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State of Oregon
Department of Environmental Quality

Memorandum

To: Tom Bispham, NWR Administrator

From: Sheila Monroe, NWR Voluntary Cleanup and
Site Assessment Section

Subject: No Further Action Proposal for Wagstaff Battery
Corrected Copy

Date: December 16, 1997

Purpose

This memo provides a summary of the investigation and cleanup actions conducted by Wagstaff Battery for their facility located at 2124 N. Williams Avenue, Portland, Oregon. We have completed our review of the work conducted for the site and have prepared this Memo and the attached draft public notice and press release for your consideration. We are proposing no further action and allowing two pockets of soil contamination to remain on-site with a notice of hazard to be attached to the deed.

Background

Between 1962 and 1991, Wagstaff Battery manufactured and distributed batteries. From 1991 through 1997, Wagstaff Battery continued to distribute and repair batteries, but on a smaller scale than historically. The owners of the site have performed an independent cleanup (without DEQ oversight) of a drywell and two sumps. On April 7, 1997, as part of a potential sale agreement, Wagstaff Battery owner, Charles Hindman, signed a Letter Agreement with DEQ's Voluntary Cleanup Program. The goal was to secure a "no further action" determination from the DEQ so that the site could be sold.

During our review, we identified four environmental concerns: 1) a drywell where lead and sulfuric acid were discharged, 2) shallow soils where fugitive dust emissions may have accumulated, and 3) two wastewater collection sumps. Lead dust within the building is a potential occupational concern that should be evaluated by the future buyer of the property.

The Drywell

Environmental concern initially focused on the drywell, located on the east side of Building #1 where historic discharges of water, dilute sulfuric acid, and lead had occurred (See Figures 1 and 2). In 1993, the majority of the contaminated soil within and surrounding the drywell was excavated and stockpiled on-site. The amount of soil to be excavated was based on RCRA hazardous waste criteria rather than soil cleanup standards. Therefore, confirmatory samples were only evaluated by toxic characteristic leaching procedure (TCLP) and pH. Confirmatory

TCLP measurement for lead were generally less than 3.3 mg/l with the exception of 39 mg/l detected at 8 feet below ground surface at the west wall of the excavation (or adjacent to Building #1).

In April 1995, the contaminated soil was treated by chemical fixation and stabilization using cement kiln dust until it was no longer a characteristic hazardous waste (less than 5 mg/l TCLP lead). After securing a Solid Waste Letter Authorization from DEQ, the treated soil was used to backfill the original excavation.

In July 1997, Wagstaff was given the option to either demonstrate the long term stability of the treated soil, or re-excavate and dispose of the treated soil as a solid waste. In October 1997, the treated soil and an additional area of gray discolored soil was excavated and disposed at the Waste Management Facility in Columbia Ridge.

Also in October, additional soil samples were collected from the excavation and beneath the eastern side of Building #1 (vicinity of the west wall of the excavation). The samples were tested for total lead because the original evaluation only considered TCLP and to define the amount of residual contamination adjacent to the west wall of the excavation. The testing confirmed a high of 3,750 mg/kg lead at 19 feet below ground surface (bgs) near the west center of the excavation, which roughly corresponds to a location where 2 mg/l TCLP lead was documented by sample analysis from earlier work. This soil was excavated and a subsequent sample at 24 feet bgs contained 33.6 mg/kg lead. Samples from inside the building to ten feet below the concrete floor detected only background range concentrations of lead between 6 to 9 mg/kg.

The DEQ has determined that a pocket of lead contaminated soil is present at approximately three to twenty feet bgs at the eastern side of Building #1. The contaminated soil has a gray discoloration and a nearby sample had a concentration of 383 mg/kg. The total volume of residual, lead-contaminated soil is estimated at 22 cubic yards. The pocket of contamination is illustrated on Figure 1.

Historic discharges of dilute sulfuric acid to the drywell probably contributed to the high concentration of leachable lead. The sulfuric acid created a low pH environment in which lead is more soluble compared to more typical conditions of rainwater infiltration. In evaluating this site as a pocket closure, DEQ considered that the discharge of dilute sulfuric acid terminated approximately five years ago, future infiltration of rainwater should buffer the low pH environment and further reduce lead solubility, and an estimated thirty feet of uncontaminated soil is between the pocket of contamination and groundwater. DEQ approves leaving this pocket of contamination because the removal of this contamination would endanger the integrity of the building and the pocket does not threaten human health, safety, welfare or the environment.

Sump #1

Sump #1 is located in the northern portion of Building #1. In January 1997, initial testing of the soils beneath the sump identified 350 mg/kg total lead and 15,000 mg/kg total petroleum hydrocarbons (TPH) by analytical method 418.1m. No polychlorinated biphenols (PCBs) or volatile organic compounds were detected.

Soil was excavated from beneath the sump to a depth of five feet. The contaminated soil was disposed of at the Columbia Ridge Waste Management Facility. At five feet below the floor slab no discrete soil samples were collected. The previous samples from 4.5 feet detected lead at 1,900 mg/kg and TPH at 17,000 mg/kg. A sample collected at six feet showed that lead concentrations decreased to 19 mg/kg. Lead contaminated soil is presumed to remain between the five feet deep excavation and the six feet deep sample. A subsequent sample collected from 15 feet below slab did not detect TPH contamination. Two contaminated samples were also tested for polynuclear aromatic hydrocarbons (PAHs). The only PAH detected was phenanthrene at 22 ug/kg which is less than DEQ's calculated risk-based standards for petroleum constituents¹. Phenanthrene is not a contaminant of concern because its concentrations are less than numerical soil cleanup levels (OAR 340-122-045 and 046) for naphthalene, a comparable compound.

Based upon this information, the DEQ has concluded that a pocket of lead and TPH contaminated soil remains beneath Sump #1 which exceeds the currently required cleanup levels, but which the DEQ approves leaving since the removal of this contamination would endanger structures and, the pocket does not pose a significant threat to human health, safety, welfare or the environment. The pocket size is approximately ten cubic yards. Contaminant concentrations for lead are between 19 mg/kg and 1,900 mg/kg, potentially exceeding the residential soil cleanup standard of 200 mg/kg. Contaminant concentrations for TPH are between non-detect and 17,000 mg/kg. The pocket of contamination is shown on Figure 2.

Sump #2

Sump #2 is located in the western portion of Building #1. Initial soil testing did not detect volatile organic compounds, PCBs or TPH. Total lead was detected at 5,700 and 34,000 mg/kg. After excavating contaminated soil to a depth of approximately four feet below slab, total lead was measured at 15 mg/kg which is less than the most rigorous soil cleanup standard of 200 mg/kg. The contaminated soil was disposed at the Columbia Ridge Waste Management Facility. Contaminated liquids and sludges removed from Sumps #1 and #2 are on-site pending disposal.

Surface Soils

During a 1986 DEQ Air Quality inspection, soil samples from the Wagstaff property and the vicinity detected elevated lead concentrations (300 to 4,000 mg/kg). The source of the lead contamination may have been fugitive dust emissions from the battery operations at Wagstaff or lead emissions associated with neighborhood vehicular traffic.

In October 1997, three surface soil samples were collected from the exposed eastern portion of the property in the emission pathway of a former building exhaust fan in Building I. Lead concentrations ranged from 22.2 to 139 mg/kg which is less than the residential cleanup standard established for total lead. The DEQ concluded that lead is not a contaminant of concern in shallow surface soils.

¹ DEQ, 1996, "Interim Guidance on Incorporating Risk-based Corrective Action for Petroleum Releases"

Soil Cleanup Criteria

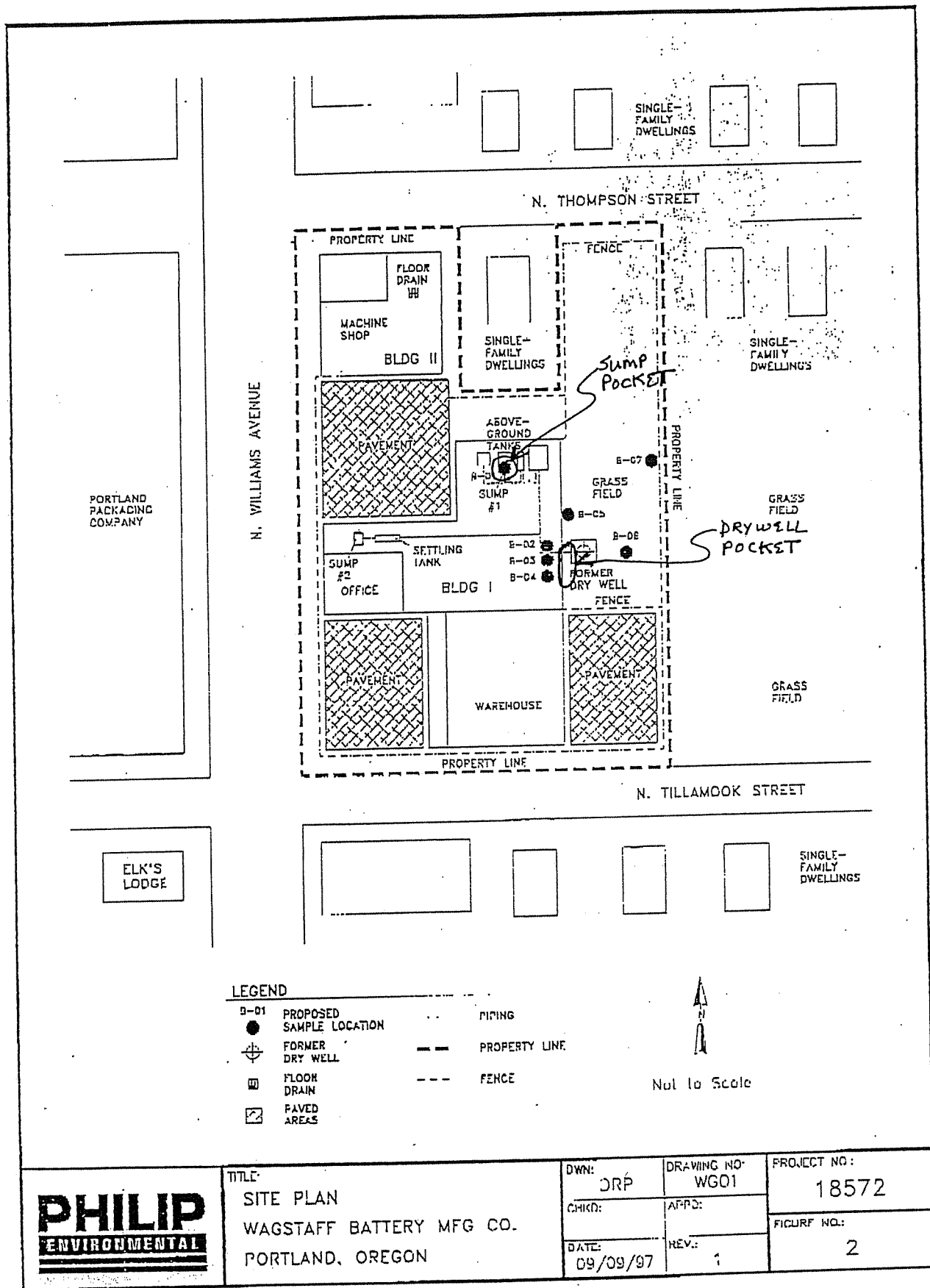
Oregon Administrative Rules (OAR) 340-122-045 contains the Numerical Soil Cleanup Levels which were used to establish cleanup levels for the hazardous constituents present. In addition, OAR 340-122-305 through 340-122-360, the underground storage tank cleanup requirements, were used as guidelines in evaluating TPH concentrations.

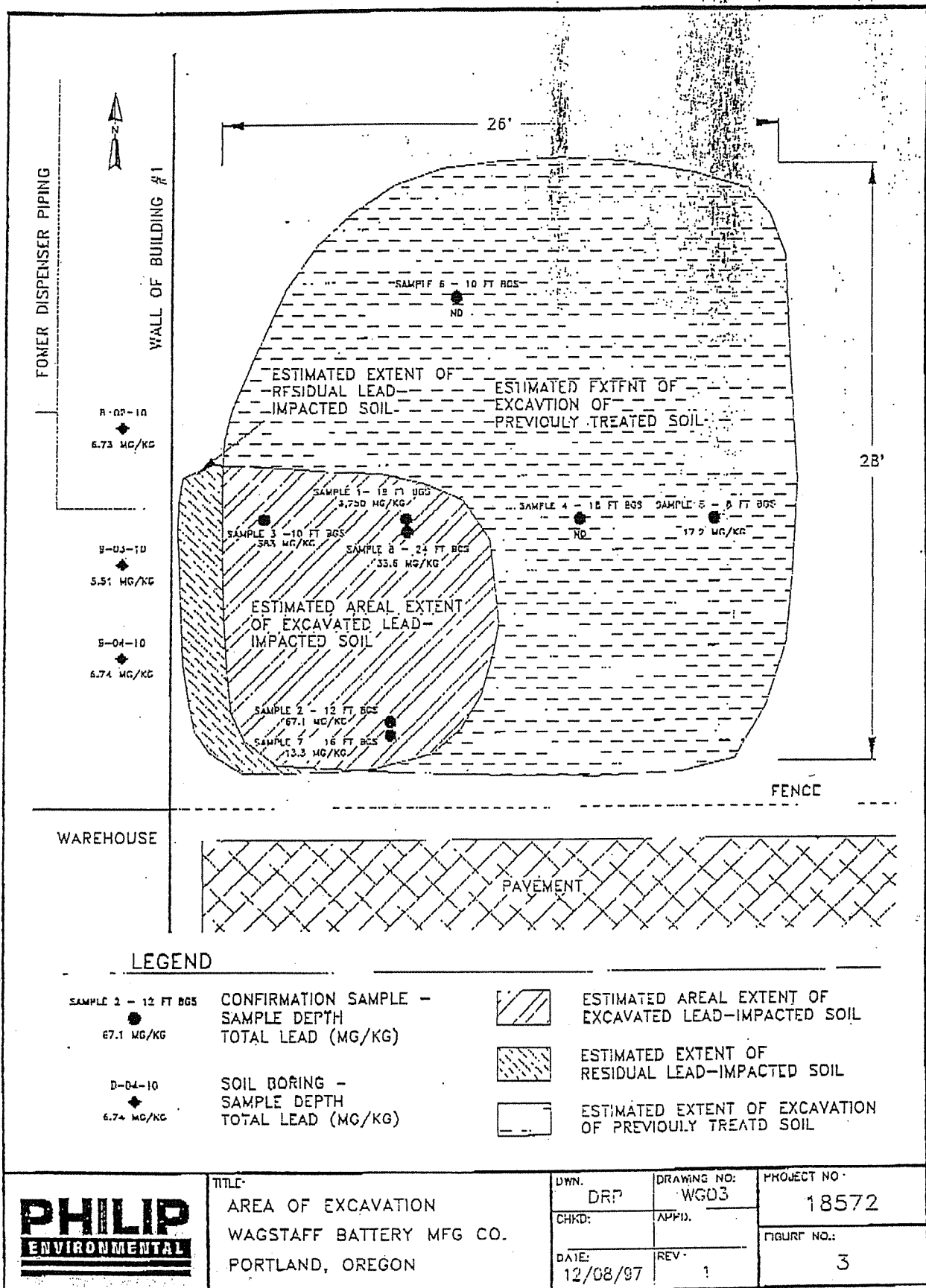
The characterization of this site established the factors necessary for applying the Numerical Soil Cleanup Level rules as indicated below:

1. The site characterization was approved by DEQ.
2. The characterization made the following findings as required by OAR 340-122-045 (2) (a) through (f):
 - The number and nature of the contaminants - TPH, PAHs and lead are known, and are documented in site reports.
 - Contaminants were present in soil only - the vertical extent of soil contamination was determined to be above the seasonal high water table.
 - Contaminants of concern are listed on the soil cleanup table. One non-carcinogenic PAH (phenanthrene) was detected which is not on the soil cleanup table. However, the concentration was evaluated by comparison to naphthalene, a commonly used surrogate standard, and was determined not be a contaminant of concern.
 - The sources of contaminants were determined to be discharges to the drywell and incidental drips or spillage which accumulated in the collection sumps.
 - The vertical and horizontal extent (less than 25 feet below ground surface) of contamination was established.
 - The depth to groundwater was found to be approximately 55 feet below ground surface.
3. The contaminants of concern are not known or suspected carcinogens. The Hazard Quotient is less than 1 for areas where contaminated soil was removed. Although most of the contaminated soil was removed, contamination (383 mg/kg) exceeding the Soil Cleanup Levels (200 mg/kg residential) has been left in place beneath and adjacent to on-site Building #1. The elevated concentrations for residual contamination results in a hazard quotient of 1.92. Because the contamination is currently inaccessible, it does not pose a direct contact risk. A Notice of Hazard will be attached to the property deed to address this contamination in the event that it becomes accessible in the future. A copy of the draft Notice of Hazard is attached.
4. No surface water was impacted by this release.
5. No sensitive environments were impacted by this release.

Recommendation

This cleanup was conducted consistent with OAR 340-122-045. Remaining concentrations of contaminants are currently inaccessible or below concentrations which are protective of public health and the environment. It is therefore recommended that no further action be performed for the Wagstaff Battery site. A Notice of Hazard and site map (attached) will be attached to the property deed to document the nature and extent of actionable contamination remaining beneath and adjacent to site Building #1. This contamination should be addressed when it becomes accessible.





State of Oregon
Department of Environmental Quality

Memorandum

To: Tom Bispham, NWR Administrator

Date: December 11, 1997

From: Sheila Monroe, NWR Voluntary Cleanup and Site Assessment Section

Subject: No Further Action Proposal for Wagstaff Battery

CLEARANCE		
TO	INITIAL	DATE
Tom Rieck	TR	12/11/97
M. Rosen	MR	12/15
CH	CH	12/15

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The Drywell

Environmental concern initially focused on the drywell, located on the east side of Building #1 where historic discharges of water, dilute sulfuric acid, and lead had occurred. In 1993, the majority of the contaminated soil within and surrounding the drywell was excavated and stockpiled on-site. The amount of soil to be excavated was based on RCRA hazardous waste criteria rather than soil cleanup standards. Therefore, confirmatory samples were only evaluated by toxic characteristic leaching procedure (TCLP) and pH. Confirmatory TCLP measurement for

closed now? removed & from 1991 to...

if removed - should be...

(See Figure 1 & 2?)

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Redundant
? In April 1997, Wagstaff Battery entered the DEQ's Voluntary Cleanup Program in order to secure a "no further action" letter. In July 1997, Wagstaff was given the option to either demonstrate the long term stability of the treated soil, or re-excavate and dispose of the treated soil as a solid waste. In October 1997, the treated soil and an additional area of gray discolored soil was excavated and disposed at the Waste Management Facility in Columbia Ridge.

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*site more specific
OK*

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Recommendation

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