediation. A 1989 Record of Decision (ROD) addressed remediation through excavation, consolidation, and onsite treatment using in-situ  (See Attached Page)				
17. Document Analysis a. Descriptors Record of Decision - Northwest Transformer - Mission Pole, WA First Remedial Action (Amendment) Contaminated Media: soil, debris Key Contaminants: organics (PCBs)  b. Identifiers/Open-Ended Terms          c. COSATI Field/Group				
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EPA/ROD/R10-91/031

Northwest Transformer - Mission Pole, WA

Final Remedial Action (Amendment)

Abstract (Continued)

vitrification. This ROD amends the 1989 ROD and provides a change in the remedy for soil due to excessive cost. The primary contaminant of concern affecting the soil is PCB, an organic.

The selected amended remedial action for this ROD includes incinerating approximately 70 cubic yards of soil contaminated with PCBs at levels greater than or equal to 50 mg/kg at a TSCA-approved facility, landfilling approximately 1,500 cubic yards of soil contaminated with PCBs at levels greater than or equal to 1 mg/kg and less than 50 mg/kg offsite at a TSCA-approved facility; demolishing the barn and disposing of the debris offsite; testing the soil and concrete within the barn; placing a soil cover over the entire site; and implementing institutional controls, if necessary. The estimated capital cost for this amended remedial action ranges from \$1,400,000 to \$2,300,000 depending on the amount of soil removed. O&M costs were not provided.

PERFORMANCE STANDARDS OR GOALS: Chemical-specific soil cleanup goals are based on the Washington State Model Control Act, and include PCBs 1 mg/kg.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 SIXTH AVENUE  
SEATTLE, WASHINGTON

AMENDED RECORD OF DECISION,  
DECISION SUMMARY,  
AND RESPONSIVENESS SUMMARY

FOR  
FINAL REMEDIAL ACTION  
NORTHWEST TRANSFORMER (MISSION/POLE)  
SUPERFUND SITE

SEPTEMBER 30, 1991

Declaration for the  
Northwest Transformer (Mission/Pole)  
Superfund Site

Amended Record of Decision

Site

Northwest Transformer (Mission/Pole)  
Whatcom County, Washington

Statement of Basis and Purpose

This decision document presents the amended Remedial Action for the Northwest Transformer site in Whatcom County, Washington, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan. This decision is based on the Administrative Record for this site, updated in August, 1991, to include new information generated since the original Record of Decision was signed on September 15, 1989. The attached index identifies the items which comprise the Administrative Record upon which the selection of the Remedial Action is based.

The State of Washington has concurred on the selected remedy. A signed statement to that effect is included on page 5.

Assessment of the Site

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Record of Decision (ROD), may present an imminent and substantial threat to public health, welfare, or the environment.

Description of the Revised Remedy

This amendment addresses contaminated soils and debris, barn materials, and groundwater in the vicinity of the site.

The remedial actions described below are the final response actions planned for the site. They address all threats at the site, including the principal threat, by removal and off-site treatment and disposal of all soils and barn debris contaminated with PCBs above health-based levels. In the event complete removal of contaminated soil is not practicable and some soils with greater than 1 part per million but less than 10 part per million PCBs remain on-site, long term management controls will

be employed to maintain the integrity of the cleanup.

No groundwater remedial action is necessary to ensure protection of human health and the environment. This determination is subject to completion of the Groundwater Monitoring Program and EPA evaluation of the final results. EPA will reassess its decision if groundwater contamination is detected at levels of concern.

The major components of the selected remedy for contaminated soils and barn debris include:

- a) Treatment of soils contaminated with PCBs at levels greater than or equal to 50 ppm by off-site incineration at a TSCA-approved facility;
- b) Remediation of soils contaminated with PCBs at levels greater than or equal to 1 ppm and less than 50 ppm by off-site landfilling at a TSCA-approved facility to the maximum extent practicable (for this site, EPA and the Department of Ecology have determined that removal of up to 1,500 cubic yards of contaminated soils is the maximum extent practicable). All soils known to be contaminated with PCBs greater than or equal to 10 ppm will be remediated;
- c) Demolition of the barn and off-site disposal of the debris at a TSCA-approved off-site landfill facility. Soils and concrete inside the barn (the barn floor) will be tested and remediated if necessary;
- d) Placement of a clean soil cover (approximately 2 feet thick) over the entire site; and,
- e) In the event complete removal of soils contaminated with PCBs at levels greater than or equal to 1 ppm is not achieved and compliance with the 1 ppm cleanup level cannot be demonstrated (using the methods described in the performance standards), and hazardous substances remain on-site that preclude unrestricted use of the site, the following institutional controls will be required: regular inspection and maintenance of the soil cover and perimeter fence, and reviews no less often than every 5 years.

#### Consultation

A consultation with the Office of Waste Programs Enforcement, OSWER, regarding this ROD Amendment has been conducted pursuant to the 22nd Remedy Delegation - FY91 memorandum (December 27, 1990).

## Declaration

The selected remedy for soils is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate to the Remedial Action, and is cost effective. This remedy satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

For groundwater, no remedial action is necessary to ensure protection of public health and the environment. The basis for this determination is that on- and off-site groundwater studies since the 1985 removal action have indicated that contaminants are not present at a detection limit of 0.05 parts per billion, an order of magnitude more stringent than the Maximum Contaminant Level (MCL) for PCBs. Since the MCL is the standard generally used to set exposure levels for PCBs in groundwater that are protective of human health and the environment, and no contaminants have been found at the more protective detection limit, no remedial action is necessary. This determination is subject to completion of the Groundwater Monitoring Program and EPA evaluation of the final results. EPA will reassess its decision if groundwater contamination is detected at levels of concern.

The remedy will not result in hazardous substances remaining on-site above health-based levels and no five-year reviews will be conducted if complete removal of contaminated soils and debris with 1 or more ppm PCBs is achieved consistent with the performance standards contained in the decision summary. In the event complete removal is not achieved as described in the performance standards and hazardous substances remain on-site above health based levels, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

Dana A. Rasmussen 9-30-91  
Dana A. Rasmussen Date  
Regional Administrator  
U.S. Environmental Protection Agency, Region 10

State Concurrence

The Washington Department of Ecology concurs with the selected remedy and Amended Record of Decision for final remedial action at the Northwest Transformer (Mission/Pole) Superfund site in Everson, Washington.

Carol L. Fleskes

Carol Fleskes

Program Manager,

Washington State Department of Ecology

Toxics Cleanup Program

Sept. 30, 1991  
Date



NORTHWEST TRANSFORMER (MISSION/POLE)  
SUPERFUND SITE

AMENDED RECORD OF DECISION  
DECISION SUMMARY

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NORTHWEST TRANSFORMER (MISSION/POLE)  
SUPERFUND SITE  
AMENDED RECORD OF DECISION

Decision Summary

**INTRODUCTION**

Site Name and Location:

The Northwest Transformer Salvage Yard (Mission/Pole) site (hereafter referred to as the Northwest Transformer or NWT site) is located approximately two miles south of Everson in Whatcom County, Washington, immediately southwest of the intersection of Mission and Pole Roads (Figure 1). The site occupies approximately 1.6 acres in the NE 1/4 of the NE 1/4 of Section 12, Township 39 N, Range 3 E, Willamette Meridian.

Lead and Support Agencies:

EPA is the lead agency for this Superfund site, with the cooperation and support of the Washington Department of Ecology (Ecology).

Date of the Original Record of Decision:

The original Record of Decision (ROD) was signed on September 15, 1989.

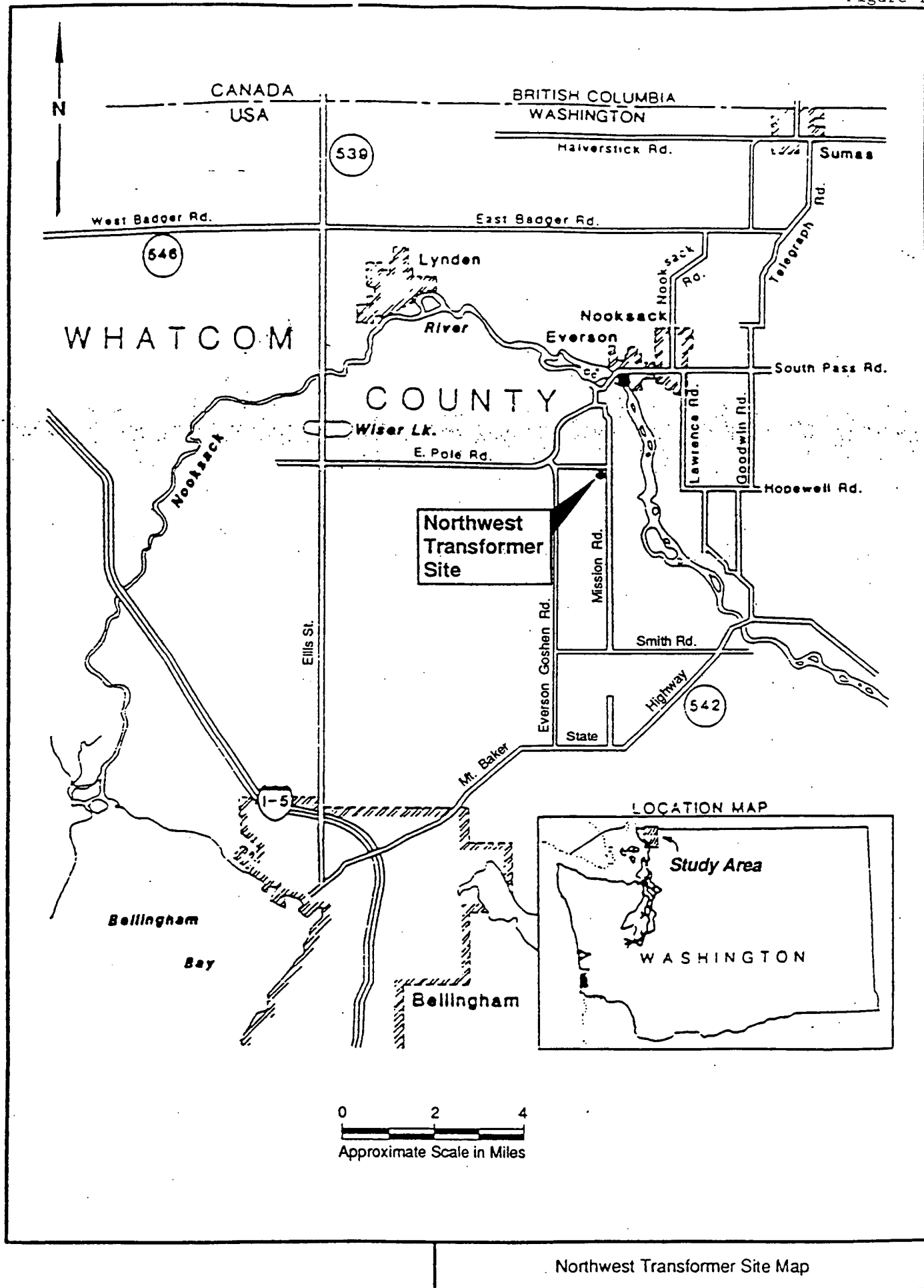
Administrative Record:

This ROD Amendment will become part of the Administrative Record file for this site, in accordance with NCP section 300.825(a)(2). The Administrative record is available for review at the EPA Regional Office, 1200 Sixth Avenue, Seattle, Washington. 98101, and the Everson Public Library on Kirsch Street. An index of the Administrative Record is included with this ROD.

Highlights of Community Participation:

Community Relations efforts prior to 9/15/89 are described in the Community Relations History section of the original Record of Decision. The following community relations activities are relevant to this ROD Amendment:

August 1990	EPA sent drinking water questionnaires to those citizens living within one half mile of
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the site.

September 1990	EPA released a fact sheet announcing the expansion of the groundwater monitoring program. The fact sheet also provided a general update about the activities occurring at the site.
October 1990	Citizens selected for the groundwater monitoring program were notified by letter.
March 1991	Results of the groundwater tests were sent to affected citizens. Results indicated that the contaminants tested for were not found in any of the wells sampled.
August 15, 1991	EPA distributed the Proposed ROD Amendment plan to the mail list.
August 20, 1991	EPA ran an advertisement in the <u>Bellingham Herald</u> which described the availability of the proposed plan and the RI/FS, and announced the dates of the public meeting and public comment period.
August 21, 1991	An advertisement ran in the <u>Lynden Tribune</u> which announced the dates of the public meeting and public comment period.
August 27, 1991	EPA conducted a public meeting for interested community members. Approximately 20 members of the public attended the meeting.
September 1991	EPA prepared the Responsiveness Summary.

The most significant comments and questions addressed the cost of past and planned remedial actions. A number of citizens were critical of the cost and time involved with this remedial project in particular and Superfund in general. Several citizens expressed support for the preferred alternative (now the selected remedy). The only other soil cleanup alternative which received support was no action, which would not be adequately protective for soils.

#### REASONS FOR ISSUING THE ROD AMENDMENT

##### Circumstances that led to need for ROD Amendment:

EPA has determined that a ROD amendment is necessary to change the selected remedy for contaminated soils on-site and to select final remedies for the on-site barn and for groundwater in

the vicinity of the site. The selected remedy for soils must be changed because of new information about the soils on-site and about the originally selected remedial technology. This information is discussed below. EPA must also select final remedies for the barn and groundwater since the 1989 ROD merely identified the need for further study of those media.

#### Background:

The Feasibility Study (FS) completed in 1987 recommended thermal destruction of PCBs in PCB-contaminated soils with concentrations at or above 10 ppm (mg/kg). Thermal destruction technologies included incineration and in-situ vitrification (ISV), as well as other thermal-based processes such as catalytic combustion and infrared destruction.

Upon further review and cost analysis by EPA and further review of documentation on demonstrations of the vitrification technology, the best thermal destruction process for this site was determined to be vitrification. This determination was made based on 1) relative ease and expected schedule of mobilization, 2) advantageous costs over other thermal processes as reflected in the FS, 3) acceptability of the vitrified mass as an on-site residue over other conventional materials classified as ash, 4) the expected local acceptance of contained, "in-the-ground" thermal destruction of PCB contaminants over conventional incinerator operations, and 5) the criteria set forth for technology selection in the FS.

#### Remedy selected in 1989 ROD:

The major components of the remedy selected on September 15, 1989 included:

- 1) Excavation, consolidation, and treatment, via ISV, of approximately 1200 cubic yards of contaminated soil (soils with a PCB concentration greater than 10 ppm (mg/kg)).
- 2) Abandonment of the on-site well (in accordance with Washington state regulations).
- 3) Placement of approximately two feet of clean fill over the entire site.
- 4) Implementation of a comprehensive groundwater monitoring program to determine whether contamination is moving through the aquifer.
- 5) Sampling of the on-site wood structure to determine deeper matrix contamination.

### Subsequent Events and New Information:

After the ROD was signed, EPA reached agreements with many of the potentially responsible parties which did business with Northwest Transformer for them to conduct and finance: 1) a pilot test of ISV using material from the site to test the practical effectiveness of the selected remedy; 2) a groundwater monitoring program to determine whether groundwater at or near the site is contaminated with PCBs; 3) an evaluation of the wooden barn; and, 4) abandonment of the on-site well. This work is now largely complete.

The pilot test of ISV demonstrated that the technology would work but that the cost was much higher than originally anticipated. As part of this study, additional soil sampling was done to refine the estimated volume and extent of the soil contamination. The sampling confirmed that PCB concentrations in soils on-site generally do not exceed 100 ppm, and that there are less than 70 cubic yards of soil contaminated with 50 or more parts per million (ppm) PCBs, an additional 350 cubic yards above 10 ppm, and between 1,000 and 4,000 cubic yards above 1 ppm.

The groundwater monitoring program was set up to include 4 rounds of sampling of wells on and around the site. The detection limits were set at 0.05 parts per billion, one-tenth the Maximum Contaminant level for PCBs in groundwater. Two rounds of monitoring have been completed and the results have been analyzed. No PCBs have been found in either on- or off-site wells at or above the detection limit. EPA has not been able to reproduce the results reported by the Whatcom County Health Department in 1983-84, when some PCBs were detected in off-site wells at concentrations slightly above the minimum detection limit of 0.05 parts per billion. This may be the result of EPA's removal of source material in 1985. The third round of sampling, which included a new well near the original center of contamination, occurred in August, 1991 (initial reports are consistent with previous data but complete results are not yet available). A fourth round of sampling will be done after soil excavation and cleanup is completed.

The information available on the barn indicates that some of the barn material is contaminated with low levels of PCBs. As a result, the PRPs have proposed forgoing further characterization of the barn in favor of simply assuming the barn material is contaminated and disposing of it in the same way as the contaminated soils.

### Summary of EPA's Rationale for Changing the Currently Selected Remedy:

EPA began to consider changing the soils remedy in January 1991, because of new information about the site and the selected

remedy for soils developed in the course of a treatability study of ISV using on-site soils. While the treatability study demonstrated that ISV could destroy the PCBs at the site, other information developed during the study called into question the appropriateness of the remedy for this site.

The new information included soil sampling done during the study which demonstrated that the volume of soil above 10 ppm PCBs at the site was about 400 cubic yards, less than half the 1,200 cubic yards estimated in the 1989 ROD. Despite the lower volume of soils, between 1989 and 1991 the estimated cost of ISV more than doubled to \$1.6 million from the 1989 ROD estimate of \$771,000. Finally, the availability of a full-scale ISV unit became uncertain in February due to problems encountered by the manufacturer while testing the apparatus. The manufacturer has since abandoned its efforts to construct and test a full-scale ISV unit.

EPA has determined that further study of the groundwater and on-site barn as specified in the 1989 ROD are sufficiently complete to allow selection of final remedies for those media. Either a new operable unit or an amendment of the original ROD is necessary to address those media. EPA has decided to select final remedies for the barn and groundwater as part of this amendment.

#### **SITE HISTORY AND ENFORCEMENT ACTIVITIES**

In 1984, the site was added to the National Priorities list under CERCLA. In 1989, after completion of a detailed study of the nature and extent of contamination and a detailed analysis of cleanup alternatives, a remedy for the site was selected and described in a ROD. Site history and enforcement activities prior to the original ROD are discussed in that section of the September 15, 1989 document, to which the reader is referred for details.

The U.S. filed a complaint for recovery of past response costs in 1988 and later, when the PRPs would not agree to perform the remedy, added injunctive relief. The court date for the case has been postponed several times, and is currently planned for February 1992, if these matters are not resolved.

Key events that have occurred since the ROD was signed include:

On 2/9/90, EPA signed an Administrative Order on Consent with the PRPs for them to implement a work plan for the treatability study to evaluate the feasibility of implementing the selected remedy, ISV.

On 9/20/90, EPA signed an Administrative Order on Consent under which the PRPs agreed to perform groundwater monitoring and prepare a plan for sampling and/or demolition and safe removal of the barn.

In November, 1990, the PRPs' contractors conducted the first round of on- and off-site sampling as part of the groundwater monitoring program. A second round of sampling was done in March, 1991.

In January, 1991, the PRPs presented the results of the ISV treatability study, which demonstrated that ISV would work, but that the cost had gone up since the original ROD cost estimate was prepared.

In February, 1991, additional soil samples were taken to refine the estimated volume of contaminated soil on-site.

Since January, 1991, EPA has held discussions with the generator PRPs regarding resolution of the matters before the court, including recovery of EPA past costs and PRP implementation of the selected remedy or some equally protective alternative remedy. Consent Decree negotiations were successfully completed in August 1991, subject to the proposed ROD amendment and court approval of the proposed Consent Decree (a process which is projected to start in the fall of 1991).

In July, 1991, the Federal District Court formally entered a separate Consent Decree between EPA and the former owners and operators of NWT which called for payment of \$460,000 to the U.S. and deed restrictions on the property. The funds have been paid to the U.S. and deposited in the Superfund.

#### **SCOPE AND ROLE OF RESPONSE ACTION**

The areas of concern at this site at the time of the 1989 ROD were the contaminated soils, the wooden barn, and groundwater. The principal threat at the site is approximately 70 cubic yards of soil contaminated with 50 or more parts per million PCBs. Also of concern are those soils and the barn material contaminated with 1 to 49 ppm PCBs. Figure 2 shows the areas of the site needing remediation. Areas which have been statistically shown to comply with the 1 ppm cleanup level will not be remediated.

The selected remedy is intended to be the final remedial action for contaminated soils and debris on-site. Since PCBs have not been detected in the groundwater monitoring program, EPA has determined that no further action is warranted for groundwater, subject to completion and review of the Groundwater



## Monitoring Program.

### SUMMARY OF SITE CHARACTERISTICS

Site characteristics are described in detail in the Site Characteristics section of the original 9/15/89 ROD, to which the reader is referred for details. The following is a brief discussion of relevant information, particularly that developed since that ROD was signed.

The RI/FS documented that PCB-contaminated soils in excess of 10 ppm remained on-site, and that the risks posed by the presence of PCBs at the site justified taking remedial action. The RI/FS estimate was that approximately 1,200 cubic yards of soils contaminated with 10 or more ppm PCBs remained at the site. Although groundwater sampling was conducted to a limited extent during the RI/FS, and on a number of occasions previous to that, a thorough groundwater monitoring program was not done during the RI/FS.

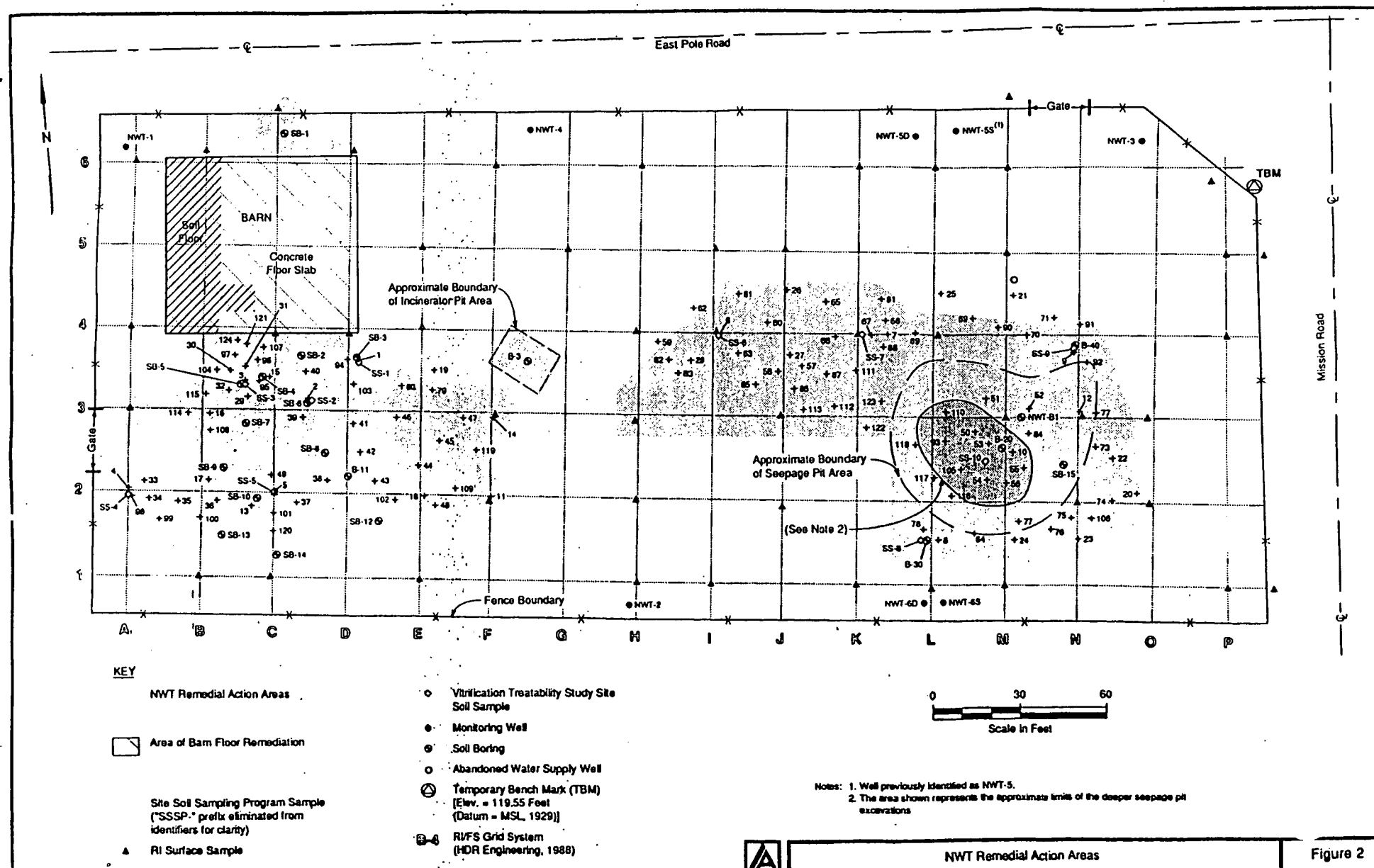
Recent sampling of on-site soils to refine the RI/FS data indicate that there are less than 70 cubic yards (cy) of soil contaminated with > 50 ppm PCBs, an additional 350 cy above 10 ppm, and between 1,000 and 4,000 cy > 1 ppm. RI/FS and subsequent sampling data have been statistically analyzed to determine remedial action areas and areas already in compliance with the cleanup standard (Figure 2).

The groundwater monitoring plan called for in the 1989 ROD is now underway, and includes three rounds of pre-remediation sampling and a fourth, post-remediation round. To date, two sampling events have been completed, with no PCB contamination detected above the detection limit (0.05 parts per billion) set for the program. This detection limit is an order of magnitude below the MCL for PCBs in groundwater (0.5 ppb). The third sampling event occurred in August, 1991, and while preliminary results appear to confirm earlier results, the validated data report is not available yet.

The information available on the barn indicates that some of the barn material is contaminated with low levels of PCBs. Additional samples of the floor and soil beneath the barn will be taken during remedial design to determine the appropriate disposal method for those materials.

# POOR QUALITY ORIGINAL

Figure 2



## SUMMARY OF SITE RISKS

The results of the risk assessment performed for this site are described in the Summary of Site Risks section of the September 15, 1989 ROD, to which the reader is referred for details. The following is a discussion of the basis for taking action to remediate soils and for not taking further action with respect to groundwater.

### Basis for Taking Action to Remediate Soils:

The risk assessment, using several sets of conservative exposure assumptions and the average soil PCB concentration on-site, estimated that the risks from exposure to contaminated soil on-site ranged from 5 in 100,000 ( $5 \times 10^{-5}$ ) to 2 in 10,000 ( $2 \times 10^{-4}$ ). Based on the increased risk of cancer and other diseases and the requirements of the federal Superfund law, EPA believes that soil remediation is necessary.

### Basis for No Remedial Action Decision for Groundwater:

For groundwater, no remedial action is necessary to ensure protection of public health and the environment. The basis for this conclusion is that recent on- and off-site groundwater studies have indicated that contaminants are not present, using a detection limit of 0.05 parts per billion. The detection limit is an order of magnitude more stringent than the Maximum Contaminant Level for PCBs, which is 0.5 ppb. Since the MCL is the standard generally used to set exposure levels for PCBs in groundwater that are protective of human health and the environment, and no contaminants have been found at the more protective detection limit, no remedial action is necessary.

## DESCRIPTION OF THE NEW SOIL CLEANUP ALTERNATIVES

The following is a brief explanation of the final candidate remedies which EPA considered for remediation of the contaminated soils. These alternatives were developed by reviewing the original Feasibility Study and ROD and integrating the new information about the volume and extent of contaminated soils, the cost and implementability of ISV, the Washington Model Toxics Control Act (MTCA) regulations, and agency experience since the 1989 ROD was signed.

Remedial actions must at least attain legally applicable or relevant and appropriate federal and state requirements (ARARs). ARARs were determined at the time of the 1989 ROD, but since that ROD is being amended, ARARs have been re-evaluated and are discussed in relation to the alternatives below.

More stringent Washington State requirements have been put into place since the 1989 ROD was signed. The state cleanup standard for PCBs in soils in residential areas is now 1 part per million, while the 1989 ROD was based on federal policy to clean up soils with 10 or more parts per million PCBs. Since Superfund cleanups must meet both federal and state requirements, the selected remedy complies with the more protective state standard and includes cleanup of soils with between 1 and 10 ppm PCBs.

Key features of the remedy and ARARs that are common to the alternatives include:

Since PCBs are the only contaminant of concern at this site, the applicable action- and chemical-specific federal cleanup requirements for PCBs, are described in the Toxics Substance Control Act (TSCA) PCB regulations for storage and disposal of PCB-contaminated media (40 CFR 761). Because there is no RCRA hazardous waste at the site, federal land disposal regulations will not apply.

The Method A cleanup levels for PCBs in residential soils specified in the Washington State Model Toxics Control Act (MTCA) Cleanup Regulations (WAC 173-340) are applicable for determining cleanup levels at this site. Other substantive requirements of MTCA were also considered in development, evaluation, and selection of the alternatives. A clean soil cover will be placed on the site and seeded after remediation. If material is left on-site containing between 1 and 10 ppm PCBs, the cover will have to meet MTCA regulations for determining closure and post-closure performance standards and institutional controls may be relevant and appropriate.

All alternatives include excavation of contaminated soils on-site and demolition of the on-site barn structure by conventional and protective methods. During these activities air monitoring will be done and dust suppressive measures will be utilized as necessary to control the release of dust and particulates. These measures will comply with applicable requirements, including Washington State General Regulations for Air Pollution Sources (WAC 173-400), which addresses control of fugitive dust and emissions during excavation and other field activities.

Transportation of materials from the site to disposal facilities will be done in accordance with Department of Transportation Hazardous Materials Regulations which address shipment of any hazardous material off-site (49 CFR, Subchapter C).

Materials contaminated with 50 or more ppm PCBs must be

disposed of by incineration at a TSCA-approved facility. Any off-site incinerators will be in compliance with the TSCA PCB regulations, applicable state laws, and other requirements of EPA's off-site disposal policy before waste is shipped.

Materials contaminated with between 1 and 50 ppm PCBs must be disposed of by landfilling at a TSCA-approved facility. Any off-site landfills will be in compliance with the TSCA PCB regulations, applicable state laws, and other requirements of EPA's off-site disposal policy before waste is shipped.

Additional ARARs which may apply to particular remedies are discussed below with the description of the alternatives. ARARs are also discussed in some detail in the Statutory Determinations section near the end of this document.

#### Alternative 1: In-Situ Vitrification and Capping (the originally selected remedy)

This alternative would use an innovative on-site thermal treatment process to permanently treat (destroy) the PCBs to less than 10 parts per million (ppm). Soils contaminated with less than 10 ppm would be contained on-site with a two-foot clean soil cover. Future use of the property would be restricted by maintenance of the soil cover and fence around the site, deed restrictions, and periodic reviews.

The major ARARs for this alternative include the ones mentioned above, plus this alternative would also trigger additional Washington Dangerous Waste regulations governing new waste generated by the vitrification process, as well as relevant air emissions regulations. This alternative does not comply fully with the MTCA requirement to cleanup to 1 ppm to the maximum extent practicable.

The cost estimate for this alternative was \$1,600,000 in January 1990, before GEOSAFE, Inc., ceased development of a full-scale ISV unit. Current estimates are that the cost could double to \$3,200,000 by the time the technology is available.

#### Alternative 2: Off-Site Incineration and Capping

Soil contaminated with 10 or more ppm PCBs would be excavated, transported to a TSCA-approved incinerator off-site, and treated by incineration. The remaining PCB-contaminated soils on-site would be contained by placement of a specially-engineered cap to prevent direct contact with contaminated soil and to prevent water from seeping down and moving contamination

off-site. Future use of the property would be restricted by maintenance of the cap and fence around the site, deed restrictions, and periodic reviews.

The cost-estimate for this alternative is \$2,500,000.

The major ARARs for this alternative include the ones mentioned above, plus this alternative could also trigger additional Washington Dangerous Waste regulations governing new waste generated by the incineration process, as well as relevant air emissions regulations. This alternative does not comply fully with the MTCA requirement to cleanup to 1 ppm to the maximum extent practicable.

#### Alternative 3: Off-Site Incineration and Off-Site Disposal

All soil contaminated with 50 or more ppm PCBs ppm would be excavated and transported to a TSCA-approved incinerator off-site for treatment. All soil and barn material with between 1 and 49 ppm would be excavated, transported to and contained at a TSCA-approved hazardous waste landfill. The site would be covered with approximately 2 feet of clean fill, and future use of the property would not be restricted.

The major ARARs for this alternative are the ones mentioned above. This alternative would fully comply with MTCA.

The cost estimate for this alternative is \$1,400,000, if the estimate of 1,500 cubic yards of material is correct. If additional soil is removed, the cost estimate would increase to as much as \$4,000,000.

#### Alternative 3A: Off-Site Incineration and Off-Site Disposal

This alternative is a variation on alternative 3. All soil contaminated with 50 or more ppm PCBs would be taken to a TSCA-approved incinerator off-site for treatment. All soil and barn material with between 10 and 49 ppm would be taken to a TSCA-approved hazardous waste landfill for containment, as well all soils with 1 or more ppm PCBs, up to a limit of 1,500 cubic yards of contaminated soil. A clean soil cover would be placed on the site and seeded. If all contaminated soils are removed, future use of the property would not be restricted.

If, however, after removal of 1,500 cy of contaminated soil (including all soils with 10 or more ppm PCBs) additional soil remains on-site contaminated with between 1 and 10 ppm, the cover and fence around the site would have to be maintained and future use would be constrained by deed restrictions.

The major ARARs for this alternative are the ones mentioned above. Having considered the soil sampling data, EPA and the State determined that 1,500 cubic yards was a reasonable estimate of the remaining contaminated soil on-site with 1 or more ppm PCBs, and that this alternative would comply with the MTCA requirement for treatment to the maximum extent practicable so long as all material at or above 10 ppm is removed, as well as at least 1,500 cubic yards of contaminated soil (or less if it can be demonstrated that the 1 ppm cleanup level is attained).

The cost estimate for this alternative is \$1,400,000, if the estimate of 1,500 cubic yards of material is correct. If additional soil must be removed, estimates range to as much as \$4,000,000.

#### **Alternative 4: Off-Site Incineration, Off-Site Disposal and Capping**

Soil contaminated with 50 or more ppm PCBs would be taken to a TSCA-approved incinerator off-site for treatment. Soil with PCB levels between 10-49 ppm would be taken to a TSCA-approved hazardous waste landfill and contained. The site would be covered with clean soil and a deed restriction would be placed on the property. After this alternative was developed and considered it was determined that it would not meet state requirements without a more impermeable soil cover.

The major ARARs for this alternative include the ones mentioned above. This alternative does not comply fully with the MTCA requirement to cleanup to 1 ppm to the maximum extent practicable.

The cost estimate for this alternative is \$1,000,000.

### **EVALUATION OF ALTERNATIVES**

The following is a brief discussion of the alternatives using the nine evaluation criteria. A slightly more complete summary is shown in Figure 3.

**Overall Protection of Human Health and the Environment:** All of the Alternatives satisfy this criteria, but Alternatives 1, 2, and 4 that leave contaminated soil on-site and 3A if it leaves contaminated soil on-site are less protective. All alternatives pose some risks of worker exposure or fugitive emissions during excavation, and Alternatives 2, 3, 3a and 4 pose potential transportation risks.

**Compliance with ARARs:** Alternative 1 met the requirements at the time the ROD was signed. Alternatives 3 and 3A meet all

requirements. Alternatives 2 and 4 do not meet state regulations

**Long-term Effectiveness:** Alternatives 3, 3A, and 1 best satisfy this criteria. Alternatives 3, 3A, and 4 include off-site landfilling of soils with between 1 and 49 ppm PCBs, and so shift some long term risks to the landfills. Alternatives 1, 2 and 4 leave soils up to 10 ppm on-site beneath a soil cover. Alternatives 1, 2 and 4 satisfy this criteria as long as the soil cap is not disturbed.

**Reduction of Toxicity, Mobility or Volume:** All of the alternatives meet this criteria because they reduce the toxicity of the most highly contaminated soils through incineration. For the principal threat, materials with PCB contamination of 50 ppm or more, incineration will reduce toxicity by at least 99%, and volume by at least 30%.

**Short-term Effectiveness:** All the alternatives could create some risk during the excavation, however, this risk will be mitigated by dust suppression and monitoring. Alternatives 2, 3, 3A and 4 create a additional risk during the off-site transport of the contaminated materials.

**Implementability:** Alternative 1 would be difficult to implement because there is not a full-scale vitrification unit available. Alternatives 2, 3A and 4 are equally feasible and available. Alternative 3 does present some uncertainty regarding the total amount of soil with 1 - 10 ppm PCBs.

**Costs:** All of the cost estimates are significantly higher than the cost estimates in the original feasibility study. The estimated cost of the selected remedy has at least doubled since the 1989 ROD was signed. Cost estimates varied between alternatives primarily with the amount of material to be thermally treated, next according to the amount of material to be landfilled off-site, and finally by the cover requirements and whether or not institutional controls will be required. Alternative 4 was the least expensive, followed by Alternative 3A. Assuming no further action for Groundwater, future operation and maintenance costs for Alternatives 1, 2, 4 (and 3A if necessary) would be very small. Some cost estimates were ranges due to uncertainties described in the preceding narratives. The cost of the alternatives ranges from \$1,000,000 to \$4,000,000.

**State Acceptance:** Alternatives 3 and 3A are acceptable. Alternatives 1, 2 and 4 are not acceptable, because treatment is preferable to containment where practicable under MTCA.

**Community Acceptance:** Based on written and oral comments received during the public comment period, Alternative 3A is acceptable to the community. Details are provided in the Responsiveness Summary attached to this ROD.



Evaluation Criteria:	Alternative 1 ISV Soils > 10 ppm PCBs; Soil Cover; Deed Restrictions	Alternative 2 Off-Site Incineration of Soils > 10 ppm; Capping; Deed Restrictions	Alternative 3 Off-Site Incin Soils > 50 ppm; Off-Site Landfill (LF) Soils 1-49 ppm; Delist	Alternative 3A Off-Site Incin Soils > 50 ppm; Off-Site LF Soils 1-49 ppm to extent practicable; Delist.	Alternative 4 Off-Site Incin Soils > 50 ppm; Off-Site LF 10-49 ppm; Soil Cover; Deed Restrictions
Overall protection of Public Health & the Environment	Very Protective. Thermal destruction permanently destroys PCBs > 10 ppm; When combined w/soil cover, all potential pathways/risks from soils eliminated; Some potential for airborne releases. No transport risks. Source to GW eliminated.	Very Protective. Incineration permanently destroys PCBs > 10 ppm; Combined w/soil cover, all potential pathways/risks from soils eliminated; Some potential excavation and transport risks; Source to GW eliminated.	Very Protective. Incineration permanently destroys PCBs > 50 ppm. Removal of soils > 1 to off-site LF eliminates risks and hazardous materials at site and to GW. Some potential transport risk and some risk transferred to LF.	Very Protective. Incineration permanently destroys PCBs > 50 ppm. Removal of soils > 1 to off-site LF eliminates risks and hazardous materials at site and source to GW. Some potential transport risk and some risk transferred to LF.	Very Protective. Incineration permanently destroys PCBs > 50 ppm; w/soil cover, all potential pathways from soils eliminated; Low potential for airborne releases; Some potential transport risks & LF risks; Source to GW eliminated.
Compliance w/ARARS	Met all ARARS at time ROD was signed; does not meet 1 ppm MTCA standard.	Meets all Federal ARARS; Ecology interpretation of MTCA is that 10-7 RCRA cap is needed	Meets all Federal and State ARARS; Can Delist	Meets all Federal and State ARARS; Potential for delisting	Meets all Federal ARARS; Ecology interpretation of MTCA is that 10-7 RCRA cap is needed.
Long-term Effectiveness	High. Risks of direct contact eliminated, current & future risks to GW below 10-6; Failure of cap poses risk < 10-6.	High. Risks of direct contact eliminated, current & future risks to GW below 10-6; Failure of cap poses risk < 10-6.	High. Risks of direct contact eliminated, current/future risks to GW < 10-6; some risk transferred to LF; no PCBs > 1ppm left on site	High. Risks of direct contact eliminated, current & future risks to GW < 10-6, some risk transferred to LF; no PCBs > 1ppm left on site	High. Risks of direct contact eliminated, current & future risks to GW < 10-6, some risk transferred to LF; Cap failure risk < 10-6
Reduction of Toxicity, Mobility & Volume	Highest. Principal threat (50 cy soil with > 50 ppm PCBs) treated on-site by ISV, along with 400 cy of less contaminated (10-49 ppm PCBs) soils; hazardous materials destroyed; Vitriified mass non-toxic.	Very High. Principal threat (50 cy soil with > 50 ppm PCBs) treated by incineration & hazardous materials destroyed; 400 cy of less contaminated (10-49 ppm PCBs) soils & ash to go to TSCA LF.	Satisfies preference: principal threat (50 cy soil with > 50 ppm PCBs) treated by incineration & hazardous materials destroyed; ash from incineration of soils to go to TSCA LF.	Satisfies preference: principal threat (50 cy soil with > 50 ppm PCBs) treated by incineration & hazardous materials destroyed; ash from incineration of soils to go to TSCA LF.	Satisfies preference: principal threat (50 cy soil with > 50 ppm PCBs) treated by incineration; hazardous materials destroyed; ash from incineration of soils to go to TSCA LF.
Short-term Effectiveness	May create air emissions during excavation & consolidation and/or during vitrification; at least 1 year before response objectives could be achieved.	May create air emissions during excavation; potential distribution of contaminated soil from trucks during transport to off-site incinerator; most likely at least 1 year before response objectives could be achieved.	May create air emissions during excavation; potential distribution of contaminated soil from trucks during transport to off-site incinerator & landfill; at least 1 year before response objectives could be achieved.	May create air emissions during excavation; potential distribution of contaminated soil from trucks during transport to off-site incinerator & landfill; at least 1 year before response objectives could be achieved.	May create air emissions during excavation; potential distribution of contaminated soil from trucks during transport to off-site incinerator & landfill; response objectives could be achieved this year.
Implementability	GEOSAFE ceasing commercial development; full-scale unit not available; PRPs very reluctant	Technically feasible & available; Requires ROD Amendment. Begin in 1992, finish in 1993.	Technically feasible & available; Requires ROD Amendment. Begin in 1992, finish in 1993.	Technically feasible & available; Requires ROD Amendment. Begin in 1992, finish in 1993.	Technically feasible & available; Requires ROD Amendment. Could implement in 1992.
Cost	ROD est. = \$ 771,000 Current est. = \$1.6-3.2 M	Current est. = \$ 2.5 M	Current est= \$1.4-4.0 M	Current est= \$1.4-2.3 M	Current est. = \$1.0 M
State Acceptance	State concurred in 1989, would not meet MTCA today	Not acceptable: cleanup to 1 ppm specified in MTCA.	Acceptable	Acceptable	Not acceptable: cleanup to 1 ppm specified in MTCA.

## THE SELECTED REMEDY

The selected remedy for contaminated soils and barn debris is Alternative 3A: Off-Site Incineration and Off-Site Disposal. This alternative complies with all ARARs as discussed previously and offers a reasonable likelihood of full compliance with the more stringent 1 ppm state cleanup standard for PCBs, while allowing for acceptance of institutional controls if complete removal is not practicable. In consideration of the volume and levels of contamination at the site and the original cleanup level of 10 ppm in the 1989 ROD, EPA and the state have agreed that for this site, removal and disposal of 1,500 cubic yards of contaminated soil will be deemed practicable, so long as all material contaminated with 10 or more ppm is remediated.

The major components of the selected remedy include:

- a) Treatment of soils contaminated with PCBs at levels greater than or equal to 50 ppm by off-site incineration at a TSCA-approved facility;
- b) Remediation of soils contaminated with PCBs at levels greater than or equal to 1 ppm and less than 50 ppm by off-site landfiling at a TSCA-approved facility to the maximum extent practicable (for this site, EPA and the Department of Ecology have determined that removal of up to 1,500 cubic yards of contaminated soils is the maximum extent practicable). All soils known to be contaminated with PCBs greater than or equal to 10 ppm will be remediated;
- c) Demolition of the barn and off-site disposal of the debris at a TSCA-approved off-site landfill facility. Soils and concrete inside the barn (the barn floor) will be tested and remediated if necessary;
- d) Placement of a clean soil cover (approximately 2 feet thick) over the entire site; and,
- e) In the event complete removal of soils contaminated with PCBs at levels greater than or equal to 1 ppm is not achieved and compliance with the 1 ppm cleanup level cannot be demonstrated (using the methods described in the performance standards), and hazardous substances remain on-site that preclude unrestricted use of the site, the following institutional controls will be required: regular inspection and maintenance of the soil cover and perimeter fence, and reviews no less often than every 5 years.

For groundwater, no remedial action is necessary to protect

public health and the environment, subject to completion of the Groundwater Monitoring Plan and EPA evaluation of the final results. EPA will reassess its decision if contamination is detected at levels of concern.

Remedial Action Performance Standards:

The Remedial Action shall be completed subject to the following standards of performance.

- A. The boundaries of the site Remedial Action (RA) areas within which soil is to be excavated and/or sampled for compliance monitoring purposes are shown on Figure 2.
- B. Within the RA areas, all soils and debris with PCB concentrations of 50 ppm or above shall be removed from the site and thermally treated in an off-site incinerator.
- C. All soils and debris with PCB concentrations equal to or greater than 10 ppm and less than 50 ppm shall be disposed of off-site by landfilling at a TSCA-approved facility. Soils and debris with PCB concentrations equal to or greater than 1 ppm and less than 10 ppm that are removed from the site shall be disposed of by landfilling at a TSCA-approved facility.
- D. Cleanup shall be deemed non-conditional (as described in MTCA), and not subject to periodic reviews, if no hazardous substances remain at the site which preclude unrestricted use of the site. If cleanup is conditional, periodic reviews will be conducted.
- E. For non-conditional site cleanup, remediation of soil (and barn floor concrete as necessary) with greater than or equal to 1 ppm PCBs is required such that statistical compliance with the 1 ppm cleanup level is achieved, or a 15-ft compliance depth (measured from the surface of the final soil cover) is reached for soil with less than 10 ppm PCBs.
- F. If a non-conditional site cleanup is achieved, EPA/Ecology will not require any of the institutional controls and reviews associated with a conditional site cleanup.
- G. The areas to be excavated may be divided into the following two, or possibly three, areas for evaluating statistical compliance with the cleanup level, including at least:
  - 1) The seepage pit; and,

2) The rest of the RA areas shown on Figure 1. The barn area may be included with 2) above or considered a separate area.

H. Seepage pit soil sampling grid areas that are shown by to contain less than 10 ppm PCBs and that have been excavated to 15 feet below the surface of the final soil cover will not be included in the evaluation of statistical compliance with the 1 ppm cleanup level. This is based on the provision that a sufficient number of samples are analyzed to calculate a statistically valid upper confidence interval for the mean PCB concentration.

I. A groundwater monitoring program (GWMP) approved by EPA is underway and must be completed in accordance with the existing Groundwater Monitoring Program Work Plan. In the event no PCB concentrations in groundwater samples exceed a practical quantitation limit of 0.25 ppb, the on-site groundwater monitoring wells shall be abandoned in accordance with all applicable or relevant and appropriate requirements. If, after completion of the Remedial Action, PCB concentrations in any two groundwater samples (as demonstrated by sampling wells according to the GWMP Work Plan) exceed a practical quantitation limit of 0.25 parts per billion per aroclor, additional monitoring or other analyses may be conducted to determine whether the selected remedial action remains protective.

#### **STATUTORY DETERMINATIONS**

EPA's primary responsibility under its CERCLA authorities is to ensure that remedial actions are protective of human health and the environment. Additionally, Section 121 of CERCLA, as amended by SARA, establishes several other statutory requirements and preferences. These specify that when complete, final remedial actions must comply with applicable or relevant and appropriate environmental standards unless a statutory waiver is justified. The selected remedy must also be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances as a principal element.

The selected remedy for the Northwest Transformer (Mission/Pole) site meets the statutory requirements of Section 121 of CERCLA, as amended by SARA, and to the extent practicable, the National Contingency Plan.

### Protection of Human Health and the Environment:

The selected remedy for soils is protective of human health and the environment and will reduce or eliminate the risks posed through each pathway by removal and disposal of contaminated soil and debris. If complete removal of contaminated soils and debris with 1 or more ppm PCBs is achieved, consistent with the performance standards contained in the decision summary, the remedy will result in no hazardous substances remaining on-site above health-based levels (the state's 1 ppm standard is considered to provide protection for a risk level of  $10E-6$ ), and no further institutional controls or remedial actions will be necessary. No periodic reviews will be conducted.

In the event complete removal is not achieved as described in the performance standards and hazardous substances remain on-site above health based levels, institutional controls, including maintenance of the soil cover and fence and deed restrictions will be required to protect against the risk of future exposure. In this event, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

For groundwater, no remedial action is necessary to protect public health and the environment. The basis for this conclusion is that recent on- and off-site groundwater studies conducted since the 1985 removal have indicated that contaminants are not present, using a detection limit of 0.05 parts per billion. This detection limit is an order of magnitude more stringent than the Maximum Contaminant Level for PCBs, which is 0.5 ppb. Since the MCL is the standard generally used to set exposure levels for PCBs in groundwater that are protective of human health and the environment, and no contaminants have been found at the more protective detection limit, no remedial action is necessary. EPA will reassess this decision if groundwater sampling after soil cleanup is complete shows contamination at levels of concern.

### Compliance with Applicable or Relevant and Appropriate Requirements:

Pursuant to SARA Section 121(d), remedial actions shall, upon their completion, reach a level or standard of control for such hazardous substances, pollutants or contaminants which at least attains legally applicable or relevant and appropriate federal standards, requirements, criteria, or limitations, or any promulgated standards, requirements, criteria, or limitations under a state environmental or facility siting law that is more stringent than any federal standard (ARARs).

The selected remedial action satisfies the requirements of Section 121 by complying with all ARARs that have been identified. No waiver of any ARAR is being sought or invoked for any component of the selected remedy. The action-specific and chemical-specific ARARs include the following:

- TSCA PCB regulations in 40 CFR 761.60 - 761.79, address the requirements for storage, treatment and disposal of PCBs and PCB-contaminated media. (this is also a chemical-specific ARAR)
- State of Washington Model Toxics Control Act (RCW 70.105D [WAC 173-340]) regulations establishing soil and groundwater cleanup standards for PCBs.
- Department of Transportation: Hazardous Materials Regulations in 49 CFR, Subchapter C, which address shipment of any hazardous material off site.
- Washington State Dangerous Waste Regulations (RCW 70.105 and WAC 173-303) address dangerous wastes which may be generated during remediation through air or fugitive dust emissions or accidental releases during transport are relevant and appropriate.
- Clean Air Act (42 USC 3609, 7601) National Ambient Air Quality Standards (40 CFR part 50); Ambient Air Quality Standards for Particulate matter (WAC 173-470); and Washington State General Regulations for Air Pollution Sources (WAC 173-400) address control of fugitive dust and emissions during excavation and other field activities.
- Minimum Standards for Construction and Maintenance of Wells (WAC 173.160) addresses how on-site wells will be abandoned by licensed well contractors. Though reporting and recording requirements are procedural requirements, well contractors are required to submit well abandonment information.

There are no location-specific ARARs for this site.

#### Land Disposal Restrictions

The selected remedy will not involve the placement of RCRA hazardous wastes. This being the case, the Land Disposal Restrictions will not apply.

### Other Criteria, Advisories, or Guidance To-Be Considered (TBC)

The following regulations and guidance were also considered:

- TSCA PCB Policy (40 CFR 761) which address the requirements for cleaning up a PCB spill.
- Guidance on Remedial Actions for Superfund Sites With PCB Contamination (OSWER Directive 9355.4-01, August 1990), which describes the recommended approach for evaluating and remediating Superfund sites with PCB contamination.
- U.S. EPA, Statement of Policy to Protect Environmentally Significant Agricultural Lands (EPA - September 8, 1978) The statement calls upon the agency to evaluate and mitigate direct and indirect impacts on agricultural lands during the preparation and review of environmental impact statements (or functionally equivalent documents).

#### Worker Health and Safety

NCP (section 300.150) specifies that OSHA regulations in 20 CFR Subpart 1910.120, which address worker protection standards for employees involved in operations at CERCLA sites are directly applicable to cleanup activities.

#### Cost-Effectiveness:

The cost-effectiveness of each alternative was evaluated. The selected remedy is cost-effective as it affords overall effectiveness and protectiveness proportional to its costs. Other remedial alternatives including innovative treatment technologies and/or treatment of greater quantities of the waste on-site are more costly than the selected remedy and do not afford additional protectiveness commensurate with their cost.

#### Utilization of Permanent Solutions to the Maximum Extent Practicable:

EPA believes the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a cost-effective manner for the Northwest Transformer (Mission/Pole) site. The selected remedy provides the best balance among the alternatives with respect the evaluation criteria. It is protective of public health and the environment, complies with all applicable environmental regulations, and combines permanent destruction of the principal threat with cost-effective containment of the remaining, less-contaminated soil. Implementability was an important

consideration in selection of the remedy given the problems experienced with implementation of ISV. The selected remedy offers a reasonable likelihood of complete removal of hazardous substances from the site and future unrestricted use, while allowing for acceptance of institutional controls to ensure protectiveness if complete removal proves impracticable.

Preference for Treatment As a Principal Element:

EPA believes that the incineration of soils contaminated with 50 ppm or more PCBs addresses the principal threat at the site and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

**DOCUMENTATION OF SIGNIFICANT CHANGES**

There have been no significant changes from the proposed plan. The selected remedy is the same as the preferred alternative described to the public in the August 20, 1991 public notice and proposed plan.



## Appendix A

### RESPONSIVENESS SUMMARY

#### Northwest Transformer Mission/Pole Road ROD Amendment

##### Overview:

The Northwest Transformer Superfund Site is located at the corner of Mission and East Pole Roads in Whatcom County, Washington. Northwest Transformer operations salvaged and repaired electrical transformers. Polychlorinated biphenyls (PCBs) were released during normal operations at the facility.

In 1985, EPA conducted a removal of contaminated soils and salvage materials from hot spot areas and decontaminated an old barn on the site. In 1986, the site was added to the National Priorities List, which is a list of sites requiring additional study and possible cleanup.

In 1988, following an investigation of the contamination at the site, EPA proposed a cleanup plan and requested public comment. EPA considered all comments and decided on a cleanup plan which was described in a Record of Decision (ROD) issued in September 1989. The cleanup called for the on-site treatment of contaminated soils by In-Situ Vitrification, a thermal treatment process that converts contaminated soil into a chemically inert glass and crystalline product, and further study of the barn on-site and groundwater in the area.

A pilot test of the remedy demonstrated that the soil cleanup technology would work, but the cost would be much higher than the original estimates. Further information showed the volume of soil needing treatment to be much less than estimated in the 1989 ROD. In addition, EPA now has enough information to propose removing the on-site barn material and no action for the groundwater.

On August 15, 1991, EPA released a Proposal to Amend the ROD. EPA held a public meeting on August 27 at the Everson Senior Center in Everson, Washington. Approximately 20 people attended the meeting and three people gave comments. Questions raised during the meeting are also summarized below.

A copy of the meeting transcript is available at the Everson Public Library in Everson, Washington and at the EPA Regional Office in Seattle.

##### Background on Community Involvement:

Since the 1989 ROD, community interest has been relatively

low. Community involvement has been primarily through the groundwater monitoring program where local wells were sampled.

As part of the public involvement process, a public meeting was held on August 27, 1991 at the Everson Senior Center on Main Street, in Everson, Washington. Approximately 20 people attended the meeting with several people giving comments. The meeting consisted of presentations from EPA, followed by comments, then a question/answer period.

#### Summary of Comments Received:

EPA held a public comment period from August 20 to September 18, 1991. Comments and questions raised during the public comment period are summarized below and grouped by category. Questions answered during the public meeting are generalized below with EPA's response to those concerns. Specific questions have not been included, however they can be found in the meeting transcript located in the information repository at Everson Public Library.

#### RESPONSIVENESS SUMMARY:

EPA received a total of 4 comments in support of Alternative 3A, one written and three orally at the public meeting. Several participants at the public meeting stated at various times that they saw no reason to take action at the site. No other alternatives received public support or comment.

#### Comments and Agency Responses:

Comment: EPA received a total of 4 comments in support of Alternative 3A, one written and three orally at the public meeting. Several participants at the public meeting stated at various times that they saw no reason to take action at the site. No other alternatives received public support or comment.

Response: Comments Noted.

Comment: While supporting Alternative 3A, one commentor requested that the EPA keep this site on the NPL and that the site not be returned to its previous use in any form or fashion.

Response: Comment noted. If hazardous substances remain on-site above health-based levels, future use and access will remain restricted.

Cost:

Comment: Many people expressed concern about the cost of the cleanup. Several people said that the cost would be passed on to them by increased utility rates. One commentor felt that EPA should be held accountable for the amount of money that is spent throughout the Superfund process.

Response: EPA believes all expenditures have been consistent with the NCP. Cost-effectiveness was considered as one of the statutory evaluation criteria for the site response actions. The commentors have been provided with additional information detailing the purposes for which funds were expended. Those responses are included in the Administrative Record.

Health:

General statement:

Commentor stated that when he was little he used to play around the site, and at times he and several other kids would put transformer oil on their faces. The commentor said that he does not have cancer and wants to know why we need to cleanup the site, if there does not appear to be any risk.

Response: EPA is not aware of any documented health effects related to exposures at this site. However, based on the increased risk of cancer and other diseases and the requirements of the federal Superfund law, EPA believes that soil remediation is necessary.

Comment: A representative from the County Health Department stated that the County Health Department supports cleaning up the site. The commentor also said that cleanup is very costly, but for those living near the site who have young children, cost does not matter.

Response: Comment noted.

Question: A commentor asked what health affects have been found related to the site, and whether EPA was aware of a reported cancer cluster near the site.

Response: EPA is aware of a letter from an individual working with the Indian Health Service detailing anecdotal and medical evidence regarding the causes of death and

illness in a family of people living near the site, including a number of different types of cancer. This information is being reviewed by the appropriate health professionals (ATSDR). While more work is necessary before conclusions can be drawn, preliminary indications are that there would be more likelihood of a link to a single source if the health effects were all similar, such as one type of cancer.

General:

**Comment:** One commentor stated that the government required PCBs in transformer oil as a fire retardant. The commentor feels that it is not appropriate to be required to do something and then be held liable for that by the government.

**Response:** Comment noted. However, this does not affect the CERCLA liability of the potentially responsible parties in this situation.

**Question:** What direction is the water flow under the site?

**Response:** The groundwater beneath the site flows to the North. Detailed information is included in the Groundwater Monitoring Program (GWMP) reports in the Administrative Record.

**Question:** Has EPA found any wells in area that are contaminated? If not, why is EPA continuing the cleanup?

**Response:** Approximately 17 wells off-site were sampled in November, 1990 along with on-site wells as part of the GWMP. In addition, 7 of those wells were sampled in March, and 7 more in August, 1991. No contaminants of concern have been detected above the detection limit in these or any other groundwater samples taken since the 1985 removal.

While groundwater is not contaminated, EPA believes that soil remediation is necessary because the remaining soil contamination on-site presents an unacceptable risk to public health and the environment, which must be addressed by remedial action.

**Question:** What levels of contamination are remaining on-site, and where are they located?

**Response:** Detailed soil sampling results are presented in the

recent Site Soil Sampling Program reports, which are part of the Administrative Record. That report includes the RI data plus the results of recent sampling, which demonstrated that the volume of soil above 10 ppm PCBs at the site was about 400 cubic yards, less than half the 1,200 cubic yards estimated in the 1989 ROD. A single sample was slightly over 2,000 parts per billion in one spot south of the barn. The levels in samples taken from below and beside that point were much lower. All samples with concentrations of PCBs which exceeded 1 ppm are within the shaded areas shown on Figure 2 of the ROD.

Question: One citizen said that he witnessed the activities during the removal and said that the trucks which took the soil off site were not covered. He asked why we had not covered the trucks and if there was a plan to prevent that from happening again.

Response: No information is contained in the files regarding covers for the trucks. All remedial activities in the future will be done according to all applicable federal and state standards.

Question: Where would the soil be taken to be incinerated?

Response: Soils and debris contaminated with 50 or more parts per billion PCBs will be taken to a TSCA-approved incineration facility.

**Appendix B**

**Administrative Record Addendum  
Index**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 SIXTH AVENUE  
SEATTLE, WASHINGTON**

**ADMINISTRATIVE RECORD ADDENDUM INDEX  
for the  
NORTHWEST TRANSFORMER (MISSION/POLE)  
SUPERFUND SITE  
Amended Record of Decision**

**SEPTEMBER 30, 1991**

This is an index of items which relate to this ROD Amendment and which have been added to the site Administrative Record since the original Record of Decision was signed on September 15, 1989.

NORTHWEST TRANSFORMER, MISSION/POLE - REMEDIAL A/R ADDENDUM INDEX

HEADING: 1. 0. . 1989 NORTHWEST TRANSFORMER REMEDIAL A/R INDEX

SUB-HEAD: 1. 1. . Index

1. 1. . - 0001 Microfilm Reel Frame Begins 1 Ends 1

DATE: 09/08/89 PAGES: 15

AUTHOR: /U.S. Environmental Protection Agency (EPA)

ADDRESSEE: /

DESCRIPTION: Administrative Record Index for Northwest Transformer - Remedial  
Everson, Washington

NORTHWEST TRANSFORMER, MISSION/POLE - REMEDIAL A/R ADDENDUM INDEX

HEADING: 2. 0. . REMEDIAL DESIGN/REMEDIAL ACTION

SUB-HEAD: 2. 1. . - Correspondence

2. 1. . - 0001 Microfilm Reel Frame Begins 1 Ends 1

DATE: 01/16/91 PAGES: 4

AUTHOR: Gary R. Reid/Puget Sound Power & Light Company (Puget Power)

ADDRESSEE: Christine Psyk/EPA

DESCRIPTION: Summary of views of Northwest Transformer (NWT) Technical Committee on additional soil sampling and analysis and the implications for implementation of the remedy

2. 1. . - 0002 Microfilm Reel Frame Begins 1 Ends 1

DATE: 01/31/91 PAGES: 2

AUTHOR: Charles E. Findley/EPA

ADDRESSEE: Gary R. Reid/Puget Power

DESCRIPTION: Response to 1/16/91 letter concerning additional soils sampling

SUB-HEAD: 2. 2. . Treatability Study

2. 2. . - 0001 Microfilm Reel Frame Begins 1 Ends 1

DATE: 01/12/90 PAGES: 168

AUTHOR: /Landau Associates, Inc.

ADDRESSEE: /Northwest Transformer Steering Committee

DESCRIPTION: Final Work Plan Northwest Transformer Site Vitrification Treatability Study\*

2. 2. . - 0002 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/22/91 PAGES: 121

AUTHOR: /Landau Associates, Inc.

ADDRESSEE: /Northwest Transformer Steering Committee

DESCRIPTION: Final Report of Engineering Consultation Vitrification Treatability Study Northwest Transformer (Mission/Pole) Site Everson, Washington

2. 2. . - 0003 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/22/91 PAGES: 87

AUTHOR: /Geosafe Corporation

ADDRESSEE: /Landau Associates, Inc.

DESCRIPTION: Volume 1: Project Report Engineering-Scale Test Report for Application of In Situ Vitrification Technology to Soils Contaminated with Polychlorinated Biphenyls at the Northwest Transformer Superfund Site\*



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2. 2. . - 0004 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/22/91 PAGES: 289

AUTHOR: /Geosafe Corporation

ADDRESSEE: /Landau Associates, Inc.

DESCRIPTION: Volume 2: Project Appendices (A through first part of E)  
Engineering-Scale Test Report for Application of In Situ  
Vitrification Technology to Soils Contaminated with  
Polychlorinated Biphenyls at the Northwest Transformer Superfund  
Site\*

2. 2. . - 0005 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/22/91 PAGES: 220

AUTHOR: /Geosafe Corporation

ADDRESSEE: /Landau Associates, Inc.

DESCRIPTION: Volume 3: Project Appendices (Second portion of E)  
Engineering-Scale Test Report for Application of In Situ  
Vitrification Technology to Soils Contaminated with  
Polychlorinated Biphenyls at the Northwest Transformer Superfund  
Site\*

2. 2. . - 0006 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/22/91 PAGES: 240

AUTHOR: /Geosafe Corporation

ADDRESSEE: /Landau Associates, Inc.

DESCRIPTION: Volume 4: Project Appendices (Conclusion of E through K)  
Engineering-Scale Test Report for Application of In Situ  
Vitrification Technology to Soils Contaminated with  
Polychlorinated Biphenyls at the Northwest Transformer Superfund  
Site\*

SUB-HEAD: 2. 2. 1. Vitrification Cost Estimates

2. 2. 1. - 0001 Microfilm Reel Frame Begins 1 Ends 1

DATE: 02/25/91 PAGES: 6

AUTHOR: /Landau Associates, Inc.

ADDRESSEE: /

DESCRIPTION: Section 3.0 Vitrification Cost Estimating Information

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SUB-HEAD: 2. 3. 1. Groundwater Monitoring Plan

2. 3. 1. - 0001 - Microfilm Reel Frame Begins 1 Ends 1  
DATE: 08/22/90 PAGES: 152  
AUTHOR: /Landau Associates, Inc.  
ADDRESSEE: /Northwest Transformer Steering Committee  
DESCRIPTION: Final Work Plan Northwest Transformer (Mission/Pole) Site  
Ground Water Monitoring Program

SUB-HEAD: 2. 3. 2. Phase I Field Activities

2. 3. 2. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 02/18/91 PAGES: 143  
AUTHOR: /Landau Associates Inc.  
ADDRESSEE: /Northwest Transformer Technical Committee  
DESCRIPTION: Volume 1 Technical Memorandum and Appendices A-D Ground Water  
Monitoring Program Phase I Field Activities and Ground Water  
Monitoring Event 1 Northwest Transformer (Mission/Pole) Site  
Everson, Washington

SUB-HEAD: 2. 3. 3. Phase II Field Activities

2. 3. 3. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 07/03/91 PAGES: 106  
AUTHOR: /Landau Associates, Inc.  
ADDRESSEE: /Northwest Transformer Technical Committee  
DESCRIPTION: Technical Memorandum Ground Water Monitoring Program Ground  
Water Monitoring Event 2 Northwest Transformer (Mission/Pole)  
Site Everson, Washington

2. 3. 3. - 0002 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 06/11/91 PAGES: 9  
AUTHOR: Gary R. Reid/Puget Power  
ADDRESSEE: Tim Brincefield/EPA  
DESCRIPTION: NWT Ground Water Monitoring Program (GWMP) Monthly Progress  
Report - May 1991 and Revision 9 of the GWMP Working Schedule

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SUB-HEAD: 2. 4. 1. Sampling and Analysis Plan

2. 4. 1. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 04/04/91 PAGES: 34  
AUTHOR: T.R. Pahl/EPA, Environmental Services Assistance Team  
ADDRESSEE: Tim Brincefield/EPA  
DESCRIPTION: Data Review of NW Transformer PCB Analysis

SUB-HEAD: 2. 4. 2. Results

2. 4. 2. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 05/03/91 PAGES: 12  
AUTHOR: Gary R. Reid/Puget Power  
ADDRESSEE: Tim Brincefield/EPA  
DESCRIPTION: NWT Mission/Pole Site Validated Site Soils Sampling Plan Data

2. 4. 2. - 0002 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 08/23/91 PAGES: 105  
AUTHOR: /Landau Associates, Inc.  
ADDRESSEE: /Northwest Transformer Technical Committee  
DESCRIPTION: Volume 1 Sampling and Analysis Report Site Soil Sampling  
Program Northwest Transformer (Mission/Pole) Site Everson,  
Washington

SUB-HEAD: 2. 5. 1. Correspondence

2. 5. 1. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 04/20/90 PAGES: 7  
AUTHOR: Gary R. Reid/Puget Power  
ADDRESSEE: Christine Psyk/EPA  
DESCRIPTION: Results of preliminary review of several barn wood sampling and  
disposal cost alternatives

SUB-HEAD: 2. 6. 1. Correspondence

2. 6. 1. - 0001 Microfilm Reel Frame Begins 1 Ends 1  
DATE: 02/22/91 PAGES: 4  
AUTHOR: Gary R. Reid/Puget Power  
ADDRESSEE: Charles E. Findley/EPA  
DESCRIPTION: Response to 1/31/91 letter (see document #2.1 0002) concerning  
additional soil sampling and possible change in the remedy