AMENDED RECORD OF DECISION
DECISION SUMMARY, AND
RESPONSIVENESS SUMMARY

FOR

GOULD SUPERFUND SITE
SOILS OPERABLE UNIT
PORTLAND, OREGON

JUNE 3, 1997

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

GOULD SUPERFUND SITE
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Site

Gould Superfund Site, Soils Operable Unit
Portland, Multnomah County, Oregon

Statement of Basis and Purpose

This decision document presents the selected amended remedial action for the Soils Operable Unit at the Gould Superfund Site (Site). This Record of Decision (ROD) Amendment has been 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), 42 U.S.C. Section 9601 et seq., and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The decision to amend the ROD is based on the administrative record for the Gould Site, which was updated April 25, 1997 to include additional information generated since the issuance of the ROD in 1988. The documents added to the administrative record since March 1988 are listed in Appendix C.

The State of Oregon concurs with the ROD Amendment.

Assessment of the Site

Actual or threatened releases of hazardous substances at the Gould Site, if not addressed by implementing the selected remedy documented in the ROD, as amended in this ROD Amendment, may present an imminent and substantial threat to human health, welfare, or the environment.

Description of the Amendment to the Remedy

This decision documents changes to several components of the selected remedial action for the Gould Site Soils Operable Unit. The ROD for this operable unit, signed on March 31, 1988, required treatment of contaminated battery casings to remove and recycle lead, and treatment of soil, sediment and matte to reduce the mobility of lead. This ROD Amendment allows treated and untreated contaminated material to be consolidated and contained in an on-site containment facility (OCF) on the Gould property.

The major components of the selected remedy include:

* Perform design studies to evaluate Site constraints and design parameters for, at least, consolidation and settlement, lateral and vertical support of the OCF, dewatering sediments, and the hydrogeologic impact of filling East Doane Lake remnant and the open excavation in the Lake Area (previously referred to as the Phase III Area) portion of the Rhone-Poulenc property;

* Construction of an OCF, which has a leachate collection system and allows for implementation of future Rhone-Poulenc cleanup actions, on the Gould property;

* Excavation and dewatering of East Doane Lake sediments contaminated above specified cleanup levels;

* Excavation of the remaining battery casings on the Gould property;

* Treatment (stabilization or fixation) of the lead fines stockpile (S-15), the screened Gould excavation stockpile (S-22); and other lead contaminated material identified as principal threat waste;

* Consolidating contaminated material, including sediments, treated and untreated stockpiled materials, casings, soil and debris in the lined and capped OCF;

* Filling the East Doane Lake remnant and the open excavation in the Lake Area of the Rhone-Poulenc property;

* Institutional controls, such as deed restrictions or environmental protection easements, which provide access to EPA for the purpose of evaluating the effectiveness of the remedial action, and which limit future use of properties within the Site to (1) industrial operations or other uses compatible with the protective level of cleanup achieved after implementation of the selected remedial action, (2) uses which do not damage the OCF cap and liner system or cause releases of buried materials;

* Performing groundwater monitoring to ensure the effectiveness of the cleanup and that contaminants were not mobilized during its implementation; and

* Long-term operation and maintenance requirements and reviews conducted no less often than every five (5) years to ensure the remedy continues to provide adequate protection of human health and the environment.

The selected remedy will also allow off-site disposal of contaminated materials from the Gould site at regulated Subtitle

D or Subtitle C disposal facilities. Off-site disposal may be necessary because of the uncertainty associated with final site quantities and design constraints. The selected remedy defers a cleanup decision on subsurface waste materials located on the Rhone-Poulenc and ESCO properties.

Declaration

Although this ROD Amendment changes several components of the remedy selected in the ROD, the remedy as amended continues to be protective of human health and the environment. The remedy as amended complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action and is cost effective. The remedy as amended continues to utilize permanent solutions to the extent practicable for this site. Significant quantities of hazardous substances have already been treated at this Site through partial implementation of the ROD. Treatment of the highly contaminated materials and treatment of materials classified as hazardous waste prior to their off-site disposal will be required; thus this remedy satisfies the statutory preference for treatment as a principal element.

Because this remedy will result in hazardous substances remaining on-site above health based levels, a review will be conducted within five (5) years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

Chuck Clarke

Chuck Clarke
Regional Administrator, Region 10
U.S. Environmental Protection Agency

Decision Summary

for the Gould Site Soils Operable Unit
Amended Record of Decision

INTRODUCTION

Site Name, Location and Description

The Gould Superfund Site (Site) is located in northwest Portland, Oregon near N.W. 61st Avenue in the Doane Lake industrial area between N.W. St. Helens Road and N.W. Front Avenue. It includes property owned by Gould Electronics (approximately 9.2 acres) and portions of property owned by Rhone-Poulenc AG Company (Rhone-Poulenc or RPAC), Schnitzer Investment Corporation, ESCO Corporation, and Burlington Northern Railroad Company.

The Site is also adjacent to property owned by RPAC which was formerly used for the manufacture, formulation, and distribution of pesticide products. RPAC is conducting a Remedial Investigation and Feasibility Study of contamination associated with their property under a Consent Order with the Oregon Department of Environmental Quality (DEQ).

Lead and Support Agencies

The U.S. Environmental Protection Agency (EPA) is the lead agency with the Oregon DEQ the support agency for the Gould Superfund Site.

Statutory Citation for a Record of Decision (ROD) Amendment

Section 117(c) of CERCLA, 42 U.S.C. S9617(c), provides for addressing and documenting changes to the selected remedy after issuance of a ROD. This ROD Amendment documents the changes to the remedy set forth in the ROD. Since fundamental changes are being made to the remedy selected in the ROD, public participation and documentation procedures specified in the NCP, Section 300.435(c)(2)(ii) have been followed.

Date of ROD Signature

The ROD for the Gould Site Soils Operable Unit was signed March 31, 1988.

Need for the ROD Amendment

The remedial action selected in the ROD has been partially completed. The need for this ROD Amendment arose during remedial action as a result of technical concerns. EPA has since determined that the remedy selected in the ROD is no longer

appropriate for completing the cleanup based on operating experience and conditions at the Site.

Administrative Record

This ROD Amendment will become part of the administrative record for the Gould Site, as required by Section 300.823(a)(2) of the NCP, and will be available for public review at the information repositories listed below:

US EPA
Hazardous Waste Records Center, 7th Floor
1200 Sixth Avenue
Seattle, Washington 98101

Multnomah County Library
Central Library
801 SW Tenth Ave
Portland, Oregon 97204

SITE HISTORY

The Gould Site was listed on the National Priorities List (Superfund) in 1983 because of documented lead contamination. A secondary lead smelting facility was constructed on the current Gould property and began operations in 1949 under the ownership of Morris P. Kirk and Sons. Facility operations consisted of lead-acid battery recycling, lead smelting and refining, zinc alloying and casting, cable sweating, and lead oxide production. Discarded battery casings and other waste materials from the operations were disposed on the Gould property and adjacent properties. NL Industries purchased the property in 1971 and sold it to Gould in 1979. The facility was closed in 1981 and by the summer of 1982 most of the structures, facilities, and equipment had been removed.

The location of the Gould property and adjacent properties is shown on the attached Figure 1. A detailed description of the Site, including pre-1988 history, past waste disposal activities, Site characteristics, and enforcement history, is included in the 1988 ROD and administrative record.

Remedy Selected in the ROD

EPA signed a ROD in March, 1988 for the Soils Operable Unit of the Gould site. The selected remedy included:

* Excavation of all of the battery casing fragments and matte from the Gould property and adjacent properties where casings have been identified;

* A phased design program to determine the amount of material that can be recycled and to minimize the amount of material that must be RCRA landfilled;

* Separation of the battery casing components;

* Recycling of those components (or portions of components) that can be recycled, off-site disposal for non-recyclable components that fail the EP toxicity test, and on-site disposal of non-hazardous, non-recyclable components;

* Excavation, fixation/stabilization and on-site disposal of the remaining soil, sediment, and matte;

* Soil capping and revegetation;

* Isolation of surface water runoff to East Doane Lake by site regrading; and

* A monitoring program to determine changes in groundwater contamination over time and to ensure that remediation does not adversely impact air quality.

The selected alternative also included additional study of surface and groundwater in the area to help determine whether action needs to be taken to deal with the contamination beneath the Site.

Post ROD Site History

On February 29, 1988, EPA sent Special Notice letters to Gould and NL to negotiate remedial design/remedial action. On June 15, 1989, a Consent Decree to implement was entered into whereby NL agreed to perform predesign studies which evaluated the remedy selected in the ROD. The predesign studies, which included bench scale, pilot scale, and field demonstration testing, were completed in 1990. The studies evaluated several aspects of the cleanup remedy, including the ability of a proposed process to separate, clean and recycle the battery casing components. Following the review of the Predesign Report (January, 1991) EPA determined that the results met the criteria in the Record of Decision and the Consent Decree.

NL Industries agreed to complete the detailed design plans and specifications under a Consent Order with EPA. EPA approved the remedial design on September 30, 1991.

Special Notice Letters were sent on July 23, 1991, to 21 companies requesting that they provide good faith offers to undertake the cleanup of the site. EPA entered into a De Minimis settlement with six of the companies who were smaller

contributors to pollution at the Site. The U.S. District Court for the District of Oregon approved entry of the De Minimis settlement in February, 1993. Negotiations between the other companies and EPA did not result in a settlement.

EPA issued a Unilateral Administrative Order to seven Gould Site potentially responsible parties (Gould Site PRPs) on January 22, 1992, which required them to implement the selected remedial action at the Gould Superfund Site. The seven companies named include past and present owners, past operators of the facility, and major contributors of waste sent to the site. The Gould Site PRPs have performed the directed remedial action.

Remedial Action under the ROD.

Excavation and treatment of contaminated surface soils, surface piles of battery casings, buried battery casings, matte (smelter waste), and other debris began in the summer of 1993. Excavated battery casings were processed through a battery treatment plant designed to separate materials (lead fines, metallic lead, clean plastic, and clean ebonite) for recycling. Contaminated soil and matte were stabilized and stored for backfill on the Site. Site operations included perimeter air monitoring and monthly groundwater monitoring at select wells on the Gould property.

In May, 1994, EPA, pursuant to the Unilateral Order, directed the Gould Site PRPs to evaluate alternative remedial actions and conduct test studies in order to improve efficiency and reliability at the Site. After this, work on the battery recycling process was limited to cleaning plastic for recycling while stabilization of other waste materials continued.

The Gould Site PRPs prepared a focused feasibility study (FFS) in response to the revised Unilateral Order. The FFS evaluated the treatment process and other potential treatment alternatives, including off-site disposal of waste materials. Following the submittal of the FFS, EPA determined that additional information and evaluation of organic contamination was necessary.

Most of the cleanup activity at the Gould site has been suspended pending an EPA determination on changes to the remedy previously selected in the ROD. Prior to suspension, an estimated 24,000 tons of contaminated battery casings were treated. Approximately 244 tons of plastic and 88 tons of coarse lead were recycled for reuse off-site. An estimated 20,000 blocks (1 cubic yard (cy) each) of stabilized material from contaminated soil, matte and debris)were produced. Several hundred tons of debris have been shipped off-site for disposal. The FFS estimated that 68,000 cy of untreated contaminated materials remain on-site. Of this amount, approximately 15,000 cy of contaminated material that has already been excavated is stockpiled on-site. Figure 2 shows the

lead impacted areas and locations of the stockpiles and stabilized blocks.

SCOPE AND ROLE OF OPERABLE UNIT REMEDIAL ACTION

The ROD issued in 1988 was for the Soils Operable Unit of the Gould Site. The Soils Operable Unit addresses lead contaminated battery casings, soil, sediment, debris, and other smelter waste at the Site. Lead contamination was the principal threat addressed in the ROD and is the primary contaminant of concern addressed in this ROD Amendment. A comprehensive discussion of the selected remedial action is included in the March 31, 1988 ROD.

The ROD stated that insufficient hydrogeologic information was available to make a decision on the groundwater unit. In order to gather additional information on groundwater contamination, EPA sent CERCLA 104(e), 92 USC §9604, information request letters to property owners in the Doane Lake area. After the ROD for the Soils Operable Unit was issued several industries in the area formed the Doane Lake Industrial Group (DLIG) and agreed to undertake an hydrogeologic investigation under a Consent Order with DEQ in 1990. A final report, *Hydrogeologic Investigation of the Doane Lake Area*, was submitted to DEQ in 1991. DEQ subsequently decided to focus on individual sites in the area rather than continue to pursue area wide studies with the industry group. The DLIG report data indicated that Rhone-Poulenc is a potential source of organic contamination in groundwater. DEQ is currently providing oversight of a remedial investigation and feasibility study, under an Order on Consent, at the RPAC site, adjacent to the Gould Site.

Additional groundwater and surface water investigations have been conducted as part of the remedial action and post-ROD investigation of the Site. Recent data from sampling of groundwater monitoring wells located on- and off-Site have not shown significant lead contamination. However, EPA does not anticipate making a determination on whether groundwater cleanup will be required until construction activities implemented in accordance with this ROD Amendment have been completed and groundwater quality has been monitored and evaluated. Groundwater monitoring will be conducted to determine the effectiveness of the lead-contaminated soil cleanup and to ensure that no contaminants were mobilized during implementation of the selected remedy.

SUMMARY OF SITE CHARACTERISTICS

A detailed description of the nature and extent of Site contamination is included in the administrative record for the ROD. Since the ROD was issued, significant additional information has been obtained regarding Site contamination.

Canonie Site Investigations

Canonie Environmental (Canonie), contractor for the Gould Site PRPs, performed a limited investigation of groundwater and soils in 1993 to estimate the risk to site workers from exposure to organic compounds and to identify potential production issues. Classes of compounds detected that could present a health risk to workers upon exposure included volatile organics, chlorinated herbicides, dioxins and furans, and phenols. Individual constituent concentrations in soil/fill and sediments were generally less than 1 mg/kg (less than 0.175 ug/kg for 2,3,7,8-TCDD). Based on a comparison of detected concentrations with personnel exposure standards, the risk of exposure to workers was estimated to be low. Canonie used a combination of engineering controls, safe work practices, and personal protective equipment to minimize worker exposure during remediation.

Canonie also determined that the organics in the excavated material would not affect the ability of the battery waste treatment plant to produce materials for recycle or the ability of the stabilization plant to generate stable materials for on-site disposal.

Canonie conducted additional site investigations in 1994 to develop a better estimate of the quantities of the various waste materials present at the site and delineate the extent of buried casings and matte. There were discrepancies between quantities of materials estimated in the ROD with those encountered during cleanup. The investigation determined that quantities of battery casings on the Gould property were significantly overestimated (54,100 cy ROD estimate vs 9,700 cy revised estimate). A summary of the ROD estimates and revised estimates is shown in Table 1. Table 1 also shows the estimated quantities that would be placed in the OCF and quantities that would be left in place under the ROD Amendment. Based on the revised estimates about 90 percent of the casings on the Gould property have already been excavated and treated.

Sampling and Analysis for Organic Constituents

Organic chemicals of concern have been encountered during a number of investigations of the Gould Site and surrounding areas. The source of the organic contamination at the Gould site is believed to be the former Rhone-Poulenc facility that was located

adjacent to the Gould Site. Because of the presence of organic contamination in the Gould Site Soils Operable Unit, additional site investigation has been conducted by the Gould Site PRPs and Rhone-Poulenc.

The information regarding organic contamination in surface and groundwater developed in earlier investigations (including the 1993 Canonie investigation) was reviewed and summarized in the *Review of Organics Data Collected at the Gould Superfund Site* (ENVIRON 1994). Groundwater samples collected at the Site from wells and temporary well points on Rhone-Poulenc property have had the following types of organic compounds reported: phenols, herbicides, dioxins, and furans. Organic compounds detected in surface water samples from the open excavation on the Lake Area portion of the Rhone-Poulenc property include 1,2-dichlorobenzene; 2,4-D; 2,4,5-T; 2,4,5-TP (Silvex); xylenes; dioxins and furans.

The highest concentrations of organics are associated with NAPLs, which have been found at depth below the RPAC former manufacturing plant property and the adjoining southwest corner of the Gould property. There have also been indications that NAPL may be present in the Lake Area (formerly referred to as the RPAC Phase III area).

Additional information regarding organic chemicals in East Doane Lake sediments, stockpiled material, and stabilized blocks was collected and presented in the *Amended Remedy Document* (ENVIRON 1996). In general, the highest concentrations of organics in the East Doane Lake sediments are in the shallow zone (upper 2 ft). The shallow sediments also contain lead levels that exceed the RCRA hazardous waste characteristic of EP toxicity, the cleanup level set in the ROD. The levels of organics reported do not appear to have had a significant adverse impact on lead stabilization.

Surface water from the East Doane Lake remnant was sampled in July 1995 by the Gould Site PRP Group. Chemicals detected in the water sample included metals (cadmium, chromium, lead, and zinc); petroleum hydrocarbons; herbicides (2,4-D, 2,4,5-T, and 2,4,5-TP); and furans.

Rhone-Poulenc Investigation

Rhone-Poulenc is conducting a Remedial Investigation/Feasibility Study (RI/FS) of soils and groundwater contamination. The RPAC RI/FS is investigating contamination of a large area which includes properties within the Gould Site. The RPAC RI/FS is being conducted under a Consent Order with DEQ pursuant to State authority. A substantial portion of the area to be remediated

for lead under the 1988 ROD is located in the Lake Area portion of the Rhone-Poulenc property.

Sediment Sampling and Investigation

Sediment samples in the East Doane Lake remnant were collected in 1994 at 16 locations. The samples were analyzed for total and leachable lead to estimate the volume of sediment to be remediated for lead. Additional samples were collected in 1995 at the same locations and were analyzed for organic constituents, including organochlorine insecticides, PCBs, and dioxins and furans. The frequency of detections and concentrations of organic compounds generally decreased with depth.

RPAC is conducting an evaluation of organic contamination in East Doane Lake sediments. Because the 1.5 to 2.0 feet of sediment fails RCRA EP Toxicity criteria for lead, the RPAC evaluation assumes those sediments will be removed and placed in the OCF as part of the remedial action under the Gould Site Amended ROD. The RPAC evaluation is being conducted as an Interim Remedial Measure under the RPAC RI/FS Consent Order. Results from this evaluation should be available prior to completing the final design of the remedy in this ROD Amendment. The RPAC evaluation will assess the impacts of organic contamination in the sediments on downgradient current and reasonably likely beneficial use of groundwater. If remedial action for the sediments below the anticipated 1.5 to 2.0 foot excavation depth under the Gould Site Amended ROD is deemed warranted by DEQ, the work will be conducted as a time-critical action under State authority. EPA and DEQ intend that additional excavation would occur during the Gould Site excavation to avoid unnecessary delay in the implementation of the amended remedy at the Gould Site. EPA and DEQ will consider allowing disposal of additional sediments in the OCF.

Amended Remedy Document

The Gould Site PRPs submitted a proposed alternative cleanup plan to EPA in October 1995. The proposed alternative which the PRPs submitted for EPA consideration was included in the *Amended Remedy Document* (ARD).

The proposed remedy called for consolidating the stockpiled contaminated soil, debris, and stabilized blocks within the area of contamination, and placing them in an OCF that includes a leachate collection system. The Gould Site PRPs proposed that the OCF be located on Gould property. The proposal also required that the East Doane Lake remnant be dredged and filled with clean fill, and that the excavated sediments be dewatered before placement in the OCF.

The proposal included a conceptual design of the OCF. EPA and DEQ identified several issues related to the proposal, including those listed below.

1) The design needs to provide for adequate control of water during the filling of the East Doane Lake remnant, and monitoring and control of potential impacts from displacement of contaminants in East Doane Lake water and sediments.

2) The OCF must be designed to accommodate implementation of future RPAC groundwater cleanup actions. This may reduce the area on the Gould property available for the OCF.

3) The OCF must be designed to provide control of stormwater runoff and leachate.

Wetlands Investigation and Evaluation

An evaluation of the potential impacts associated with the proposed dredging and filling of the East Doane Lake remnant was performed by the Gould Site PRPs. The report, entitled the *Wetlands Investigation of East Doane Lake* (Woodward Clyde, April 1996), classified East Doane Lake as non-wetland "open water" which has a well-defined bank and ordinary high water mark. A total of only 0.04 acre (1670 square feet) was considered wetlands. Wetland areas identified in the 1996 study are shown in Figure 3.

The East Doane Lake remnant is approximately 3.1 acres in size and located on the Gould and Schnitzer properties. It is the remnant of a larger water body that has been gradually filled as a result of industrial development and waste disposal activities, which includes the disposal of smelter and battery waste generated by the former operations on the Gould property.

EPA has reviewed the proposed action for compliance with the requirements of the Clean Water Act Section 404(b)(1) Guidelines. The Guidelines provide flexibility to adjust the stringency of the review for projects that would have only minor impacts. Minor impacts are associated with activities that generally would have little potential to degrade the aquatic environment and include projects that are located in aquatic resources of limited natural function and projects that are small in size and have little direct impact.

The East Doane Lake remnant is already impacted by existing chemical contamination, and is considered an aquatic resource of very limited natural function. Significant adverse impacts to the aquatic environment are already occurring at the site. East Doane Lake has been used for industrial waste discharge from the lead smelting facility formerly located on the Gould property, an

acetylene gas production facility formerly located on the Schnitzer site, and the herbicide production facility formerly located on the Rhone-Poulenc site. Remediation of the contaminated portions of the Gould Site Soils Operable Unit are expected to reduce or eliminate exposure to contaminated sediments and possible uptake of contaminants from the sediments into the aquatic environment.

The dredging of East Doane Lake was a component of the original remedy and is anticipated to have minor adverse impacts because of the limited and degraded nature of the aquatic ecosystem and organisms. Filling of East Doane Lake remnant with clean imported fill will eliminate the East Doane Lake aquatic ecosystem. Existing biological communities in the East Doane Lake remnant are considered to be degraded due to physical and chemical intrusions.

EPA has concluded that the 1988 ROD remedy is not a practicable alternative for completing the cleanup of the Gould site. Other alternatives evaluated in the 1994 FFS included: on-site stabilization with a combination of on-site and off-site disposal, on-site stabilization with on-site disposal of all stabilized material, on-site stabilization with off-site disposal, and off-site stabilization with off-site disposal.

The on-site disposal options included filling portions of the East Doane Lake remnant and/or constructing a disposal facility that would preclude reasonable future use of the property. Off-site disposal may be a viable option that could require additional treatment of significant quantities of the waste for organic constituents in addition to treatment for lead to meet RCRA land disposal restrictions. The alternatives were not considered to have significantly less impact on the aquatic ecosystem or the environment as compared to the proposed remedy to offset the increased costs and loss of reasonable future use of the property. Off-site disposal of some site materials would be allowed as a component of the proposed amended remedy.

EPA has further determined there is a greater net environmental benefit to be gained from protecting and/or enhancing a nearby off-site area with more suitable habitat potential than by selecting a remedial action that would protect an unsuitable habitat.

A mitigation/restoration plan will be required to compensate for the loss of the wetlands and open water habitat as part of the remedial action.

Proposed Plan

EPA issued a proposed plan for public comment that described EPA's preferred alternative for completing the cleanup of the Soils Operable Unit on April 1, 1996. The proposed alternative in the plan was based on the PRP proposal described in the ARD. The thirty day comment period on the plan was extended an additional thirty days at the request of one commentor.

Reasons for Issuing ROD Amendment

1) The battery casings treatment process is not an efficient or cost effective method of completing the site cleanup.

For several months the battery plant separated and treated contaminated casings excavated from the Site. However, this process was limited by operating problems. It was difficult to process the highly variable waste feed and produce consistent results in spite of making numerous modifications to improve the process. Battery casing fragments from the RPAC and ESCO properties are mixed with wood chips and other porous material that could not be cleaned effectively or separated from the ebonite and plastic. As a result, both the plastic and ebonite output from the plant often failed the EP Toxicity and TCLP tests for lead and had to be reprocessed. A detailed description of the operation of the battery plant is included in the FFS.

Estimated costs to complete the project using the battery processing plant increased substantially since the start of cleanup. The cost of the cleanup was estimated at the end of remedial design to be approximately $20 million. Revised estimates based on operating experience and updated information on waste quantities and characteristics were $40 to $56 million.

2) Only limited quantities of processed materials were recyclable, and most of the remaining waste is not recyclable

The battery plant produced coarse metallic lead (88 tons) and plastic (255 tons) products for recycle. The ebonite and lead fines products have not been recycled. Most of the remaining battery casings on the Site are located on the RPAC property, and significant quantities of coarse lead have not been recovered from this area. Most of the remaining untreated casing fragments on the Site are composed of ebonite. There is essentially no demand for the ebonite product and the ebonite treated to date is stockpiled on the Site. The lead fines product was much lower in concentration than was anticipated, and was not recyclable. The lead fines are also stockpiled on the Site.

3) Volume and nature of waste materials were different from RI estimates.

The results of additional investigation show that the amount of battery casings on the Gould property was overestimated in the ROD, and that most of the remaining subsurface material on the Gould property is matte, slag and debris (see Table 1). Post-ROD investigation and monitoring also indicate that stabilization to reduce the mobility of this material will be of questionable benefit because there is little evidence that lead associated with the subsurface matte material is mobile or has had a significant impact on area groundwater. There is also evidence that lead contaminated material is also contaminated with organics (presumably from the former RPAC facility).

4) Cleanup activities need to be coordinated with the RPAC RI/FS.

Approximately 10,215 cubic yards of casings have been excavated and treated from the Lake Area of the RPAC property portion of the Gould Site. The remaining casings, an estimated 17,500 cubic yards, are beneath several feet of other fill material and generally below the water table. Further subsurface excavation in these areas may adversely affect the migration of RPAC organic contaminants. RPAC is currently investigating this area under the Consent Order with the DEQ. DEQ and EPA agree that the remaining battery casings in the Lake Area should not be excavated until completion of the RPAC RI/FS. EPA will coordinate future cleanup determinations and remedial actions located on this portion of the Site with DEQ.

COMPARISON WITH THE NINE CERCLA EVALUATION CRITERIA

The proposed amended remedy includes excavation of the remaining battery casings on the Gould and Schnitzer properties portions, dredging and de-watering lead-contaminated sediments from East Doane Lake; containment of sediments, stockpiled materials (including previously treated materials), shallow soils, and debris in a lined and capped OCF located on the Gould property. The proposed OCF would cover most of the Gould property, approximately 8.5 acres, including the area now within East Doane Lake.

The NCP establishes nine criteria for evaluating remedial action alternatives. A discussion of the original remedy and amended remedy relative to the nine criteria is required by CERCLA. This section discusses the proposed changes to the existing remedy.

Overall protection of human health and the environment. This criterion addresses whether a remedial alternative protects human health and the environment. Protection is determined by assessing whether the risks associated with each exposure pathway (i.e., ingestion of soil, ingestion of groundwater) are eliminated, reduced, or controlled through treatment and engineering or institutional controls.

The potential critical pathways for lead identified in the endangerment assessment portion of the ROD were airborne exposure from on-site fugitive dust emissions, incidental oral ingestion of contaminated battery casings, matte and soil, and dermal contact and incidental ingestion of lead from surface water in the East Doane Lake remnant. The remedy in the ROD relied on treatment and recycling to reduce exposures. Contaminated material treated by stabilization would be backfilled on the Site.

The ROD Amendment still addresses lead as the primary contaminant of concern and provides additional protection for organic chemicals that are commingled with waste materials to be placed in the OCF. Routes of potential exposure to the materials placed in the OCF are eliminated by the liner and cap. The OCF will have a leachate collection system which will further protect groundwater quality.

Subsurface battery casings located on the RPAC and ESCO properties will not be excavated pursuant to this Amended ROD. The subsurface casings are located beneath several feet of other fill material and generally below the water table. The primary exposure pathway associated with the subsurface battery casing materials on this portion of the Site is groundwater, and there are concerns that continued excavation (especially in the southern portion of the Lake Area) could adversely affect the migration of organic contamination that is currently being characterized as part of the RPAC RI/FS.

Air monitoring conducted at the Site during past excavation has not detected levels of airborne contamination that constitute an unacceptable risk to human health and the environment.

Compliance with ARARs. The selected remedial action must comply with identified substantive applicable requirements under federal and state laws. The selected remedial action must also comply with laws and regulations that are not directly applicable but do pertain to situations sufficiently similar to those encountered at the Site, so that use of the requirements is well suited to the Site cleanup. These are known as relevant and appropriate requirements. Evaluation of remedial alternatives with chemical-, location-, and action-specific ARARs is necessary for determining compliance.

Both the ROD alternative and ROD Amendment alternative comply with ARARs. The ROD Amendment alternative will comply with federal and state ARARs by providing specific design and operating conditions that are developed to comply with specific requirements of these ARARs.

Long-term effectiveness and permanence. This criterion evaluates the ability of a remedial alternative to maintain reliable protection of human health and the environment once remediation goals have been achieved. The magnitude of the residual risk is considered as well as the adequacy and reliability of controls.

The ROD relied on treatment of lead contaminated materials to address health and environmental hazards. It was anticipated that removal and successful separation of the battery casing fragments would substantially reduce sources of pollution at the Site, and contamination in all media would decrease. Residual risk remaining after remediation would have been primarily posed by unremediated surface soils, groundwater and surface water. The ROD also assumed that backfilling the treated material on the Site without additional containment would be an effective long-term solution.

Under the ROD Amendment, the OCF will be designed, constructed, and monitored to ensure long-term effectiveness and permanence. Direct contact will be eliminated because the wastes will have been contained and/or capped, and the risk of leaching to ground water will be greatly reduced by the liner and leachate collection system. The liner and cap system will provide greater protection from organic contamination that is commingled with the lead contaminated waste than the remedy in the ROD. Further, containment of the contaminated wastes in the OCF reduces the potential for exposure to lead contamination from treated materials that could be affected by weathering or other factors if backfilled directly on the Site.

Long-term effectiveness under the ROD and the ROD Amendment is also dependent on assuming future land use is limited to approved industrial or other appropriate activities.

Reduction of toxicity, mobility or volume through treatment. This criterion addresses the statutory preference for selecting remedial actions that use treatment technologies that permanently reduce the toxicity, mobility or volume of the hazardous substances.

The treatment required in the original ROD remedy included waste separation and recycling of lead, plastic, and ebonite, and stabilization to reduce the mobility of lead. Stabilization reduces mobility but does not reduce the toxicity or volume of

waste material. Significant quantities of lead contaminated material have been treated as part of the remedial action that was partially implemented at the site. Approximately 20,000 cubic yards of waste have been stabilized to inhibit the migration of lead. A substantial portion of the principal threat lead waste has already been treated.

The ROD Amendment uses a combination of treatment and containment to reduce the mobility of lead. Lead remaining in the various waste materials does not appear to be highly mobile in groundwater. The aboveground, lined and capped OCF minimizes the low level threat of lead associated with potential leaching to groundwater. In addition, the threat of potential direct contact is limited by the containment and capping. Principal threat waste material will be treated prior to placement in the OCF to limit the potential release of the highly contaminated material in the unlikely event of a release from OCF.

Short-term effectiveness. This criterion refers to the period of time needed to achieve protection, and any adverse impacts on human health and the environment, specifically site workers and community residents, that may be posed during the construction and implementation period until cleanup goals are achieved.

Short term impacts for the amended remedy are similar to those identified in the remedy under the ROD. The potential short term community risk is inhalation of airborne dust during movement of the impacted materials. Site ambient air monitoring conducted during excavation and treatment activities indicates airborne contaminant concentrations of concern can be controlled to prevent levels that pose unacceptable risk. Typical personal protective measures will be taken to protect workers from airborne and dermal contact with contaminants.

Short term impacts associated with the dredging of East Doane Lake remnant, including increased concentrations of dissolved and suspended contaminants, were identified in the original remedy. The filling of the East Doane Lake remnant must occur at a rate that allows for gradual dissipation of displaced water. In addition, the use of temporary plastic covers for waste placed in the OCF will minimize potential exposures prior to final capping.

Implementability. This criterion refers to the technical and administrative feasibility of a remedial alternative, including the availability of goods and services needed to implement the selected remedy.

The treatment and recycle remedy selected in the ROD was partially implemented at the Gould site. Implementation of the remedy was difficult and cost estimates for completing the remedy

increased substantially. Although some phases of the cleanup were successful, continued operation of the treatment process was not a practical alternative for completion of the Gould site remedial action.

The excavation and construction of the OCF can be implemented using established engineering and construction techniques. A detailed design phase will be required, however, to ensure that construction and operation of the OCF will be adequately protective. The design will include special considerations for dredging and filling of the East Doane Lake remnant and handling of site materials. The services and materials to be utilized are readily available (e.g., import of fill materials, construction of liners, and placement of an asphalt cap).

Cost. Evaluation of project costs requires an estimation of the net present value of capital costs and O&M costs. The costs presented below (and in the 1996 ARD) are estimates. Actual costs could vary based on the final design and detailed cost itemization.

The total cost associated with the original remedy as estimated in the ROD was approximately $20.5 million, including capital cost of about $3.5 million and O&M cost of about $17 million (present worth). The estimated construction cost to date was estimated in the ARD at approximately $16.5 to $20.7 million, depending on adjustments for plant equipment amortization and contractor retentions. The cost associated with completing the remedy, with some modifications to optimize some process operations, was estimated at approximately $40.8 million.

The total estimated cost associated with the ROD Amendment remedy was estimated in the ARD at $10.5 million, including capital cost of about $10.1 million and O&M cost of about $400,000 (present worth). Additional costs associated with treatment and East Doane Lake mitigation could increase the capital cost an estimated $1.5 to $2 million.

State acceptance. DEQ has been actively involved with the development and review of the ARD, the Proposed Plan, and this ROD Amendment. The State of Oregon concurred with the 1988 selected remedy and concurs with this ROD Amendment. A letter of concurrence is included as Appendix B.

Community acceptance. The Proposed Plan was released to the public on March 31, 1996. EPA provided a thirty day public comment period to accept comments on the proposed amendment. A notice of availability of the Proposed Plan and the administrative record was published in the Oregonian on March 28, 1996. The comment period began on April 1, 1996 and was extended an additional thirty days at the request of one commentor. EPA

received one letter with several comments during the extended public comment period for this ROD Amendment. The Responsiveness Summary provides EPA responses to the specific comments.

DESCRIPTION OF THE SELECTED REMEDY

Based upon a consideration of the requirements of CERCLA, the comparative analysis of alternatives, and consideration of public comments, both EPA and DEQ have determined that the proposed amended remedy is the most appropriate remedy for completing the cleanup of the Gould Site Soils Operable Unit.

The major components of the selected remedy include:

* Perform design studies to evaluate site constraints and design parameters, including the following: consolidation and settlement, lateral and vertical support, dewatering sediments, stormwater runoff and control, leachate collection, treatment and disposal, and hydrogeologic impact of filling East Doane Lake remnant and the open excavation (also known as the Lake Area or Phase III Area) portion of the Rhone-Poulenc property;

* Construction of an OCF on the Gould property, which has a leachate collection system and allows for implementation of future Rhone-Poulenc cleanup actions;

* Treatment (stabilization or fixation) of the lead fines stockpile (S-15) and the screened Gould excavation stockpile (S-22), and other lead contaminated material identified as principal threat waste;

* Excavation and dewatering of EDLR sediments contaminated above specified cleanup levels;

* Excavation of the remaining battery casings on the Gould property;

* Consolidating contaminated material, including sediments, treated and untreated stockpiled materials, casings, soil and debris in the lined and capped OCF;

* Filling the East Doane Lake remnant and the open excavation on the Lake Area portion of the Rhone-Poulenc property with clean fill material;

* Mitigation/restoration to compensate for the loss of East Doane Lake wetland and open water habitat. A proposal identifying work to be performed, including at least one

off-site mitigation proposal, shall be submitted with the final design report;

* Institutional controls, such as deed restrictions or environmental protection easements, which provide access to EPA for the purpose of evaluating the effectiveness of the remedial action, and which limit future use of properties within the Site to (1) industrial operations or other uses compatible with the protective level of cleanup achieved after implementation of the selected remedial action, (2) uses which do not damage the OCF cap and liner system or cause releases of buried materials;

* Performing groundwater monitoring to ensure the effectiveness of the cleanup and that contaminants were not mobilized during its implementation; and

* Long-term operation and maintenance, including but not limited to, cap maintenance, leachate collection and treatment, stormwater runoff control, and reviews conducted no less often than every five (5) years to ensure the remedy continues to provide adequate protection of human health and the environment.

Design requirements described elsewhere in this document are also considered part of the selected remedy. A summary of design requirements referenced in this document is attached in Appendix D.

The selected remedy will also allow off-site disposal of contaminated materials from the Gould site at regulated Subtitle D or Subtitle C disposal facilities. Off-site disposal may be necessary because of the uncertainty associated with final site quantities and design constraints. The selected remedy defers a cleanup decision on subsurface waste materials located on the Rhone-Poulenc and ESCO properties.

Comparison of ROD with the ROD Amendment

The following lists each of the elements from the existing ROD, followed by a brief description of the actions that have been completed or partially completed to date, and a comparison with the corresponding element in the ROD Amendment.

* ROD - Excavation of all of the battery casing fragments and matte from the Gould property and adjacent properties where casings have been identified;

  Status - Partially completed. An estimated 24,500 tons of battery casings have been excavated and treated as part of the remedial action under the ROD. This represents about

56% of the estimated total. Approximately 18,500 tons of battery casings remain; 900 tons on the Gould property and 17,500 tons on the Rhone-Poulenc and ESCO properties.

ROD Amendment - Excavation of remaining battery casing fragments (900 tons) from the Gould property. Excavation of remaining matte from the Gould property located above the water table only. The decision on whether to excavate the 17,500 tons of casing fragments on the Rhone-Poulenc/ESCO properties will be deferred until completion of the Rhone-Poulenc RI/FS. As previously described, the casings on the Rhone-Poulenc/ESCO properties are located beneath several feet of fill.

* ROD - A phased design program to determine the amount of material that can be recycled and to minimize the amount of material that must be RCRA landfilled;

  Status - Completed

* ROD - Separation of the battery casing components;

  Status - Partially completed (see quantity estimates above). ROD Amendment - consolidate remaining battery casings from the Gould property in the OCF.

* ROD - Recycling of those components (or portions of components) that can be recycled, off-site disposal for non-recyclable components that fail the EP toxicity test, and on-site disposal of non-hazardous, non-recyclable components;

  Status - Recycling of components that can be recycled has been completed. The following components were recovered from the battery treatment process: 1) coarse lead, 2) fine lead, 3) plastic battery casing fragments, and 4) ebonite battery casing fragments. The coarse lead (88 tons) and plastic battery casing fragments (244 tons) were recycled. There was no market for the treated ebonite battery casing fragments. An estimated 7,500 tons is stockpiled on-site. The fine lead product was lower in concentration than anticipated for recycling (8 to 12% actual vs 40% design). An estimated 2,600 tons of lead fines is stockpiled on-site.

  ROD Amendment - Further recycling is not an objective of the ROD Amendment.

* ROD - Excavation, fixation/stabilization and on-site disposal of the remaining soil, sediment, and matte;

Status - An estimated 20,000 blocks (approximately one cubic yard each) of stabilized soil, matte and debris have been produced and stockpiled on-site. An estimated 22,400 cy of matte, slag and debris remains on the Gould site and 18,300 cy of contaminated overburden, fill and subsoils remain on the Rhone-Poulenc/ESCO properties.

ROD Amendment - Stabilized blocks and other contaminated material, including sediments, soil and matte located above the water table on the Gould property, will be consolidated in the OCF. Waste material greater than 40,000 mg/kg lead will be treated by stabilization or fixation prior to placement in the OCF. Surface soil contaminated above the 1000 mg/kg lead cleanup level on the Rhone-Poulenc and ESCO properties will be consolidated in the OCF. The other contaminated material located on the Lake Area portion of the Rhone-Poulenc property and the ESCO property will be addressed as described below.

* ROD - Soil capping and revegetation;

Status - excavated areas have not been capped

ROD Amendment - The OCF will be located on the Gould property and will have a multi-media cap covered by asphalt. EPA has determined, in consultation with DEQ, that a final decision on the need for a soil cap or other remediation of lead contamination in the Lake Area portion of the Rhone-Poulenc property and the ESCO property should be deferred until after the following actions have been completed: 1) removal of treated and untreated Gould Site waste material currently stockpiled on the Rhone-Poulenc property, 2) surface soil removal and confirmation sampling, and 3) completion of a risk assessment for organic contamination in soil in the Lake Area.

* ROD - Isolation of surface water runoff to East Doane Lake by site regrading;

Status - Not completed

ROD Amendment - After completing the removal of lead contaminated sediments, the East Doane Lake remnant will be filled with clean fill. Surface water runoff from the OCF will be collected for discharge via storm drains.

* ROD - A monitoring program to determine changes in groundwater contamination over time and to ensure that remediation does not adversely impact air quality.

Status - Ongoing

ROD Amendment - Air and groundwater monitoring will be conducted as part of the remedy.

Description of Changes to the Remedy

Several elements of the amended remedy are fundamental changes from the remedy described in the ROD. The major changes to the remedy are described below:

1) The contaminated materials that are stockpiled on-site and additional contaminated material to be excavated will not be treated in the battery treatment/recycle plant. The treatment/recycle plant has been decontaminated and disassembled. Instead, these contaminated materials will be consolidated, after treatment by stabilization or fixation of principle threat material (contaminated material above 40,000 mg/kg lead), in an OCF which will be constructed on the Gould property. The OCF will provide additional protection from organic contamination that is commingled with lead waste by eliminating pathways of exposure. The OCF will be designed to meet minimum technology requirements for RCRA Subtitle C landfills, including liners, leachate collection, and a cap. The RCRA Subtitle C cap will reduce direct contact/ingestion threat, air emissions and infiltration of water through the waste material. The liner will provide additional protection against leaching and as a barrier which further protects groundwater.

2) The lead fines stockpile (S-15) will not be recycled but will be treated by stabilization or fixation to meet RCRA land disposal restriction treatment standards and reduce the leaching potential of this material. The lead fines will be placed in the OCF after treatment. In addition, the screened excavation stockpile (S-22), which is considered principal threat material because of the high level of lead contamination (55,000 ppm lead), will be treated prior to placement in the OCF. Because the liners and cap provided with the OCF are as protective as treatment for non-principal threat lead waste, lower levels of lead contaminated material will not be treated.

3) Excavation of matte (a smelter waste material that was deposited on the Gould property) will be limited to material above the water table. Excavation of subsurface matte and debris below the water table will not be required under the ROD Amendment. Groundwater monitoring will be conducted to ensure that these remaining materials below the water table are not impacting groundwater.

4) Excavation of subsurface soil and the remaining battery casings on the Rhone-Poulenc and ESCO property portions of the Site will not be included in the remedy at this time. EPA will

reassess the need for further remedial action for subsurface soils and other waste materials after the stockpiled materials currently located on the property have been moved to the OCF and a risk assessment for the organic constituents has been completed as part of the Rhone-Poulenc RI/FS. EPA may, later, determine that disposal of subsurface materials or other waste materials from the Rhone-Poulenc and ESCO properties in the OCF is appropriate.

5) The East Doane Lake remnant will be filled to provide additional surface area for construction of the OCF, and to eliminate surface water pathways of exposure in this area.

The selected remedy includes excavation of the remaining battery casings on the Gould and Schnitzer property portions of the Site, dredging and de-watering of lead-contaminated sediments from the East Doane Lake remnant (EDLR); containment of sediments, stockpiled materials, including previously treated materials, shallow soils, and debris in a lined and capped on-site containment facility to be located on the Gould property. The proposed OCF will cover approximately 8.5 acres, most of the Gould property, including the area now within the EDLR. Potential future industrial uses of the Gould property will be considered in the design of the facility to the extent practicable.

When completed, the OCF is expected to contain approximately 60,000 cy of contaminated waste material, sediment, soil, and debris. The OCF will have a total thickness of approximately eight feet, including bottom liner, waste and impacted soil, cap system, and asphalt surface. A cross section of the proposed containment facility showing conceptual liner and cap details is presented in Figure 4. Final design of the containment facility will be subject to approval by EPA.

Ambient air monitoring around the site will continue during construction to ensure that remedial actions are carried out in a manner that is protective of public health. Monitoring of groundwater at the site will be conducted as part the closure and O & M requirements for the OCF and to ensure that the proposed remedy remains protective of area groundwater. Long term O & M will include cap maintenance, leachate collection and treatment, stormwater runoff control, institutional controls and reviews conducted no less often than every five (5) years to ensure the remedy continues to provide adequate protection of human health and the environment.

Cleanup Goals

The remediation goals in the original ROD are being retained with some exceptions. The goals for the various media are described below:

* The surface soil cleanup level for lead is 1,000 ppm, the cleanup level established in the ROD.

* The subsurface cleanup level for lead was the RCRA characteristic waste EP toxicity criteria. For newly generated waste, this test has been replaced by the TCLP criteria since the ROD was signed. EPA will allow use of the EP Toxicity criteria for materials that remain on-site to avoid having to retest material already characterized under the ROD.

* Not all subsurface soils and contaminated material that exceed EP Toxicity criteria will be removed under the ROD Amendment. EPA has determined that the buried matte material on the Gould property does not pose a significant risk for contamination of groundwater based on supplemental analysis, including additional leaching test information, conducted on this material. EPA will reassess the need for remedial action for subsurface soils and other waste materials in the Lake Area portion of the Rhone-Poulenc property after the stockpiled materials currently located on the property have been moved to the OCF and a risk assessment for the Rhone-Poulenc constituents has been completed.

* Treatment and recycle of battery casings will no longer be an objective of this remedial action.

Remedial Action Performance Standards

The Soils Operable Unit remedial action area is shown in Figure 5. The Soils Operable Unit remedial action shall be completed subject to the following standards of performance:

A. Within the Operable Unit remedial action areas, all surface soil with lead concentrations of 1,000 ppm or above shall be excavated and placed in the on-site containment facility. There are no specific ARARs for lead in industrial soil; however, a surface soil cleanup level of 1,000 ppm was established in the ROD. EPA set the lead cleanup level at 1,000 ppm for surface soil based on current and future industrial land use. The 1,000 ppm cleanup level is sufficiently protective

for on-site workers, and has been used in the past for similarly contaminated sites where the expected future land use is industrial. This is consistent with the present and anticipated future land use.

B. Contaminated waste shipped off-site must meet all applicable regulations including RCRA requirements for defining, characterizing and listing hazardous waste (40 CFR 261), land disposal restrictions (40 CFR 268) and EPA's Off-Site Disposal Rule (40 CFR 300.440). Any off-site transportation of RCRA characteristic soil must comply with RCRA hazardous waste manifesting and transporter requirements (40 CFR 262 subpart B and 40 CFR 263), the Department of Transportation Hazardous Materials Regulations which address shipment of any hazardous material off-site, and Oregon Administrative Rules (OAR Chapter 340, Division 101-105).

C. On-site excavation of contaminated soils and sediments will be by conventional protective methods. During these activities, air monitoring will be conducted and dust suppressive measures will be utilized to control the release of dust and particulates. These measures will comply with the applicable federal Clean Air Act requirements (40 CFR Part 50) and Oregon Administrative Rules.

D. Occupational Safety and Health Act (OSHA) requirements (29 CFR Part 1910 and 1926) pertain to workers engaged in response or other hazardous waste operations. Lead-contaminated soil excavation is considered a hazardous waste operation at this Site. Although this regulation is not an ARAR, remedial workers must comply with these OSHA requirements.

E. Dredging and filling of the East Doane Lake remnant is subject to the requirements of Section 404 of the Clean Water Act, and a mitigation/restoration plan will be required.

F. The OCF will be constructed above the water table and will be designed, constructed and operated to meet 40 CFR 264 Subpart N requirements for landfills, including: 1) 264.301 design and operating requirements for liners and leachate collection systems, 2) 264.303 monitoring and inspection requirements, 3) 264.310 closure and post-closure care requirements for covers which minimize migration of liquids, function with minimum maintenance, and provide long-term integrity. 40 CFR 264 Subpart G, Closure and Post-Closure requirements are also relevant and appropriate

requirements, specifically 1) 264.111 closure performance standard, 2) 264.114 disposal/decontamination requirements for soils, equipment, and structures, and 3) 264.117 post-closure care and use of property.

G. Stormwater runoff and leachate collected from the OCF will be managed in accordance with requirements of the Clean Water Act and Oregon Administrative Rules.

H. Groundwater monitoring will be required to ensure that the remedy is protective of Site groundwater and complies with RCRA closure and post-closure requirements.

Assessment of Further Remedial Action for the Lake Area

EPA has determined, in consultation with DEQ, that a final decision on the need for a soil cap or other remedial action for subsurface lead contamination in the Lake Area should be deferred until after the following actions have been completed: 1) removal of treated and untreated Gould site waste material currently stockpiled on the Rhone-Poulenc property, 2) removal of surface soil contaminated above 1,000 mg/kg lead, 3) confirmation sampling, and 4) completion of a risk assessment by Rhone-Poulenc for organic contamination in the Lake Area.

STATUTORY DETERMINATIONS

EPA's primary responsibility at CERCLA sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA, 42 U.S.C. §9621, establishes several other statutory requirements and preferences including: (1) a requirement that the remedial action complies with applicable or relevant and appropriate environmental standards established under federal and state laws unless a statutory waiver is invoked; (2) a requirement that the remedial action be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and, (3) a statutory preference for remedies that permanently and significantly reduce the volume, toxicity or mobility of hazardous substances over remedies that do not achieve such results through treatment.

The selected remedial action meets the statutory requirements of CERCLA, and, to the extent practicable, the NCP. The evaluation criteria are discussed below.

Protection of Human Health and the Environment:

The amended operable unit remedial action is protective of human health and the environment. It reduces risks associated with lead contamination by excavating contaminated material, treating highly contaminated material, and placing contaminated material in the lined and capped on-Site containment facility.

While this remedial action will address contaminated soils above levels protective of on-Site workers under a future industrial land use scenario, lead will remain above residential health-based levels thereby prohibiting unrestricted future land use. Reviews will be conducted no less often than every five (5) years following initiation of the remedial action to ensure adequate protection of human health and the environment.

Compliance with Applicable or Relevant and Appropriate Requirements:

Pursuant to Section 121(d) of CERCLA, 42 U.S.C. §9621(d), and Section 300.435(b)(2) of the NCP, remedial actions shall, during their implementation and 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 this section of CERCLA by complying with all identified ARARs. No ARAR waivers have been sought or invoked for any component of the selected remedial action. The chemical- and action-specific and location-specific ARARs for the amended remedy at this Site include the following:

RESOURCE CONSERVATION AND RECOVERY ACT 40 U.S.C. § 6901 et seq.

RCRA regulations (40 CFR 261-263 and 268), and Oregon Administrative Rules (OAR) 340-100-108, address the requirements for defining, characterizing and listing hazardous wastes; for generators pertaining to manifesting, transporting, and recordkeeping; for transporters pertaining to shipment of hazardous wastes off-site; and, land disposal restrictions.

These regulations are applicable to the characterization and off-site disposal of contaminated waste from the Site.

RCRA Regulations 40 CFR Part 264 address Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities. The construction of the OCF and consolidation of contaminated material in the OCF will occur within the area of contamination. The OCF is not considered a new unit. The following are relevant and appropriate to the construction of the OCF:

* 40 CFR 264.18(a) and (b) standards for seismic considerations and floodplain design, construction, operation and maintenance to prevent washout.

* Subpart F: Release From Solid Waste Management Units, 40 CFR 264.91 - 264.100 Groundwater monitoring requirements to establish a detection monitoring program (264.98), a compliance monitoring program (264.99) and corrective action monitoring program (264.100). All monitoring requirements must meet general groundwater monitoring requirements (264.97).

* Subpart G: Closure and Post-closure,
  40 CFR 264.111, Closure performance standard
  40 CFR 264.114, Disposal and decontamination of equipment and structures
  40 CFR 264.117, Post-closure monitoring
  40 CFR 264.119, Post-closure notices

* Subpart L: Waste Piles
  40 CFR 264.251 Design and operating requirements

* Subpart N: Landfills
  40 CFR 264.301 Design and operating requirements to install two liners, a top liner that prevents waste migration into the liner, and a bottom liner that prevents waste migration through the liner. Install leachate collection systems above and between the liners. Construct run-on and run-off control systems capable of handling the peak discharge of the 25-year storm.
  40 CFR 264.303 Monitoring and inspection requirements
  40 CFR 264.310 Closure and post-closure care - Installation of final cover to provide long-term minimization of infiltration; 30 year or longer post closure care and monitoring requirements.

CLEAN AIR ACT 42 U.S.C. §§ 7401 et seq.

40 CFR Part 50 National ambient air quality standards for lead and particulate matter are applicable to the control of fugitive dust emissions during excavation and other field activities.

CLEAN WATER ACT 33 U.S.C. §§ 1251 et seq.

Clean Water Act regulates direct discharges to surface water (Section 301, technology based effluent limitations; 303, 304 federal water quality criteria), indirect discharges to publicly owned treatment works (Section 307, pretreatment), and discharges of dredge-and-fill materials into surface waters (including wetlands) (Section 404).

CWA Section 301 Requirements for Technology Based Effluent Limitations are applicable for direct discharges. Discharge limits for the Gould site will be set to meet the Willamette River water quality criteria for toxic pollutants (OAR 340-41-445)

CWA 303 and 304 Requirements for Federal Water Quality Criteria are substantive requirements that are relevant and appropriate for control of leachate from the OCF.

CWA 307 Regulations for Toxic and Pretreatment standards. Discharges to POTWs may be subject to specific local limits, which are established in City of Portland Code, Section 17. These requirements are applicable if leachate is discharged to the City sewer system.

CWA Section 402 Requires dischargers of pollutants from any point source into surface waters of the U.S. to meet certain requirements and obtain a NPDES permit. On-site discharges from a CERCLA site must meet the substantive NPDES requirements only. 40 CFR 122.26 describes requirements related to storm water discharges.
40 CFR Part 125, Subpart A, describes Criteria and Standards for Imposing Technology-based Treatment Requirements Under Sections 309(B) and 402 of the Act.

40 CFR Part 125 - Subpart K, Criteria and Standards for Best Management Practices Authorized Under Section 304(e) of the Act are applicable to control of releases of hazardous pollutants into surface waters during cleanup.

CWA Section 404 and ORS 196.800 to 196.990 contain requirements that pertain to dredging and filling of hydric soils and/or wetlands areas. Substantive requirements are applicable to the dredging and filling of the East Doane Lake remnant.

HAZARDOUS MATERIALS TRANSPORTATION ACT 49 U.S.C. Ap. §§ 1801 et seq.

49 CFR Parts 171-177 U.S. Dept. of Transportation-Subchapter C - Hazardous Materials Regulations are applicable to any off-site disposal of hazardous waste.

OTHER CRITERIA, GUIDANCE, AND STANDARDS TO BE CONSIDERED (TBCs)

The following guidance was also considered:

> EPA's *Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities* (Office of Solid Waste and Emergency Response [OSWER] Directive No. 9355.4-12; EPA 1994) establishes a residential "screening level" of 400 ppm, above which further study is warranted. A cleanup level of 1,000 ppm has been selected for this Site since this level is considered protective of on-Site workers, and the property comprising the Site is zoned industrial.

In addition, the Occupational Safety and Health Act (29 CFR Parts 19010 and 1926) must be adhered to as it addresses safety requirements for workers engaged in response or other hazardous waste operations.

Cost-Effectiveness:

The cost-effectiveness of each alternative was evaluated, including those which were screened out prior to the alternatives assessment in the Amended Remedy Document. The selected final operable unit remedial action is cost-effective as it affords overall effectiveness and protectiveness proportional to costs. Other remedial alternatives considered were found to be generally more costly without affording additional protectiveness commensurate with their cost.

Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable:

EPA and DEQ have determined that the selected remedial action represents the best balance of tradeoffs among the alternatives considered with respect to EPA's nine evaluation criteria. The remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a cost-effective manner. It is protective of human health and the environment, and complies with all applicable environmental regulations. This remedial action also utilizes treatment where feasible and practicable.

Preference for Treatment As a Principal Element:

Significant quantities of hazardous substances have already been treated at this Site through partial implementation of the ROD.

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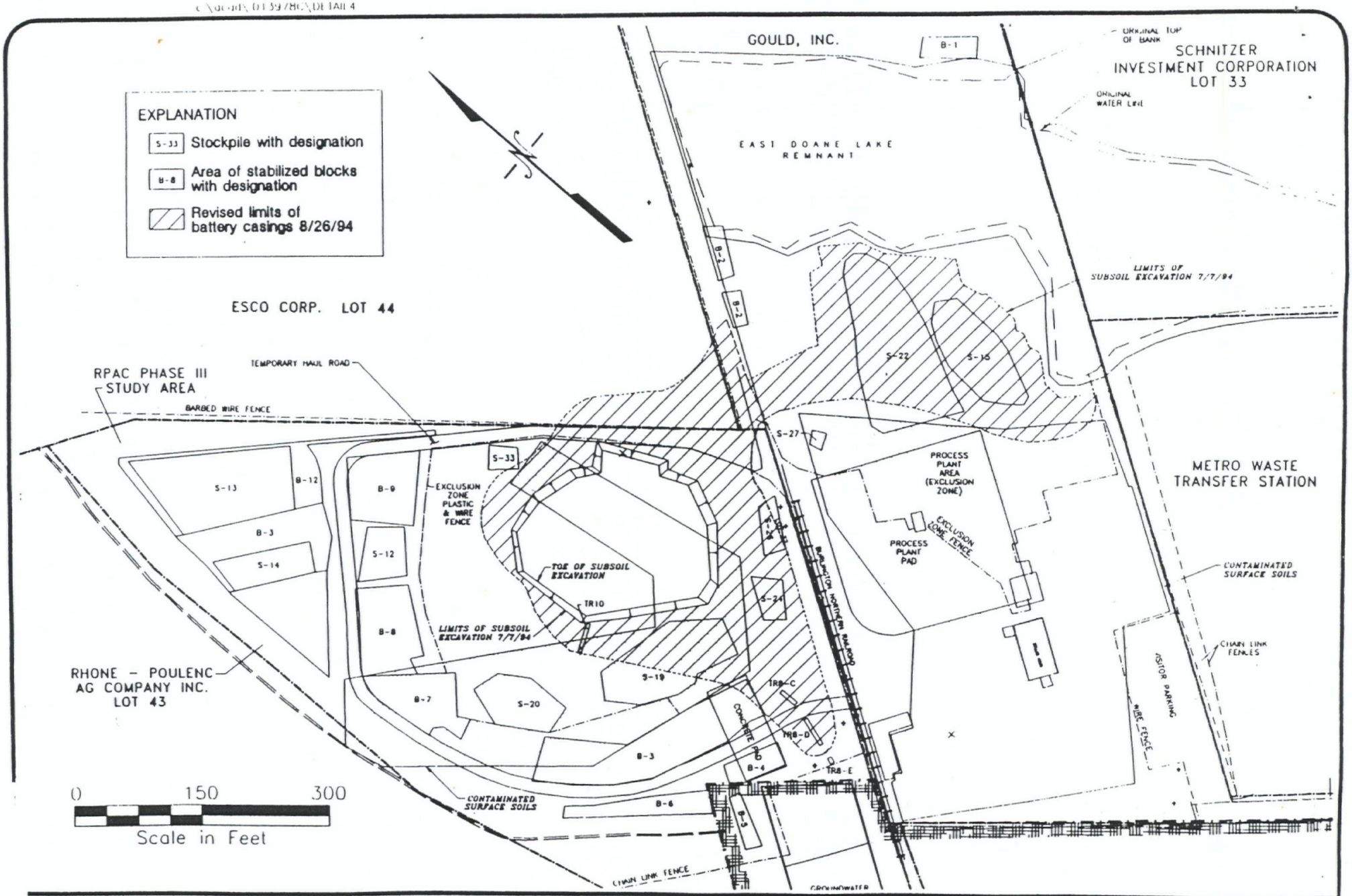

ENVIRON

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LEAD-IMPACTED AREAS
AND LOCATIONS OF STOCKPILES AND BLOCKS
GOULD SUPERFUND SITE - PORTLAND, OREGEON

Figure
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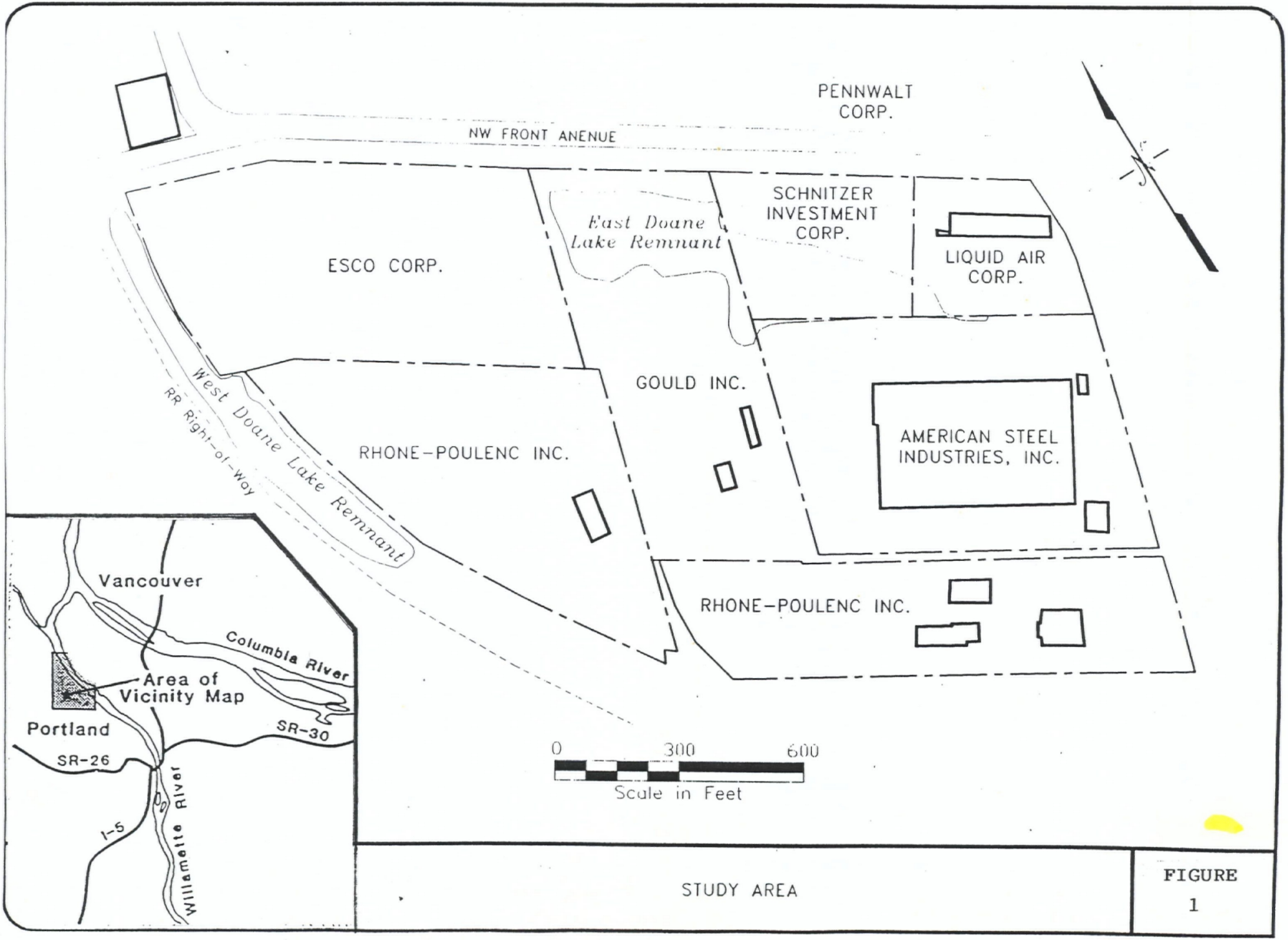


STUDY AREA

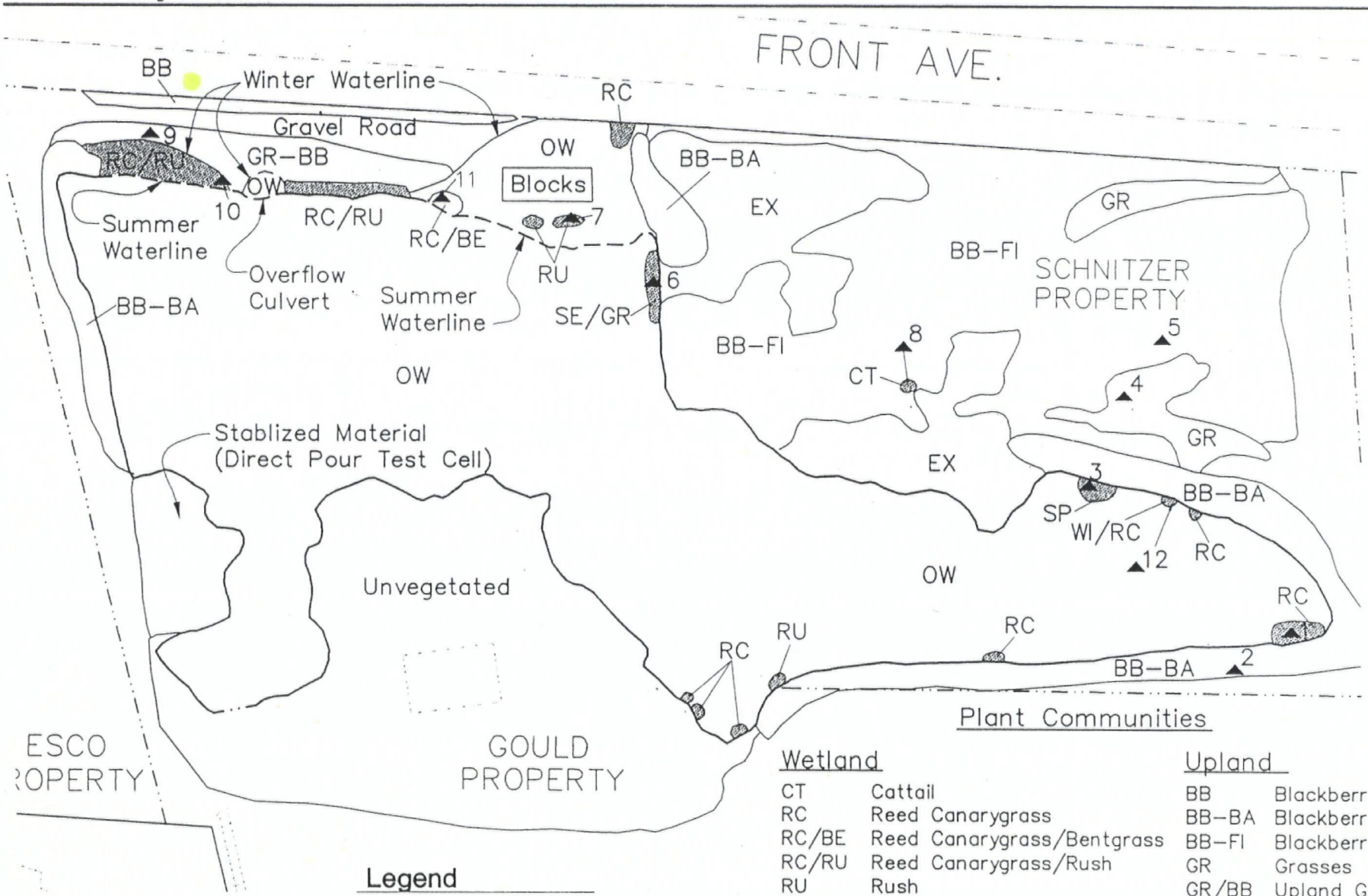
FIGURE 1

Treatment of highly contaminated waste materials prior to on-site disposal and treatment of materials classified as hazardous waste prior to off-site disposal will be required; thus this remedy satisfies the statutory preference for treatment as a principal element. By treating the most highly contaminated soil and other waste material prior to disposal in the OCF or at an off-Site permitted landfill, the selected remedy satisfies the preference for treating the principal threat posed by the Site.

Documentation of Significant Changes

The Proposed Plan was released for public comment in April 1996. Comments received during the public comment period and EPA responses are summarized in the attached responsiveness summary. As noted in the responsiveness summary, EPA will address a number of the technical considerations in the comments during the remedial design phase.

The Proposed Plan indicated that EPA will coordinate future cleanup determinations regarding battery casings and other contaminated materials located on the Rhone-Poulenc and ESCO property portions of the Site with DEQ. EPA has determined, in consultation with DEQ, that a final decision on the need for a soil cap or other remedial action to address subsurface lead contamination, including additional removal of subsurface soil and/or treatment, in the Lake Area should be deferred until after the following actions have been completed: 1) removal of treated and untreated Gould Site waste material currently stockpiled on the Rhone-Poulenc property, 2) confirmation sampling for lead, and 3) completion of a risk assessment for this area that includes organic constituents.



Legend

- Wetland Areas
- ▲ Sampling Point

Plant Communities

Wetland

CT	Cattail
RC	Reed Canarygrass
RC/BE	Reed Canarygrass/Bentgrass
RC/RU	Reed Canarygrass/Rush
RU	Rush
SE/GR	Sedge/Grass
SP	Spiraea
WI/RC	Willow/Reed Canarygrass

Upland

BB	Blackberry
BB-BA	Blackberry – Along Banks
BB-FI	Blackberry – Upland Fill
GR	Grasses
GR/BB	Upland Grasses/Blackberry

Other

OW	Open Water
EX	Exposed Fill Material (Upland)

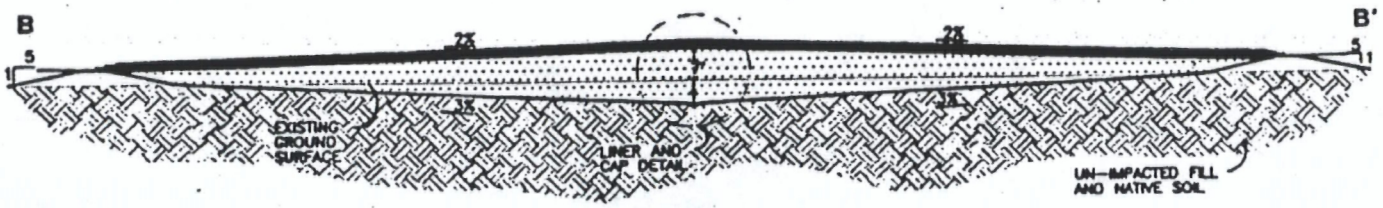
SCALE

0 50 100 200

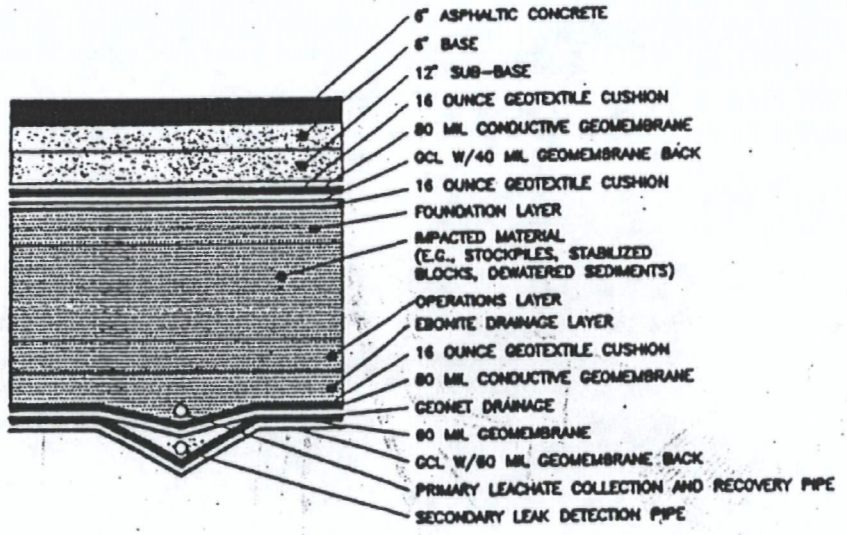
(IN FEET)

1 inch = 100 ft.

Project # 965007NA	EAST DOANE LAKE WETLANDS INVESTIGATION	Map Showing Wetland Areas	Figure 3
WOODWARD-CLYDE CONSULTANTS	Gould Superfund Site PRP Group Portland, Oregon		



SCHEMATIC SECTION B-B'



LINER AND CAP DETAIL

Figure 4

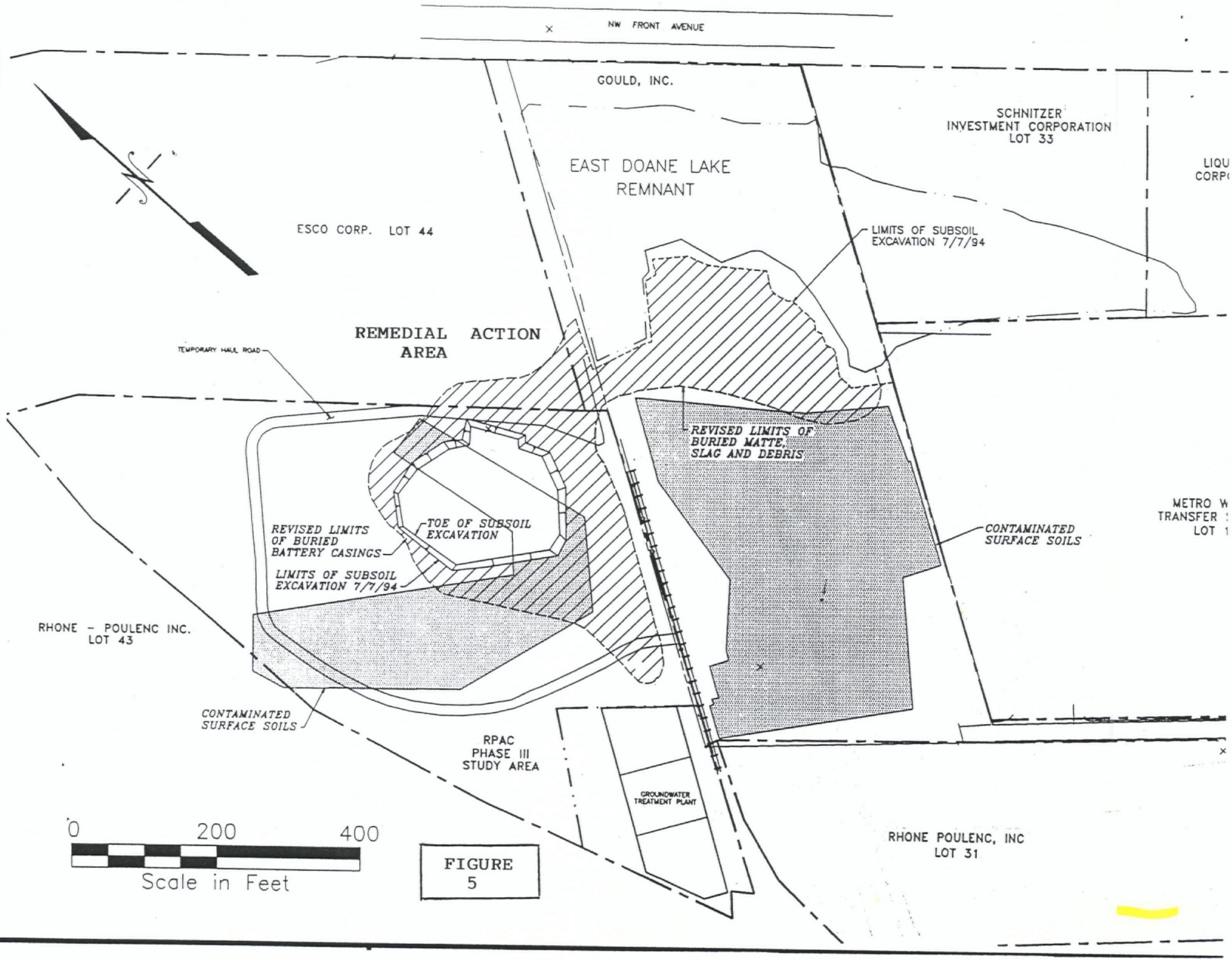
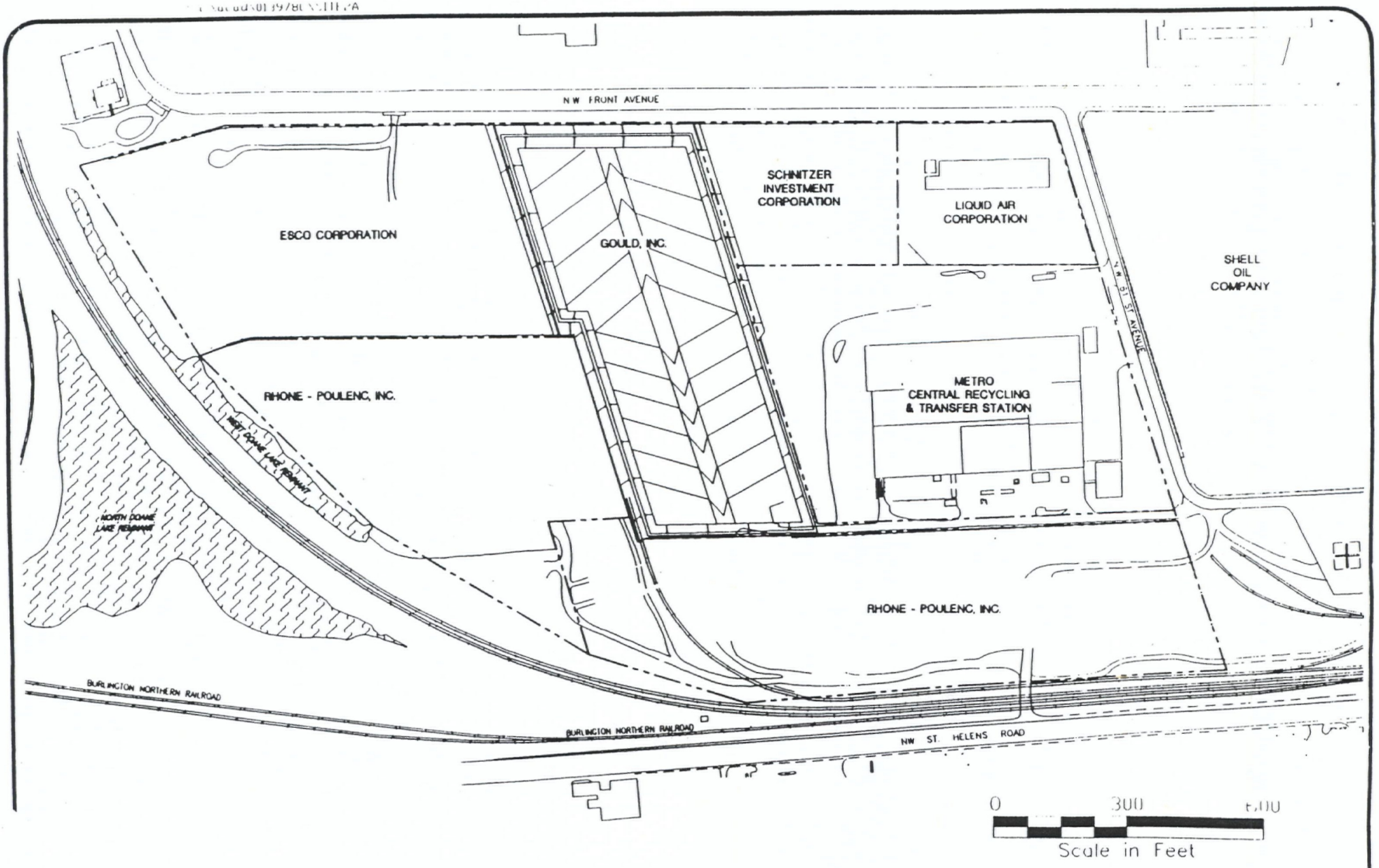

NW FRONT AVENUE
GOULD, INC.
SCHNITZER INVESTMENT CORPORATION LOT 33
EAST DOANE LAKE REMNANT
ESCO CORP. LOT 44
LIMITS OF SUBSOIL EXCAVATION 7/7/94
REMEDIAL ACTION AREA
TEMPORARY HAUL ROAD
REVISED LIMITS OF BURIED MATTE, SLAG AND DEBRIS
REVISED LIMITS OF BURIED BATTERY CASINGS
TOE OF SUBSOIL EXCAVATION
LIMITS OF SUBSOIL EXCAVATION 7/7/94
CONTAMINATED SURFACE SOILS
RHONE - POULENC INC. LOT 43
CONTAMINATED SURFACE SOILS
RPAC PHASE III STUDY AREA
GROUNDWATER TREATMENT PLANT
RHONE POULENC, INC LOT 31
0
200
400
Scale in Feet

FIGURE 5



ENVIRON

A Division of APBI
Environmental Sciences Group, Inc.

GOULD SUPERFUND SITE CONCEPTUAL ON-SITE CONTAINMENT FACILITY

Figure 6

Gould Superfund Site
Amended ROD
Table 1

Material	1988 ROD Quantity	Current Quantity Estimates	Estimated Quantity to be Placed in OCF*	Estimated Quantity to be Left in Place**
Gould site:				
Surface Soils	-	-	-	-
Casings	54,100	9,708	9,708	-
Matte/debris	6,000	33,451	9,181	22,400
Subsoil	9,580	6,133	3,000	3,000
R-P/ESCO				
Overburden	970	14,170	3,991	10,000
Casings	26,700	28,536	10,215	17,600
Bottom fill	-	725	25	700
Subsoils	6,470	5,927	3,370	2,400
East Doane Lake				
Sediments	5,500	5,483	5,483	-
Plastic	-	500	-	-
Totals:	109,320	104,633	44,390	56,100

*Note 1: the ARD document estimates 60,000 cubic yards of contaminated material would be placed in the OCF. The ARD estimates are higher than the total shown in this column because the ARD estimates include additional volume associated with the stabilized blocks and an estimated additional 5,000 cubic yards of contaminated surface material that will be scraped from the surface of the Site.

**Note 2: total does not include approximately 4,143 cubic yards of material that has been either: 1) treated and recycled, 2) disposed off-site or 3) treated and placed on-site

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY
GOULD SITE SOILS OPERABLE UNIT
AMENDED RECORD OF DECISION

This responsiveness summary summarizes and responds to substantive comments received during the public comment period regarding United States Environmental Protection Agency's (EPA's) proposed cleanup plan for the Gould Superfund Site located in Portland, Oregon. The Proposed Plan was based on information in the administrative record for the ROD Amendment. The Administrative Record and the Proposed Plan are available for review at the Multnomah County Central Library in downtown Portland, Oregon and at EPA's offices in Seattle, Washington. Copies of the Proposed Plan were mailed to local citizens and other interest groups that were on a mailing list developed as part of the Community Relations Plan for this Site.

One comment letter was received during the public comment period. The comment letter and follow up responses from the Gould Site PRP Group and the commenter are in the Administrative Record for this Site.

Comments and Agency Responses

1) **Zoning not addressed as an ARAR**

Comment Commenter requested that Portland's Planning and Zoning requirements for siting of solid waste facilities be considered ARARs, and specifically identified 100 foot setback requirements contained in the Sections 33.254.080 and 33.254.090 of the Portland Planning and Zoning ordinance as ARARs for the construction of the On-Site Containment Facility (OCF). This portion of the Portland Planning and Zoning Ordinance regulates mining and waste-related uses.

Response In general, only federal and state laws or regulations are ARARs and local zoning ordinances are not ARARs. However, EPA, in this instance, agrees with the commenter that the Portland Planning and Zoning ordinance (the "Ordinance") setback requirements are relevant and appropriate. EPA's conclusion is based on two factors: (1) the Ordinance was promulgated pursuant to a State law, see Chapter 197 of the Oregon Revised Statutes; and (2) the Ordinance is enforceable by the State of Oregon, ORS 197.090. Nonetheless, EPA has determined that, under the Ordinance, the proposed setback requirement does not apply to the proposed cleanup action. The use of the existing area of lead contamination within the Site as a disposal area is a "grandfathered" non-conforming use under the Ordinance. Grandfathered non-conforming uses are not subject to the Ordinance's set back requirements. EPA has also concluded that, under the Ordinance, the disposal of hazardous substances in the

On-Site Containment Facility will not change the non-conforming use status.

Section 33.258.035 of the Ordinance defines a non-conforming use as a use which was allowed when established and was maintained over time. Section 33.258.050 of the Ordinance allows such a non-conforming use to continue to operate and for a change in the operation of the use. This Section of the Ordinance also permits a use to be changed to another use within the same use category as a matter of right.

EPA's cleanup includes the disposal of waste in the same area where waste has been disposed of and landfilled since 1949, therefore this cleanup activity satisfies the Ordinance's criteria for a non-conforming use. The Amended Remedy addresses wastes which were disposed of at the Site prior to the implementation of the Ordinance. Waste disposal and landfill activities began in approximately 1949. This is well before the Ordinance was mandated by ORS 197 in 1973. The disposal area has been continuously maintained as a disposal area since disposal activities began. As such, disposal of wastes within the Site is a grandfathered non-conforming use which the Ordinance permits. The setback requirements need not be satisfied during implementation of the Amended Remedy.

A determination that the Ordinance is an ARAR, but that the cleanup activity is a grandfathered non-conforming use, and thus, not subject to the setback requirements, is consistent with the NCP. The NCP makes clear that EPA may satisfy an ARAR by meeting the conditions for an exception to such ARAR, see 55 F.R. at 8741 (March 8, 1990).

Nevertheless, EPA intends to consider setbacks during the design and implementation of the Amended Remedy. EPA will consider providing setbacks from public streets and property lines which are outside the existing disposal area. The existing disposal area covers several properties, including the commenter's. It would be impracticable to use setbacks on properties within the existing disposal area.

2) **Landfill siting requirements**

Comment Commenter states that it agrees with the Oregon Department of Environmental Quality that RCRA Subtitle C landfill siting requirements should be included as ARARs for the ROD Amendment. In particular, the commenter maintains that seismic and flood related standards contained in 40 C.F.R. § 264.18 should be ARARs.

Response The commenter is incorrect to suggest that the Oregon Department of Environmental Quality identified RCRA Subtitle C landfill siting requirements as ARARs. Nevertheless, EPA agrees that 40 C.F.R. § 264.18, which includes seismic and flood related standards, is relevant and appropriate to the remedial actions

selected in the ROD Amendment. EPA will ensure that these requirements are met during the remedial design of the Amended Remedy.

3) **Proposed plan not protective of adjoining landowners and increases the risk of liability of adjoining landowners.**

Comment The proposed remedy is not protective of adjoining landowners and increases liability of adjoining landowners because contamination will be covered, future removal will be expensive and it forces the commenter to maintain property that contains known contamination. The commenter further suggests that the PRPs should purchase East Doane Lake area or require Rhone Poulenc to indemnify the commenter with respect to liability for RP organics on the commenter's property.

Response This comment raised three concerns. First, whether the Amended Remedy is protective of human health and the environment on properties outside of the disposal area. Second, whether there will be a need for further response actions if all sediment contamination in the area where the OCF will be constructed is not removed pursuant to the Amended Remedy. Third, whether the PRP group or Rhone-Poulenc should compensate for the commenter for RP organics on its property.

EPA believes that the Amended Remedy is protective of human health and the environment. The Amended Remedy protects adjoining landowners from Site contamination. The commenter's property includes areas that are within the area of contamination being addressed by this remedial action. The commenter's property is contaminated with hazardous substances associated with the Gould Site operations and other sources, including material disposed of by the commenter which contains hazardous substances. The proposed action will include excavation of contaminated sediments from the commenter's property and containment in a lined and capped containment facility located on the Gould property. The sediments that will be removed are contaminated with lead above specified cleanup levels. Organic contamination is commingled with the lead-contaminated sediments and will be removed from the commenter's property and placed in the OCF. Some sediments with low levels of organic contamination may not be removed. However, if such sediments are not removed, it will be after DEQ has determined that removal of such contamination is not necessary to protect human health or the environment. The Amended Remedy as implemented along with any State directed removal actions will substantially reduce or eliminate the potential for exposure to hazardous substances in this area.

The proposed plan for the Amended Remedy indicated that sediments removal will occur to a depth of between 1.5 to 2.0 feet (the depth may vary at individual locations). Rhone Poulenc is, pursuant to a consent agreement with DEQ, committed to evaluate the residual organic contamination in sediments below

two feet. The results of the evaluation will be used by DEQ to determine if sediments not addressed by this remedy, ie, below 2 ft or in areas not contaminated with lead above the cleanup levels, need to be removed or otherwise remediated to be protective. The work is being conducted as a time critical action under an existing consent order and is scheduled to be completed in time to allow a determination during the preliminary design phase of this remedy. If DEQ determines that additional removal of sediments is required, this work will be coordinated with the sediment removal to be conducted as part of this ROD Amendment and will occur prior to the construction of the OCF.

Lastly, EPA believes it inappropriate for EPA to direct other parties to purchase East Doane lake from the commenter or direct Rhone-Poulenc to indemnify the Commenter. CERCLA does not provide EPA with the authority to order such relief. The relief the commenter seeks is available to the commenter by agreement or by civil suit. EPA notes that the commenter is essentially seeking the requested relief in a civil action before the United States District Court for the District of Oregon. EPA believes this is the appropriate forum to receive such relief. EPA also disagrees with the commenter's conclusion that the Amended Remedy will increase the risk of liability of adjoining landowners. Implementation of the Amended Remedy will not cause contamination to spread to areas which are not already contaminated. Accordingly, the Amended Remedy will not increase the risk of liability to non-contaminated properties adjoining the Site.

4) **Hydrogeologic Impact of the Remedy**

Comment The hydrogeologic impact of filling lake and building OCF has not been considered. Commenter stated that there is a serious risk that filling the lake will cause increased migration of contaminants onto their property. Filling will likely cause contaminated water and sediment to be extruded into adjoining soils with the direct result that contamination on Schnitzer property will increase

Comment. Filling lake will displace free liquid and sediments and force them through the subsurface passages onto Schnitzer property, and pressure from the OCF will force liquid currently caught in pores of soil to migrate into groundwater, and could have high levels of contamination

Comment. Subsurface movement will prevent the commenter from mining fluff (shredder reside) on its property, because contaminants will flow into any mining excavation.

Comment. EPA urged to fully analyze the hydrogeologic impact of the proposed remedy and allow meaning full comment prior to amending the ROD.

Response EPA agrees that the hydrogeologic impact of filling the East Doane lake remnant needs to be fully evaluated and indicated

as such in the Proposed Plan. EPA will require the PRP Group to conduct a detailed analysis as part of the preliminary design. The results of the analysis will be available to the public, including any adjacent property owners.

5) **ROD improperly addresses organics**

Comment EPA should clarify the nature of the portions of the proposed ROD Amendment that addresses organics. Conclusions are reached in the ARD about the handling and encapsulation of organics that appear to be beyond the scope of the RI/FS process. Where no characterization of the organics has occurred within the formalized RI/FS process, it is inappropriate for the proposed ROD Amendment to endorse remedies that involve the on-site disposal of some organics contaminated sediment and leaving in place of other contaminated sediments.

Response EPA has added language in ROD Amendment to clarify the handling of organics contaminated sediments.

EPA is not limited to the RI/FS process in reviewing post-ROD information. Agency guidance (OSWER Directive 9355.3-02) notes that after a ROD is signed, new information may be generated during the RD/RA process that could affect the remedy selected in the ROD. The original ROD for the Gould Soils Operable Unit was focused on remediation of lead contamination, which was identified as the primary contaminant of concern. Information regarding organics contamination has been generated since the ROD was signed in 1988. In addition to the characterization work conducted under the Rhone Poulenc RI/FS, additional data has been collected as part of the evaluation of the Gould Site remedial action. Information from the additional Gould Site studies was placed in the administrative record for the ROD Amendment.

Organic contaminants that are commingled with lead above previously established cleanup levels will be addressed by this ROD Amendment. EPA did not established cleanup levels for organic contamination in the original ROD or as part of this ROD Amendment. EPA has determined that the onsite containment facility can be designed, constructed and operated to be protective of human health and the environment for the lead and organic contaminated materials that are being addressed by the ROD Amendment. DEQ will determine the levels that will be protective for organic contamination associated with the Rhone Poulenc facility, including areas on the Gould site not addressed by the ROD Amendment. DEQ anticipates making a determination on the remaining sediments prior to completion of remedial design.

6) **Consolidation and settlement analysis**

Comment The proposed plan fails to address consolidation and differential settlement. Substantial differences in settlement will occur between areas with indigenous cohesive soil and those

areas that are compacted and filled. Areas will settle at different rates and put stress on liner, leak detection system, contents of the OCF and the cover. liner, etc could fail and leachate could be release to groundwater. Future use could also add to settlement problems.

Response EPA and DEQ determined that a detailed design phase would be necessary to ensure that agency concerns, including those expressed in this comment, will be adequately addressed. The agency agrees with the commenter that consolidation and differential settlement analysis is needed, as noted in the proposed plan ("the containment facility must be designed to provide long term structural stability and effective containment of the waste"). A detailed analysis will be conducted as part of the preliminary design phase. The results of the consolidation and settlement analysis, as well as other preliminary design information, will be available to the public.

7) **Lateral and vertical support**

Comment Areas surrounding the OCF that consist of fluff will not offer sufficient lateral support to support the OCF. Require a complete analysis of lateral and vertical support before an OCF is determined to be a feasible remedy.

Response The agency agrees that a complete analysis of lateral and vertical support is necessary. An analysis will be completed as part of the predesign or design phase.

8) **Leachate collection detection system**

Comment There is a lack of detail on design of the leachate collection and detection system.

Response The ARD included a conceptual view of a leachate collection and detection system and description of the objectives of the system. Detailed information on the leachate collection and detection system will be developed as part of remedial design.

9) **Inadedequate analysis of neighborhood stormwater runoff**

Comment The document ignores impact of filling East Doane lake on stormwater runoff (currently buffers large storms). The alternative could overload stormwater collection system. An analysis should be made available for public comment.

Response The East Doane lake remnant may currently provide some buffering of runoff during major storms. Years of filling and waste disposal activity have significantly altered East Doane lake remnant, however, and EPA believes that stormwater runoff in the area can be better managed through engineered control and collection systems. Details of the stormwater collection and

management system for the Gould site will be developed in the design phase of the project. The system will be designed to include adequate capacity to accommodate major storm events.

10) **Impact of construction on neighbors**

Comment Runoff could lead to additional contamination of neighboring property; and severe traffic problems likely during construction.

Response Control of runoff was a requirement of the original ROD and will be a design requirement for the OCF. There will undoubtedly be short term impacts, like increased traffic, on neighboring property during the construction. There is already a considerable amount of traffic in the vicinity of the site associated with nearby operating industries and the METRO waste transfer station. EPA will attempt to minimize direct impacts on adjoining landowners, although some short term impacts will be unavoidable because of space limitations and the need address contaminants on the commenter's property.

11) **Handling of contaminated water**

Comment Commenter expressed concern that the ROD doesn't address handling and disposal of contaminated water from dredging and dewatering sediment, and requested that EPA require the PRPs to address the means of treating the water prior to disposal to ensure no contamination of adjacent property.

Response EPA agrees with the commenter that handling and disposal of contaminated water from dredging and dewatering sediment needs to be addressed as noted in the proposed plan. EPA will require that the operation minimize short term impacts from dredging and construction to the extent practicable. Contaminated water from dewatering the sediments will be collected and treated as part of the remedial action.

12) **Details and documentation**

Comment The ARD lacks the specificity to comment on the proposal, and more comprehensive documentation must be developed and provided to the public to satisfy the public notice requirements.

Response The lack of specificity has been discussed in the responses to several of the previous comments. EPA acknowledges that the selected alternative as described in the ARD did not include specific details that are typically addressed as part of remedial design. Information developed during design will be made available to the commenter. EPA does not plan to conduct an additional public comment period during the design phase for this project, however. Commenters may submit information to EPA after the ROD Amendment is signed and EPA will review the information to determine if it should be considered by the agency. If EPA

determines that comments submitted by the commenter warrants formal consideration, EPA will prepare a formal response to the information received and document the response in the administrative record.

If information generated during the remedial design phase results in significant changes to the remedy as described in the ROD Amendment, then the appropriate public notice requirements will be followed.

APPENDIX B

Letter of Concurrence from
The Oregon Department of Environmental Quality

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

May 22, 1997

Mr. Chuck Clarke
Regional Administrator
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98102

Re: Gould Superfund Site
State Concurrence on the Amended
Record of Decision

Dear Mr. Clarke:

The Oregon Department of Environmental Quality (DEQ) has reviewed EPA's proposed Amended Record of Decision for the Soils Operable Unit of the Gould Superfund Site in Portland, Oregon. I am pleased to advise you that DEQ concurs with EPA's Amended Record of Decision.

I find that this decision is consistent with state statutory requirements and administrative rules pertaining to the degree of cleanup required and remedy selection process. Specifically, this decision is protective and balances effectiveness, implementability, implementation risk, long term reliability, and cost-reasonableness in accordance with ORS 465.315 and OAR 340-122-040 and 090.

The DEQ looks forward to the implementation of the remedial action. Please let us know if we can provide further assistance. The appropriate DEQ contact is Jill Kiernan at 530-229-6900.

Sincerely,

Langdon Marsh
Director

cc: Chip Humphrey, EPA/Oregon Operations Office
Jill Kiernan, DEQ

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TDD (503) 229-6993

APPENDIX C

Administrative Record Index

GOULD ADMINISTRATIVE RECORD
TABLE OF CONTENTS
September 25, 1989

15. Draft Feasibility Study (FS) Report

16. Treatability Study

17. Remedial Investigation/Feasibility Study (RI/FS) Comments

18. Chain of Custody

G. EXPANSION FOLDER #7

19. Lab Reports/Raw Data (Folder 1 of)

H. EXPANSION FOLDER #8

19. Lab Reports/Raw Data (Folder 2 of 3)

I. EXPANSION FOLDER #9

19. Lab Reports/Raw Data (Folder 3 of 3)

J. EXPANSION FOLDER #10

20. Maps and Photographs

21. Other Documents

22. Reference Materials/Lists of Guidances

23. Adjacent Sites

24. Addendum 1 to Administrative Record for Gould

K. REMEDIAL INVESTIGATION (RI)- FINAL REPORTS (BINDER #1)

L. REMEDIAL INVESTIGATION (RI)- FINAL REPORTS (BINDER #2)

M. LAB REPORTS/RAW DATA (BINDER #1)

N. LAB REPORTS/RAW DATA (BINDER #2)

O. FEASIBILITY STUDY (FS) - DRAFT REPORTS (BINDER #1)

P. FEASIBILITY STUDY (FS) - DRAFT REPORTS (BINDER #2)

Q. FEASIBILITY STUDY (FS) - FINAL REPORTS (BINDER #1)

R. FEASIBILITY STUDY (FS) - FINAL REPORTS (BINDER #2)

INDEX TO ADMINISTRATIVE RECORD FOR GOULD

Doc. No.	File	Type/Description	Date	Pages	Author/Organization	Addressee/Organization
00000001.	Pre Superfund	Letter re revised proposal for ground water monitoring program; well diagram, schedule of charges	12/24/81	9	K. C. Robbins, Dames & Moore	J.G. Papp, Gould
00000002.	Pre Superfund	Factual report Ground Water Monitoring Program, Portland plant site, Portland, Oregon	3/29/82	33	Dames & Moore on behalf of Gould, Inc.	
00000003.	Pre Superfund	Sampling report re air sampling survey at Gould site; attached sample analysis	9/13/82	9	Paul Boys, EPA	—
00000004.	Pre Superfund	Letter with attached lab analyses re ground water analyses at Gould site	11/9/82	4	Andrew Larson, Gould, Inc.	Charles R. Clinton, Oregon DEQ
00000005.	Pre Superfund	Lab analysis re Oregon Rivers Project Sample #35402, 35404, 35405, 35407, 35409, 35413, 35415, 35417, 35419, 35421, 35423, 35430	1/21/83	16	EPA Lab	—
00000006.	Pre Superfund	Maps, notes re water right applications in Gould-Rhone Poulenc area; well record and street diagram re Gould site	4/13/83	6	—	—
00000007.	Site evaluation report	Potential hazardous waste site tentative disposition; inventory—possible sources of hazardous waste; map and a diagram of Doane Lake area; potential hazardous waste site identification and preliminary assessment re Gould site	8/15/79	9	EPA	—
00000008.	Site evaluation report	Potential hazardous waste site log re Gould site	11/29/79	1	J. W. Fey, EPA	—
00000009.	Site evaluation report	Potential hazardous waste site—final strategy determination re Gould site	3/29/80	1	Robert Stamnes, EPA	—
00000010.	Site evaluation report	Potential hazardous waste site—site inspection report and diagram of air monitoring stations re Gould site	8/26/82	10	Paul Boyes PA	—

00000011.	Site evaluation report	Report re visit to Gould site	2/6/85	4	—	—
00000012.	Site evaluation report	Potential hazarouus waste site—site identification; attached letter from Army Corps of Engineers to EPA re identification of hazardous waste disposal sites	9/2/86	2	Homer W. Westcott, Army Corps of Engineers	—
00000013.	Site evaluation report	Description of Gould site and proposed work with attached site map	—	4	—	—
00000014.	NPL proposal/comments on proposal	Excerpt from Federal Register, Vol. Vol. 7, No. 251, re EPA, 40CFR Part 300, amendment to National Oil and Hazardous Substance Contingency Plan; The National Priorities List	12/30/82	9	—	—
00000015.	NPL proposal/comments on proposal	Excerpt from Federal Register, Vol. 48, No. 175, re EPA, 40CFR Part 300, Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List	9/8/83	18	—	—
00000016.	Permits	EPA—Notification of Hazardous Waste Activity re Gould site	8/12/80	2	Frank E. Moore	—
00000017.	Permits	EPA—General information form, consolidated Permits Program re Gould site	11/13/80	7	Croft L. Smith, Gould, Inc.	—
00000018.	Permits	EPA—Notification of Hazardous Site re Gould site	6/3/81	1	M. E. Elmore, Gould, Inc.	—
00000019.	Permits	Letter re request by Gould, Inc., to withdraw TSD permit application for Gould site; EPA-General Information, Consolidated Permits program	8/17/81	10	David C. Ross, Gould, Inc.	Linda Dawson, EPA
00000020.	Remedial Action Master Plan	Final, Remedial Action Master Plan, Gould, Inc., Portland, Oregon	11/4/83	87	CH_2M Hill	—

00000021.	Administrative Order	Administrative Order on Consent re RI/FS by Gould. EPA docket #1085-85-08-106	8/28/85	27		NL Industries, EPA, Gould, Inc.
00000022.	Sampling plans/protocol/QA&QC plans	Memo re Doanes Lake district of Portland - aquifer test	10/26/84	3	Bill Robertson/Bart Bartholomew, State of Oregon	Ernie Schmidt, State of Oregon
00000023.	Sampling plans/protocol/QA&QC plans	Letter re comments on draft Technical Resource document entitled "Solid Waste Leaching Procedure"	12/2/85	2	William K. Weddendorf, NL Industries, Inc.	Patricia Storm, EPA
00000024.	Sampling plans/protocol/QA&QC plans	Quality Assurance Plan re Gould site	4/18/86	2	—	—
00000025.	Sampling plans/protocol/QA&QC plans	Appendix C--Quality Assurance Project Plan re Gould site	9/16/86	5	—	—
00000026.	Sampling plans/protocol/QA&QC plans	Memo re water sampling and analysis methods for NL/Gould	10/27/86	1	Harlan Borow, Dames & Moore	Mark Anderson, Dames & Moore
00000027.	Sampling plans/protocol/QA&QC plans	Letter re agreement with respect to sampling and monitoring; agreement and diagram of Gould site	1/16/87	5	Mark C. Rutzick, Preston, Thorgrimson, Ellis & Holman	Patricia Cirone-Storm, EPA
00000028.	Sampling plans/protocol/QA&QC plans	Letter re change in ground water sampling procedures at NL/Gould site	2/18/87	1	Mark Anderson, Dames & Moore	Patricia C. Storm, EPA
00000029.	Sampling plans/protocol/QA&QC plans	Letter re repurge wells and Ph values at Gould site	2/25/87	1	John D. Cooper, Dames & Moore	Patricia C. Storm, EPA
00000030.	Community relations/public participation	Letter and attached copy of preliminary community relations assessment for Gould site	11/23/83	9	Nancy Jerr'ck, CH2MHill	Phil Millam, EPA
00000031.	Community relations/public participation	Memo re keeping Linton Community Center advised of cleanup progress at Gould site	5/23/85	1	J. A. Gillaspie, Oregon DEQ	Pat Storm, EPA
00000032.	Community relations/public participation	Community relations--work plan memo for the Gould, Inc., site	7/25/85	6	Camp Dresser & McKee, Inc.	EPA

00000033.	Community relations/public participation	Fact sheet and diagram showing locations of monitoring wells and sampling points	8/13/85	4	—	—
00000034.	Community relations/public participation	Final Community Relations PIan, Gould, Inc., site, Portland, Oregon	12/85	26	Camp Dresser & McKee, Inc.	EPA
00000035.	Community relations/public participation	Gould site update and map of vicinity	1986	1	—	—
00000036.	Community relations/public participation	Statement of work, Community Relations Plan	—	3	—	—
00000148.	Community relations/public participation	Transcript of public hearing, Portland, OR	2/18/88	108	—	—
00000149.	Community relations/public participation	Transcript of public hearing, Portland, OR	3/10/88	63	—	—
00000037.	Newspaper clippings	"Toxic wastes to delay Wacker expansion," with attached diagram of Doane Lake area	6/15/85	2	Steve Jenning, The Oregonian.	—
00000038.	Newspaper clippings	"Portland industrial site is unofficial toxic dump"	6/25/85	1	The Journal-American (Bellevue)	—
00000039.	Newspaper clippings	"Portland's toxic armpit"	8/8/85	6	Garrett Romaine, Willamette Week	—
00000040.	Newspaper clippings	"Gould property to undergo extensive examination" and "Superfund blasted as Superfailure"	9/10/85	1	Spencer Heinz, The Oregonian	—
00000041.	Newspaper clippings	"Superfund forges on amid identity crisis, criticisms"	9/29/85	3	Spencer Heinz, The Oregonian	—
00000042.	Newspaper clippings	EPA news release re start of investigation at Gould site	4/14/86	1	EPA	—
00000043.	Newspaper clippings	"Procedures for cleanup underway"	4/17/86	1	The Oregonian	—

00000044.	Newspaper clippings	"Packwood charged with stalling on Superfund" and "Superfund a must"	9/27/86 & 9/29/86	1	The Oregonian	—
00000045.	Newspaper clippings	"Positive toxic-waste tests delay Wacker expansion in Portland"	—	1	—	—
00000046.	Workplan and modification	Gould, Inc., site—Remedial Investigation and Feasibility Study Workplan	3/31/86	372	Dames & Moore	EPA
00000125.	Workplans/modifications	Letter and attachments re RI/FS Workplan modifications	6/25/86	5	Anne M. Topker, Mark W. Anderson,	Patricia C. Storm, EPA
00000126.	Workplans/modifications	Letter and attachments re RI/FS Workplan modifications	8/22/86	3	Mark W. Anderson, Dames & Moore	Patricia C. Storm, EPA
00000132.	Work plans/modifications	North Doane's Lake Site Characterization Work Plan	6/87	95	Camp, Dresser & McKee, Inc. Dames & Moore	EPA
00000047.	Remedial investigation/draft reports—~~Folder 1~~	Remedial Investigation, NL/Gould site, Portland, Oregon—draft report, Vol. 1, text	6/1/87	272	Dames & Moore	EPA
00000048.	Remedial investigation/draft reports—~~Folder 1~~	Remedial Investigation, NL/Gould site, Portland, Oregon—draft report, Vol. 2, Appendices	6/1/87	352	Dames & Moore	EPA
00000049.	Remedial investigation/draft reports—~~Folder 3~~	Preliminary remedial technologies report, Gould, site Remedial Investigation and Feasibility Study	6/7/86	16	Dames & Moore on behalf of NL Industries and Gould, Inc.	
00000050.	Remedial investigation/draft reports—~~Folder 2~~	Hydrogeological data report—interim evaluation, NL/Gould RI/FS, Portland, Oregon; attached Plates 1A, 1B, 1C	2/27/87	104	Dames & Moore on behalf of NL Industries and Gould, Inc.	
00000051.	Remedial investigation/draft reports—~~Folder 2~~	Letter re comments on hydrogeological report prepared by Dames & Moore for Gould site	4/27/87	2	Patricia C. Storm, EPA	James E. Tracewski, NL Industries, Inc.
00000133.	Remedial Investigation/Final Reports, ~~Folder 1~~	Remedial Investigation Final Report, Vol. 1, text and figures	11/16/87	290	Dames & Moore	EPA

00000134.	Remedial Investigation/Final Reports, ~~Folder 2~~	Remedial Investigation Final Report, Vol. 2, text and figures	11/16/87	313	Dames & Moore	EPA
00000139.	Remedial Investigation/ Draft Reports - ~~Folder #2~~	Cover letter regarding attached Draft Response to Comments on Hydrogeologic Issues RI Report.	9/24/87	93	Dames & Moore	David Tetta, EPA Bill Renfroe, Oregon DEQ
00000052.	Correspondence/RI/FS	Letter re EPA request to Army Corps of Engineers to act as on-site representative during RI/FS at Gould site; attached Scope of Work for technical assistance	8/28/85	3	Patricia C. Storm, EPA	Costas Zogas, Army Corps of Engireers
00000053.	Correspondence/RI/FS	Memo with attached letter, interagency agreement and workplan for agreement between EPA and Army Corps of Engineers re oversight of RI/FS at Gould site	10/4/85	6	Patricia C. Storm, EPA	Curt Lambert, EPA
00000054.	Correspondence/RI/FS	Letter re RI/FS activities at Gould site	11/14/85	2	Michael C. Veysey, Gould, Inc.	Patricia C. Storm, EPA
00000055.	Correspondence/RI/FS	Letter re issues raised at Nov. 13, 1985, meeting and RI/FS activities at Gould site	11/20/85	2	Patricia C. Storm, EPA	Michael Veysey, Gould, Inc.
00000056.	Correspondence/RI/FS	Letter and draft Response Measures Program for Surface Debris at Gould site	1/14/86	20	William K. Weddendorf, NL Industries, Inc.	Patricia Cirone-Storm, EPA
00000057.	Correspondence/RI/FS	Letter re status of surface debris at Gould site	6/9/86	2	F. R. Baser, NL Industries, Inc.	Patricia Cirone-Storm, EPA
00000058.	Correspondence/RI/FS	Letter re July 29, 1987, meeting and comments on draft Remedial Investigation Report and Feasibility Study Report	7/31/87	2	David Tetta, EPA	James E. Tracewski, NL Industries, Inc.
00000059.	Meetings: RI/FS	Schedule and agenda for Gould site briefing	8/19/85	3	—	—
00000060.	Meetings: RI/FS	Letter and proposed agenda for briefing on environmental issues by EPA	9/12/85	2	Don Larsen, EPA	Ann Warner, Office of Senator Mark O. Hatfield

00000061.	Meetings: RI/FS	Notes re coordination meeting for Gould site and attached list of site contacts	11/9/85	3	Kathryn Carlson, Army Corps of Engineers	—
00000062.	Meetings: RI/FS	Memo re meeting between EPA and Oregon DEQ re hazardous cleanup at Doane Lake	5/20/86	3	Patricia C. Storm, EPA	Addressees, EPA, DEQ
00000063.	General correspondence	Letter re cleanup of Doane Lake district	1/3/86	2	Michael J. Downs, Oregon DEQ	Chuck Findley, EPA
00000064.	General correspondence	Letter re removal of debris from Gould site by local smelter	1/21/86	1	Patricia C. Storm, EPA	Michael Veysey, Gould, Inc.
00000065.	General correspondence	Letter, handwritten notes and receipts re removal of surface debris from Gould site by local smelter	2/4/86	4	Michael C. Veysey, Gould, Inc.	Patricia C. Storm, EPA
00000066.	General correspondence	Letter re calculation of volume of rubber and crushed battery casings at Gould site	3/17/86	2	Kent W. Cox & Assocs., Inc.	James A. Gibbs, Gould, Inc.
00000067.	General correspondence	Letter re removal of surface debris from Gould site	3/21/86	2	William K. Weddendorf, NL Industries, Inc.	Patricia Cirone-Storm, EPA
00000068.	General correspondence	Letter and workplan re drum disposal/ battery casing transportation	6/10/87	6	Mark D. Schultheis, Dames & Moore	Patricia Storm, EPA, and Tom Miller, Oregon DEQ
00000069.	Feasibility study/draft report	Feasibility study, Phase B report	6/5/87	61	Dames & Moore	EPA
00000137.	Feasibility Study/Draft Reports, Binder #1	Feasibility Study, Volume 1, Text	11/19/87	310	Dames & Moore	EPA
00000138.	Feasibility Study/Draft Reports, Binder #2	Feasibility Study, Volume 2, Appendices	11/19/87	318	Dames & Moore	EPA

00000140.	Feasibility Study/Final Report	Feasibility Study Final Report, Vol. 1, Text	2/88	545	Dames & Moore	N.L. Industries Gould, Inc. Dave Tetta, EPA Bill Renfroe. DEQ
00000141.	Feasibility Study/Final Report	Feasibility Study Final Report, Vol. 2, Appendices	2/88	447	Dames & Moore	N.L. Industries Gould, Inc. Dave Tetta, EPA William Renfroe, DEQ
00000142.	Feasibility Study/Draft Reports/ Supplement	Supplement to the draft Feasibility Study of cleanup alternatives for the NL/Gould Site	2/88	36	EPA	
00000147.	Feasibility Study/Final Report/EPA Comments	EPA comments on Final Feasibility Study	3/16/88	2	Dave Tetta, EPA	Jim Tracewski, NL Industries
00000070.	Treatability study	Letter and report re preliminary treatability study on lead contaminated soil	7/27/87	44	Todd K. Walles and James H. Dougherty, Weston Services, Inc.	Jim Tracewski, NL Industries, Inc.
00000071.	Treatability study	Lab report on 19 samples of various materials (Lab. No. 4793)	8/14/87	9	Barbara Gleason, Laucks Testing Labs, Inc.	Mark Schultheis, Dames & Moore
00000072.	Treatability study	Letter re request for permission to send 33-cubic-yard sample to Polycycle Industries, Inc.	8/21/87	1	David Tetta, EPA	James E. Tracewski, NL Industries, Inc.
00000073.	Treatability study	Draft work plan re collection and transportation of battery casing material from Gould site to Polycycle Industries	9/4/87	2	—	—
00000074.	Treatability study	Draft materials re initial screening of preliminary alternatives, final remedial alternatives and general response action categories and associated remedial technologies; attached chart	—	6	—	—
00000075.	Comments on RI/FS	Letter re Bonneville Power Administration's concerns about activities at Gould site and draft FS report	7/17/87	3	Judith L. Woodward, BPA	Dave Tetta, EPA
00000076.	Comments on RI/FS	Memo re comments on air monitoring portions of draft RI report prepared by Dames & Moore	7/23/87	3	John W. Schweiss, EPA	David Tetta, EPA

00000077.	Comments on RI/FS	Review comments on final RI	7/27/87	5	Kevin Dyer, Army Corps of Engineers	—
00000078.	Comments on RI/FS	Memo re review of quality assurance for RI at Gould site	7/27/87	1	Roy R. Jones, EPA	Dave Tetta, EPA
00000079.	Comments on RI/FS	Memo re review of NL/Gould RI	7/28/87	2	Rene Fuentes, EPA	Dave Tetta, EPA
00000145.	Comments on RI/FS	Memo re comments on endangerment assessment/Feasibility Study	1/15/87	4	Kenneth Kauffman Oregon DEQ	William Renfroe Oregon DEQ
00000146.	Comments on RI/FS	Letter re NOAA's comments on RI/FS as concerns freshwater environment	1/11/87	3	Lew Consiglieri, NOAA	Dave Tetta, EPA
00000080.	Document deleted as it is a duplicate of Document 58					
00000081.	Chain of custody	Chain of custody record re Job No. 11831-034	4/16/86	1	John Cooper, Dames & Moore	—
00000082.	Chain of custody	EPA Region 10 Laboratory—analyses required (metals); and field sample data and a Chain of Custody sheet. Lab #86160895.	4/16/86	3	John Cooper, Dames & Moore and Kevin E. Dyer	Pat Storm, EPA
00000083.	Chain of custody	EPA Region 10 Laboratory—analyses required (metals); field sample data and a chain of custody sheet. Lab #86384550-86384558.	9/18/86	4	Kevin Dyer, John Cooper, Pat Storm	Pat Storm, EPA
00000084.	Chain of custody	EPA Region 10 Laboratory—Analyses required: metals/oxygen demand, solids and nutrients/priority pollutants, organics; field sample data and chain of custody sheet. Lab #86510040-86510043.	2/27/86	6	Nancy Addison and Kevin Dyer, EPA	
00000085.	Chain of custody	EPA Region 10 Laboratory—Analysis required: metals; field sample data and chain of custody sheet. Lab #870300220-87030022.	1/12/87	4	Kevin Dyer, EPA	—

00000086.	Lab reports/raw data	Memo and lab reports re Willamette River monitoring results from near Rhone-Poulenc/Gould properties. Lab #850848.	2/11/86	35	J. A. Gillaspie, Oregon DEQ	Mike Gearheard, EPA
00000087.	Lab reports/raw data	EPA Region 10 lab report re sample #86160895	7/2/86	1	EPA Region 10 Lab	—
00000088.	Lab reports/raw data	EPA Region 10 lab report re sample #86160895	7/24/86	1	EPA Region 10 Lab	
00000089.	Lab reports/raw data	Results of analysis of NL/Gould subsurface soils, groundwater and surface water	8/86-1/87	7	—	
00000090.	Lab reports/raw data	EPA Region 10 lab report re sample #86384-550 through 86384-558 (test well)	11/4/86	9	EPA Region 10 Lab	—
00000091.	Lab reports/raw data	Revised subsurface soils table	1/20/87	2	Mark Anderson, Dames & Moore	Patricia C. Storm, EPA
00000092.	Lab reports/raw data	Letter and attached table re corrections to Round 1 chemical analysis result tables for NL/Gould project	1/30/87	2	Mark W. Anderson, Dames & Moore	Patricia C. Storm, EPA
00000093.	Lab reports/raw data	EPA Region 10 lab report re sample #86-51-0040 through 86510043 (test well)	2/3/87	4	EPA Region 10 Lab	—
00000094.	Lab reports/raw data	EPA Region 10 lab report re sample #87-03-0020-22 through 87-03-0020-22 (Lake/Reservoir)	2/24/87	3	EPA Region 10 Lab	—
00000095.	Lab reports/raw data	EPA Region 10 lab report re sample #87-03-0020-22 through 87-03-0020-22	3/12/87	3	EPA Region 10 Lab	—
00000096.	Lab reports/raw data	Drum inventory re Gould site	4/6/87	11	—	—
00000097.	Lab reports/raw data	EPA Region 10 lab report re sample #87-094550-50 through 87-094550-54	4/15/87	5	EPA Region 10 Lab	—

00000098.	Lab reports/raw data	Laucks Testing Laboratories lab report on water samples (lab #3932)	5/27/87	4	J. M. Owens, Laucks Testing Laboratories	Harlan Borow, Dames & Moore
00000099.	Lab reports/raw data	Remedial Investigation, NL/Gould site, Portland, Oregon, laboratory data supplement—Vol. 1	6/1/87	572	Dames & Moore on behalf of NL Industries, Inc., and Gould, Inc.	
00000100.	Lab reports/raw data	Remedial Investigation, NL/Gould site, Portland, Oregon, laboratory data supplement—Vol 2.	6/1/87	570	Dames & Moore on behalf of NL Industries, Inc., and Gould, Inc.	
00000127.	Lab reports/raw data	Sample/Project Analysis Results for sample numbers 87094550 through 87094554	10/5/87	5	EPA Lab, Region 10	
00000128.	Lab reports/raw data	Sample analysis results for sample number 86160895	10/5/87	1	EPA Lab, Region 10	
00000129.	Lab reports/raw data	Sample analysis results for sample numbers 86384550 through 86384558	10/5/87	9	EPA Lab, Region 10	
00000130.	Lab reports/raw data	Sample analysis results for sample numbers 86510040 through 86510043	10/5/87	4	EPA Lab, Region 10	
00000131.	Lab reports/raw data	Sample analysis results for sample numbers 87030020 through 87030022	10/5/87	3	EPA Lab, Region 10	
00000135.	Lab Reports/Raw Data	Remedial Investigation, Laboratory Data Supplement, Vol. 1, laboratory and QA/QC data	11/16/87	553	Dames & Moore	EPA
00000136.	Lab Reports/Raw Data	Remedial Investigation, Laboratory Data Supplement, Vol. 2, laboratory and QA/QC data	11/16/87	522	Dames & Moore	EPA
00000101.	Maps and photos	Photo analysis of Doane Lake hazardous waste burial site, Portland, Oregon	6/80	32	Office of Research and Development, EPA	—
00000102.	Maps and photos	Gould, Inc., site vicinity map	1/20/81	1	Dames & Moore	—

00000103.	Maps and photos	Willamette River fish runs and dredging conditions. Map located at EPA Regional file.	8/84	1	—	—
00000104.	Maps and photos	Handwritten notes and photographs re visit to Gould site on 1/13/86. Photos located at EPA Regional file.	1/13/86	7	Kevin Dyer	Pat Storm, EPA
00000105.	Maps and photos	Aerial photos of Gould site. Photos located at EPA Regional file.	2/7/86	6	—	
00000106.	Maps and photos	Diagrams of sampling and monitoring locations at Gould site	6/25/86	3	Dames & Moore	—
00000107.	Maps and photos	Letter of transmittal and map re potential areas for drum disposal at Gould site	6/8/87	2	John D. Cooper, Dames & Moore	Pat Storm, EPA
00000108.	Maps and photos	Topographic survey of Gould/NL site, Portland, Oregon. Map located at EPA Regional file.	1/27/87	3	Dale E. Marx, Dames & Moore	
00000109.	Maps and photos	Diagram of location of monitoring wells (?). Diagram located at EPA Regional file.	—	1	—	—
00000110.	Maps and photos	Study areas, Port of Portland	—	1	—	—
00000111.	Maps and photos	Map showing location of drum disposal areas at Gould site	—	1	Dames & Moore	—
00000112.	Maps and photos	Untitled map of Gould site. Map located at EPA Regional file	—	1	—	
00000113.	Maps and photos	Preliminary hydrology investigation, boring-well locations. Map located at EPA Regional file.	—	1	—	—
00000114.	Maps and photos	Aerial photo of Gould site. Photo located at EPA Regional file.	—	1	—	—

00000115. Other documents	Oregon ambient water quality toxics data summary—1979 to 1983	—	88	—	—
00000116. Other documents	Memo re recommendation for sites in Region 10 where toxicants may be suspected in fish and shellfish; summary of sites and type of analyses; bioaccumulation site selection criteria form	5/6/86	5	David A. Terpening, EPA	Program Staff, EPA
00000143. Other documents	Toxicological Profile for Lead, Draft	2/88	202	Technical Resources, Inc.	
00000117. Technical guidances and references	Guidances for Administrative Record—Gould site	—	2	David Tetta, EPA	—
00000119. Adjacent sites	Letter and ground water sample testing results for Rhone-Poulenc; letter re sampling procedures and analysis of water monitoring wells for Rhone-Poulenc	8/15/84	11	R. L. Ferguson, Rhone-Poulenc, Inc.	Charles Clinton, Oregon DEQ
00000120. Adjacent sites	Memo re Gould site and attached copy of report: Tier 2 dioxin screening, Rhone-Poulenc chemical plant, Portland, Oregon, TDD R10-8405-09 (1/85)	3/15/85	15	Janet Gillaspie, Oregon DEQ	Agencies interested in Doane Lake District
00000121. Adjacent sites	Memo with attached copy of a preliminary report, soil investigation for proposed Polysilicon plan, Wacker Siltronic Corporation, Portland, Oregon (6/85)	8/5/85	38	J. A. Gillaspie, Oregon DEQ	Staff interested in Doane Lake, Oregon DEQ
00000122. Adjacent sites	Memo and attached report re results of groundwater analyses recently submitted to DEQ by Wacker Siltronic Corp.	10/23/85	10	Chip Humphrey, EPA	Patricia C. Storm, EPA
00000123. Adjacent sites	Results of ground water analyses by Wacker Filtronic Corp.	10/23/85	7	—	—
00000124. Adjacent sites	Monitoring well locations on proposed Polysilicon sites (Wacker Filtronic Corp.)	10/23/85	1	—	—

00000144. ARAR	Applicable or relevant & appropriate requirement determinations for for feasibility study	3/7/88	9	Fred Hansen, DEQ	Robie Russell, EPA
00000150. Record of Decision	Record of Decision. Remedial Alternative Selection, Interim Remedial Action, Soils Units Gould Site.	3/31/88	103	EPA	—

DOCUMENTS DELETED FROM ADMINISTRATIVE RECORD, GOULD SITE

Doc. #	Title/Description	Reason removed
00000080.	Letter re meeting on July 29, 1987, and RI/FS activities dated July 31, 1987, from D. Tetta, E	Duplicate of document #00000058
00000118.	Final Report, Field Investigation Oregon. FIT Project (sampling of ground water monitoring wells and piezometers owned by Rhone Poulenc Chemical Company to verify offsite migration of pollutants toward Doane Lake)	For internal use only

INDEX TO ADDENDUM 1 TO ADMINISTRATIVE RECORD FOR GOULD

Doc. No.	File	Type/Description	Date	Pages	Author/Organization	Addressee/Organization
00000151.	Feasibility Study/draft	Supplement to the Draft Feasibity Study	2/88	36	EPA	—
00000152.	Community Relations/Public Participation	Superfund Project Update: NL/Gould Remedial Investigation	12/14/87	3	EPA	—
00000153.	Community Relations/Public Participation	Superfund Project Update: Fact Sheet		7	EPA	—
00000154.	Community Relations/Public Participation	Superfund Project Update	3/1/88	1	EPA	—
00000155.	Community Relations/Public Participation	Advertising order for Notice of Public Meeting	2/2/88	5	EPA	The Oregonian
00000156.	Community Relations/Public Participation	Advertising order for Notice of Public Meeting	2/16/88	4	EPA	The Oregonian
00000157.	Community Relations/Public Participation	Advertising order for Notice of Public Meeting	2/29/88	5	EPA	NW Examiner
00000158.	Community Relations/Public Participation	Advertising order for Notice of Public Meeting	2/29/88	4	EPA	The Oregonian
00000159.	Community Relations/Public Participation	Advertising order for Notice of Public Meeting	2/29/88	4	EPA	Willamette Week
00000160.	Comments on RI/FS	Letter re comments on final RI Report	3/14/88	2	Larry D. Patterson, Pennwalt Corr Portland, C	William Renfroe, Oregon DEQ

APPENDIX D

Summary of Design Requirements

APPENDIX D

Summary of Design Requirements

PAGE	PARA	TEXT
12	3	1) The design needs to provide for adequate control of water during the filling of the East Doane lake remnant, and monitoring and control of potential impacts from displacement of contaminants in East Doane lake water and sediments. 2) The OCF must be designed to allow for implementation of future groundwater cleanup actions to be performed by Rhone-Poulenc as required by DEQ. This may reduce the area on the Gould property available for the on-site containment facility. 3) The OCF must be designed to provide control of stormwater runoff and leachate.
13	5	A mitigation/restoration plan will be required to compensate for the loss of the wetlands and open water habitat as part of the remedial action.
19	2	A detailed design phase will be required, however, to ensure that construction and operation of the OCF will be adequately protective. The design will include special considerations for dredging and filling of the East Doane lake remnant and handling of site materials.
20	3	Perform design studies to evaluate site constraints and design parameters, including the following: consolidation and settlement, lateral and vertical support, dewatering sediments, stormwater runoff and control, leachate collection, treatment and disposal, and hydrogeologic impact of filling East Doane lake remnant and the open excavation (also known as the Lake Area or Phase III Area) portion of the Rhone-Poulenc property;
21	1	A proposal identifying work to be performed, including at least one off-site mitigation proposal, shall be submitted with the final design report;
24	5	The OCF will be designed to meet minimum technology requirements for RCRA Subtitle C landfills, including liners, leachate collection, and a cap.

APPENDIX D (Continued)

Summary of Design Requirements

25	4	Potential future industrial uses of the Gould property will be considered in the design of the facility to the extent practicable.
25	5	Final design of the containment facility will be subject to approval by EPA.
27	5	Dredging and filling of the East Doane lake remnant is subject to the requirements of Section 404 of the Clean Water Act, and a mitigation/restoration plan will be required.
27	6	The OCF will be constructed above the water table and will be designed, constructed and operated to meet 40 CFR 264 Subpart N requirements for landfills, including: 1) 264.301 design and operating requirements for liners and leachate collection systems, 2) 264.303 monitoring and inspection requirements, 3) 264.310 closure and post-closure care requirements for covers which minimize migration of liquids, function with minimum maintenance, and provide long-term integrity.