

State of Oregon
Department of Environmental Quality

Memorandum

Date: February 3, 2003

To: File number 34-96-0441
From: Gregory Toran, NWR Office
Subject: Open file and admin closure

This file was opened in 1996 by the UST cleanup program at NWR. This project was reviewed by another section (VCS), as part of a larger cleanup and closed in 2001. The ESCI file number is 0185 for Washington County.

File 34-96-0441 is being administratively closed. The UST section will not be charging review time for this project from this day forward, unless new information is provided suggesting a reason for re-opening this file.

Memo admin file closure complete
OTIS admin closure
Sequent admin closure
Email to Dawn Gomez at HQ complete
Admin closure checklist



Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality

Northwest Region
2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

December 7, 2001

Brian Smith
Smith Gerig Western Properties, LLC
P.O. Box 930
Wilsonville, OR. 97070

Re: No further action determination for the Former
Western Foundry site, ECSI # 0185

Mr. Smith:

The Voluntary Cleanup Program (VCP) of the Oregon Department of Environmental Quality (DEQ) has completed its evaluation of investigation and cleanup work performed at the former Western Foundry site, located at 8200 SW Hunziker Street in Tigard.

Smith Gerig Western Properties signed an agreement with VCP on October 16, 1997 requesting oversight of investigation and cleanup activities at the site. At that time, a number of phases of investigation and cleanup had already been performed, including removal of metal-bearing dusts and sludges generated during operation of the foundry. This work, and subsequent work performed with DEQ oversight, identified metal contamination (primarily lead) in near-surface soil associated with operation of the foundry. Metals and petroleum hydrocarbons were also found in Redrock Creek, located adjacent to the site. Redrock Creek was formerly a discharge point for foundry drains.

Most of the contaminated sediment in Redrock Creek was removed August 2000. Remaining concentrations in the creek are below National Oceanic and Atmospheric Administration (NOAA) screening concentrations (Upper Effect Thresholds or UETs). Remaining concentrations of metals in site soil are below EPA Region 9 Preliminary Remediation Goals (PRGs) for industrial sites. DEQ is satisfied that the current and reasonably likely future use of the site is industrial, and that these are appropriate screening values for the site.

Investigation and cleanup activities at the site have been successfully completed; no further remedial action is required. Site investigation and cleanup was conducted consistent with OAR 340-122-070, OAR 340-122-045, and OAR 340-122-305 through 360. Note that steps should be taken by the site owner to minimize the potential for future release of residual soil contaminants to Redrock Creek. DEQ's recommends the following: 1) maintenance of a berm along the entire eastern margin of the site to prevent overland runoff to the creek; and 2) construction and maintenance of a stormwater drainage system (as part of impending site development) sufficient to remove particulate matter from upland runoff that is expected to be



Western Foundry
December 7, 2001
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routed to Redrock Creek. DEQ suggests you consider use of bioswales as part of the proposed stormwater drainage system.

Notice of the proposed no further action decision was published on October 1, 2001 in the Secretary of State's Bulletin and The Oregonian, and a 30-day period for public comment provided. No comment was received. Therefore, DEQ has determined that no further action is required on this parcel under Oregon Environmental Cleanup Law, ORS 465.200 et seq., unless additional information becomes available which indicates further investigation is warranted. A copy of the DEQ memorandum discussing the site and the basis for the no further action determination is included with this letter. DEQ's Environmental Cleanup Site Information database will be updated to reflect this decision.

As site monitoring wells are not longer needed, they should be abandoned as soon as possible following Oregon Water Resources rules (Chapter 690, Division 240).

If you have any questions, please contact Daniel Hafley at 229-5417. Thank you for your participation in the Voluntary Cleanup Program.

Sincerely,



Michael E. Rosen, Manager
Voluntary Cleanup/Portland Harbor

Attachment: DEQ memorandum

cc: Daniel Hafley, VC/PH
Len Farr, AMEC

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The following information is provided for your information...

It is noted that the information provided is for informational purposes only.

Should you have any questions, please contact the appropriate department.

[Handwritten signature]

Very truly yours,
[Name]

cc: [Name]

[Name]

State of Oregon
Department of Environmental Quality

Memorandum

Date: September 14, 2001

To: Western Foundry File
ECSI# 0185

From: Daniel Hafley, VC/PH

Subject: No Further Action recommended

Purpose

This memo provides a brief summary of investigation and cleanup action conducted at the Western Foundry site, located at 8200 SW Hunziker Street in Tigard, Oregon. An iron and steel foundry formerly occupied the 8.5 acre site. Smith-Gerig Western Properties LLC signed a Letter Agreement with the Oregon Department of Environmental Quality (DEQ) Voluntary Cleanup Program (VCP) on October 16, 1997 requesting DEQ review of investigation and cleanup activities. A no further action determination is proposed for the site, which requires the approval of the Department of Environmental Quality (DEQ) Northwest Region Voluntary Cleanup/Portland Harbor (VC/PH) program manager. A public notice is attached.

Background

The site is located in an area of mixed development in Tigard, Oregon (see Attachment 1 for location), and bordered on its southeast side by Redrock Creek, on the northwest by Southern Pacific Railroad tracks, and on the northeast and southwest by commercial businesses. Several former foundry structures currently occupy the site, including the office, foundry, and several warehouse and storage buildings (see Attachment 2 for current site configuration).

Western Foundry Company (WFC), an iron and steel foundry, operated at the site from 1956 to 1994 producing custom-fitted castings, alloy steel, and cast iron pipe fittings and metal parts. Prior to 1956 the site was undeveloped. Site buildings included the main foundry building, machine shop, pattern storage building office, and a warehouse and maintenance building. Other site structures included sand silos, a baghouse, an electrical substation, and paint shed. Waste streams from WFC operations included silica dust, slag from arc furnaces, bag house dusts, cupola sludge, and cupola scrubber water, many of which were found to contain elevated metals. A number of underground storage tanks (USTs) were formerly located on-site.

The property has been owned by Smith-Gerig Western Properties LLC since 1995. Smith-Gerig currently uses a portion of the site for storage or demolition materials and equipment related to their Northwest Demolition, Inc. business. The site is also used by a number of lessees including heavy construction operators. The site is currently zoned for industrial use; redevelopment of the site as an industrial park is being considered.

The site is located in an area of mixed development. Development immediately around the site is commercial and industrial, however there are a number of residences located within 0.25 miles. The nearest surface water is Redrock Creek, which borders the site on the southeast, and is a tributary of Fanno Creek. Storm drains on the site formerly discharged to Redrock Creek, but are currently blocked or filled in. Fanno Creek is used for recreational purposes and contains designated wetlands within its drainage, as does Redrock Creek. No threatened or endangered species have been identified in Redrock Creek in the site vicinity, nor is there any known recreational use.

The depth to groundwater beneath the site is less than 10 feet, within alluvial deposits. Regional groundwater flow is to the west, while the flow of shallow groundwater beneath the site is to the south-southwest towards Redrock Creek. Shallow groundwater likely discharges to the creek. According to a 1991 Preliminary Assessment (PA) completed for the site by Tetra Tech, water well reports identify up to 89 domestic wells within two miles of the site, with the nearest located approximately 0.75 miles to the southeast.

Pre-DEQ Investigation and Cleanup Activities

Prior to Smith-Gerig's entering the VCP in 1997, a number of phases of site investigation and removal activities were completed at the site to address contaminated materials. The efforts are briefly discussed below. More comprehensive discussion is presented in the reports themselves, which are available in DEQ files. A concise description of pre-1997 sampling results is also provided in DEQ's August 7, 1998 File Review Memorandum, a copy of which is appended to this memo as Attachment 3. Attachments 4, 5, and 6 show the locations of: early Hahn & Associates and RZA-AGRA investigations; cupola area investigations; and foundry sand fill investigations.

Investigation Efforts

- Two phases of site assessment, including soil and water sampling, were completed by Hahn & Associates at the site in 1988.
- Northwest Environmental Corporation removed a 3000-gallon UST from the site in 1989.
- Hahn & Associates completed an analysis of site waste streams and disposal options in 1990.
- A detailed Preliminary Assessment was performed in 1991 by Tetra Tech for DEQ.
- An environmental investigation was performed in 1991 by RZA-AGRA.

Removal Actions

- 1,500 tons of foundry sand were transported to Newberg, Oregon and utilized to backfill a UST cavity in 1992.
- 3,000 tons of foundry sand was transported to the Durham Pit in Durham, Oregon for disposal in 1995.
- 350 tons of metal slag from foundry arc furnaces was deposited at the Durham Pit in 1996.
- Nine drums of cupola sludge were transported to Hillsboro Landfill for disposal in December 1995.

Pre-1997 site assessment identified contaminants in a number of site areas including the following:

- Metals in surface and subsurface soils around the former foundry building, and in adjacent areas where foundry sand had been used as fill. Lead was detected at a maximum concentration of 10,000 mg/kg, although most samples contained less than 200 mg/kg lead, less than 10 mg/kg arsenic, and remaining metals below EPA Region 9 Preliminary Remediation Goals (PRGs) for industrial soils.
- Metals, petroleum hydrocarbons, and polychlorinated biphenyls (PCBs) in Redrock Creek sediments adjacent to outfalls. Lead was detected at a maximum 2,560 mg/kg adjacent to outfall #3, while PCBs were detected at 0.33 mg/kg and 0.34 mg/kg at outfalls #1 and #4, respectively.
- Benzene was detected to a maximum 16 mg/L in groundwater at the location of a (decommissioned) gasoline UST.

Post-DEQ Investigation and Cleanup Activities

Smith-Gerig entered DEQ's VCP on October 16, 1997. On January 7, 1998 AGRA submitted a "Site Assessment and Cleanup Report" which summarized previous investigation activity, and provided recommendations for additional site work. DEQ staff completed a review of all site files in 1998 (DEQ File Review Memorandum, dated August 7, 1998) and concluded that most waste material (cupola sludge, baghouse dust, foundry sands, etc.) generated during WFC operation had been removed from the site and disposed of at nearby solid waste landfills. To address remaining data gaps, including the determination of the full extent of site-related contamination, DEQ recommended the following:

- Additional sediment sampling in Redrock Creek.
- Groundwater sampling downgradient of the former 3,000-gallon UST.
- Surface and subsurface soil sampling at: 1) the location of former above-ground storage tanks (ASTs); 2) site areas where foundry sands had been used as fill; and 3) at isolated locations where metals were significantly elevated.
- Assessment of site catch basins for contaminated sediment, and potential to discharge to Redrock Creek.

Requested site background data were provided by AGRA in a "File Review Response" report dated August 2, 1999. DEQ reviewed the report and provided additional comment on October 11, 1999. AGRA subsequently completed additional site investigation in December 1999, the results of which are presented in "Results of Additional Site Characterization and Land Use Determination" dated February 24, 2000. Results of the investigation are as follows:

- Subsurface soil sampling was performed in two of three locations where high lead concentrations were previously detected (2580 mg/kg at 1S, and 10,000 mg/kg at OS-2). A number of confirmatory samples were collected at each location; none exceeded 65 mg/kg. It should be noted that both detections were in soil from greater than 5' below ground surface (bgs), and well away from Redrock Creek.

- Additional surface soil sampling around the foundry building detected lead and arsenic to 625 and 11.2 mg/kg, respectively. The lead value is below the EPA PRGs for industrial soil exposure, while arsenic values were considered to be representative of background.
- Test pits completed near former waste oil ASTs contained no visual evidence of contamination. No petroleum hydrocarbons were detected in surface soil samples collected at these locations.
- Benzene was detected in a shallow groundwater well (MW-10) located downgradient of the former gasoline UST to 15.4 ug/L.
- Current and reasonably likely future land use at the site was confirmed as Light Industrial (see Attachment 7 for zoning map).

Additional sediment sampling was completed in Redrock Creek in July and August 2000. At approximately the same time, a streamlined ecological assessment was performed to identify ecological receptors at and in the vicinity of the site. No sensitive species were identified in the site vicinity. Twenty-five cubic yards of contaminated sediment were subsequently removed from the vicinity of Outfall #1 at the site in August 2000. It should be noted that the removal was performed independent of DEQ, and under an expedited schedule to fall within work times allowed for in-water activities. Results of this work are presented in AMEC's (formerly AGRA) "Redrock Creek Sediment Assessment and Remediation" report, dated September 22, 2000. The cleanup was based, without DEQ consultation, on Screening Benchmark Values (SBVs) identified in DEQ's "Guidance for Ecological Risk Assessment, February 1998". The sediment SBVs were subsequently withdrawn by DEQ.

To address DEQ concern that benzene in the MW-10 area could impact Redrock Creek, AMEC resampled the well, and collected groundwater from three downgradient push probe locations, on July 26, 2000. Benzene and toluene were detected at maximum concentrations of 2.32 and 0.26 ug/L in MW-10, while lower concentration of benzene were detected in downgradient push probes. Results are presented in AMEC's "Results of MW-10 Area Groundwater Sampling" dated September 22, 2000.

DEQ completed review of the "Sediment Assessment and Remediation" and "MW-10 Groundwater Sampling" reports and presented conclusions in an October 25, 2000 letter to Smith-Gerig. DEQ concluded that benzene and toluene concentrations near MW-10 were below risk-based screening values (EPA tapwater PRGs and Oregon Ambient Water Quality Criteria), and therefore did not require further action. After conferring with a staff toxicologist, DEQ requested the following:

- Additional sediment sampling to define the nature and extent of sediment contamination in the vicinity of samples SS-2, RC-9, RC-8, and HA-#4, and that all sediment data should be compared to upper effects threshold (UET) values promulgated in the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQiRT).
- Additional documentation to support AMEC's determination that no threatened, endangered, or sensitive species were located within the Locality of the Facility.
- Documentation on US Army Corp of Engineers and Oregon Division of State Lands approval for the sediment removal.

In response to DEQ comments, a "Redrock Creek Level I Ecological Risk Assessment" was completed for the site by AMEC in January 2001. In addition to including data documenting a lack of important ecological receptors at/near the site, the report presented the results of additional sediment sampling, and permitting paperwork related to the previous sediment removal action. Thirteen additional sediment samples (RC-10 to -22) were collected adjacent to, upstream, and downstream of the site in Redrock Creek and analyzed for metals. Contaminants were generally not detected above SQUIRT screening values. A map showing all sediment sampling locations is presented as Attachment 8, and compiled sediment sampling results as Attachment 9.

In a subsequent evaluation of all sediment data (April 2001), DEQ determined that contamination exceeding UETs for lead and/or zinc at two locations (RC-17 and -19), however the contamination is localized and relatively inaccessible (because of heavy vegetation and a steep streambank), occurring in an approximately 50' stretch of the creek bed adjacent to the west bank of Redrock Creek. Resampling of sediments where high lead and PCBs were previously detected yielded much lower concentrations of metals, and no PCBs. According to AMEC, an attempt to remove the material could result in significant damage to the stream habitat. After conferring with a staff toxicologist, DEQ determined that additional removal of sediments was not warranted, particularly as reasonable maximum exposure (RME) concentrations of lead and zinc in sediments along the length of the site, based on a 90% UCL, were below screening concentrations.

On March 13, 2001, Smith Gerig submitted a "Building Demolition Methodology", which discussed handling and disposal of wood, roofing, and concrete to be generated during demolition of the large on-site foundry building. Smith Gerig proposed reuse of some support timbers, and burning of others as hog fuel. Concrete was to be swept and then crushed for on-site reuse, and metal siding material to be recycled off-site. On April 23, 2001, sampling of roof materials from the foundry building identified two (of 23) samples containing non-friable chrysotile asbestos. After consultation with DEQ's Asbestos Program, it was agreed that the material, when removed, could be disposed of in a solid waste landfill. Demolition of the building continued through fall 2001, with periodic oversight by AMEC.

Conclusions

Based on a comprehensive review of site data, DEQ has concluded that no further action appears to be necessary at the Former Western Foundry site provided that site use remains industrial or similar uses. Discussion of the reasoning behind this decision, for each of the impacted media, is presented below.

Soils - Site soils contain elevated concentrations of metals - notably lead. Statistical analysis of lead concentrations in near surface site soils was performed by DEQ, with RME concentrations defined by the 90% UCL of the sample population. With the exclusion of the OS-2 data point, where lead was detected at 10,000 mg/kg but not detected in resampling of the area, remaining site lead RMEs are well below EPA's 750 mg/kg PRG for industrial soil exposure. This held

true with separate analysis of subsets of the sample population including: 1) 0-5' bgs soils only, fill soils only, and Cupola Area soils only. Lead RMEs ranged from 100 to 409 mg/kg in the various analyses. Arsenic concentrations in soils were determined by DEQ to be consistent with background, while concentrations of other metals of potential concern were below industrial soil PRGs. No significant detections of organic compounds were detected in site soils.

Groundwater – Ten shallow groundwater wells were installed at the site in 1991 by AGRA. The wells were sampled in September and November 1991, November 1994, and quarterly from May 1996 to December 1997. With the exception of benzene, no contaminants have been detected during recent groundwater sampling in groundwater at actionable levels. In July 2000 sampling benzene was detected at a maximum concentration of 2.32 ug/L in the tank vicinity. The source area for the benzene contamination has been removed, and residual concentrations are below both tapwater PRGs and Ambient Water Quality Criteria. The contamination therefore poses no risk to potential receptors.

Sediments – With the removal of contaminated creek sediment in 2000, much of the identified contamination attributed to past releases from foundry activities has been removed. Lead and/or zinc concentrations remain elevated above NOAA Upper Effects Thresholds (UETs) at two locations within Redrock Creek, however, RME concentrations for these elements, based on all remaining (non-excavated) sediment sampling locations, are below the same UETs. Given this, the localized nature of remaining contamination, and that AMEC determined that an attempt to remove the material could result in significant damage to the streamside habitat, DEQ determined that further remedial action was not required. It should be noted that the decision to use UETs, as opposed to, for example, consensus (MacDonald, 2000) sediment quality guidelines, was made on a site-specific basis, and considering facts presented above including the localized nature of contamination and a lack of identified ecological receptors.

Potential for Re-Contamination of Redrock Creek – It is important to note that concentrations of lead remaining in upland soils, at some locations, exceed the NOAA UET of 127 mg/kg for freshwater sediments. As a consequence, the migration of site soils could result in recontamination of Redrock Creek.

Site culverts that drain surface runoff from the site to Redrock Creek are currently blocked. Also, the eastern margin of the site, adjacent to Redrock Creek, has a berm that prevents overland flow to the creek. Therefore there appears to be no significant potential for residual metals in surface soils to discharge to the creek at this time. If site conditions were to change, metals could be reintroduced to the creek at concentrations which would negate DEQ's no further action determination for the site, and potentially require additional remedial action. Redevelopment of the site is scheduled to occur in the near future. Smith Gerig will need to take precautionary measures during the work to ensure that contamination is not reintroduced to Redrock Creek through either re-opening of the drains, placement of contaminated soils adjacent to the creek, or breaching of the berm in such a fashion to allow surface flow to the creek, etc.

REFERENCES

An Environmental Assessment of the Western Foundry Company; prepared by Hahn and Associates, Inc. for Hutchinson & Hooper, May 17, 1988.

An Environmental Investigation of the Western Foundry Company; prepared by Hahn and Associates, Inc. for Hutchinson & Hooper, December 12, 1988.

Report on an Underground Storage Tank Removal, Investigation, and Remediation; prepared by Northwest Environmental Corp. for Western Foundry, April 19, 1989.

Status Report, 7/12/90, Sampling and Disposal of Wastes; prepared by Hahn & Associates, July 12, 1990.

Preliminary Assessment Parts 1 & 2; prepared by Tetra Tech for Oregon DEQ, January 1991.

Environmental Investigation; prepared by RZA-AGRA for Western Foundry Company, November 1991.

Environmental Assessment and Cleanup (Summary Report); prepared by AGRA Earth & Environmental, Inc. for Smith-Gerig Western Properties, January 1998.

DEQ File Review Memorandum, prepared by D. Hafley, Voluntary Cleanup and Site Assessment Section, August 7, 1998.

File Review Response; prepared by AGRA Earth & Environmental, Inc. for Smith Gerig, August 2, 1999.

Plan for Additional Site Characterization; prepared by AGRA for Smith Gerig, November 17, 1999.

Results of Additional Site Characterization and Land Use Determination, prepared by AGRA for Smith Gerig, February 24, 2000.

Results of MW-10 Area Groundwater Sampling, prepared by AMEC for Smith Gerig, September 22, 2000.

Redrock Creek Sediment Assessment and Remediation, prepared by AMEC for Smith Gerig, September 2000.

Rock Creek Level 1 Ecological Risk Assessment, prepared by AMEC for Smith Gerig, January 2001.

Western Foundry
September 14, 2001

Page 8

Building Demolition Methodology, prepared by Northwest Demolition & Dismantling, Inc. for
DEQ, March 13, 2001.

TORAN Greg

From: TORAN Greg
Sent: Monday, February 03, 2003 1:14 PM
To: SPECHT Sue; GOMEZ Dawn
Cc: LEPPALUOTO Tina L; POLLOCK Andree; TORAN Greg
Subject: FW: WESTERN FOUNDRY COMPANY 34-96-0441

Well we missed one. I charged last review time to this project in late December in preparation of sending a letter to the RP. Today I did a quick search of ESCI records and found that VCS had reviewed and closed the site as part of a larger site cleanup project. I just looked through the letters and memos generated by Dan Hafley in 1999 through 2001. Based on the closure through VCS, the UST cleanup section will be administratively closing this file. Please do not bill the RP for my charges in December 2002. Change the time billed to last technical assistance. Not sure why this file was still open.

Thank you.

-----Original Message-----

From: HAFLEY Dan
Sent: Monday, February 03, 2003 12:13 PM
To: TORAN Greg
Subject: RE: WESTERN FOUNDRY COMPANY

Greg -

I believe our review did cover tanks. There were a couple of AST, and one former gas UST that we looked at, and determined that no further action was required. A copy of the NFA letter and closeout memo will be at the top of the communication file for the site, ECSI# 0185, in the file room. Let me know if you can't find it.

-----Original Message-----

From: TORAN Greg
Sent: Monday, February 03, 2003 12:09 PM
To: HAFLEY Dan
Subject: WESTERN FOUNDRY COMPANY

Dan:

The tanks section has this site as an open cleanup file. It looks like VCS reviewed the site for issues not related to USTs? Did VCS issue any final letters on the site? If yes, how can I get a copy?

	LUST Incident Number: 8132	LUST Log Nbr:	34-96-0441	
	Date Received: 25-JUL-1996	Lead Staff Initials:		
	Facility Number: 1416	Geo Location ID:	1193	
	Emergency Response? N	Regulated Tank? Y	Admin Closure? N	
	Heat/Oil Tank? N	Petroleum Tank? Y		
	Site Name:	WESTERN FOUNDRY COMPANY		

| Street Nbr: 8200 Quadrant: SW |
| Street Name: HUNSIKER Street Type: |
| Address: 8200 SW HUNZIKER |
| City: TIGARD Zip: 97223 Phone: (503) 639-2141 |
| County: 34 (WASHINGTON) |
| << File: TORAN, Greg.vcf >>

TORAN Greg

From: HAFLEY Dan
Sent: Monday, February 03, 2003 12:13 PM
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|      |
| Emergency Response? N      Regulated Tank? Y      Admin Closure? N      |
| Heat/Oil Tank?      N      Petroleum Tank? Y      |
|      |
| Site Name:      WESTERN FOUNDRY COMPANY      |
| Street Nbr:      8200      Quadrant:      SW      |
| Street Name:      HUNSIKER      Street Type:      |
| Address:      8200 SW HUNZIKER      |
| City:      TIGARD      Zip: 97223      Phone: (503) 639-2141 |
| County:      34 (WASHINGTON )      |
| << File: TORAN, Greg.vcf >>
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Oregon DEQ

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Environmental Cleanup Site Information Database Site Summary Report - Details for Site ID 185

This report shows data entered as of February 3, 2003 at 11:45:43 AM

See the bottom of this page for a key to certain acronyms and terms used in the report below

For more information on what is occurring at this site see [DEQ's Facility Profiler](#).

Site Information

Site ID: 185	Site Name: Western Foundry Co.	CERCLIS No:
	Address: 8200 SW Hunziker RD Tigard 97223	
	County: Washington	Region: Northwest
	Investigation Status: No further action required	NPL Site: No
		Orphan Study Site: No Area: No
Property:	Twncshp/Range/Sect: 2S , 1W , 1	Tax Lots: 700,2500
	Latitude: 45 deg. 25 ' 43"	Longitude: - 122 deg. 45 ' 44"
		Site Size: 8.7 acres

Other Site Names:

Operations:

Name: Western Foundry Co.
 Comments: Iron and steel foundry
 Years of Operation: 1956 to present
 SIC Code: 3321

Operating Status:
 Inactive

Contamination Information

Hazardous Substances/Waste Types: cadmium, chromium, and lead; oil & grease; PCBs

Manner and Time of Release: Scrubber water and non-contact cooling water discharged to Redrock Creek and Fanno Creek; particulate discharge from baghouses and a cupola scrubber. Time of release: roughly 1956 to 1989.

Contamination Information: (12/17/93 KPD/SAS) Western Foundry built and operated an iron and steel foundry, producing a variety of metal casted parts and fittings. A coke and natural gas-fired cupola was used for iron production, and two electric arc furnaces were used for steel production. Six baghouses and a cupola scrubber were installed to collect particulate matter. An average of 7,000 gallons per day of non-contact cooling water from the arc furnaces was originally discharged into adjacent Redrock Creek, which flows into Fanno Creek. From the mid-1970s until 1989, 5-10 gallons per minute of scrubber water from the cupola was discharged to an underground settling

tank and then to a drainage "pathway" that led to Redrock Creek. In 1989, a closed system was installed to completely recycle the scrubber water.

Pathways:

Soil and sediment samples were taken as part of an Environmental Assessment in 1988. Sediment samples were taken beneath 3 of the 4 wastewater/storm-water outfalls at the site. Subsurface soil samples were taken from 3 boreholes. Total lead was found at high levels in both soil and sediment samples. EP-Tox results for all detected metals were low, but later TCLP tests of the cupola sludge piles, soils near this pile, and another location showed lead levels near or above Oregon Soil Cleanup standards.

Environmental/Health Threats:

Status of Investigative or Remedial Action:

(10/5/94 GMW) The 1991 state Preliminary Assessment (PA) recommended further sampling. Site Assessment agrees; however, the sampling should be part of a Remedial Investigation/Feasibility Study (RI/FS), rather than an expanded Preliminary Assessment (XPA). Because contaminants appear moderately susceptible to migration off-site, Site Assessment recommends that the RI/FS be given a medium priority. (10/4/98 DJH/VCP) VCP file review completed 8/7/98, recommending additional sampling and site information. (4/23/01 DJH/VCP) Additional soil and sediment sampling completed in 1999 and 2000. 25 cubic yards of contaminated sediment were removed from Red Rock Creek adjacent to the site in August 2000. Site investigation and cleanup activities appear adequate under an industrial-use scenario. (11/21/01 DJH/VCP) Closeout memo completed by DEQ September 2001 recommending NFA. Public comment period completed October 2001. DEQ issued site NFA on December 7, 2001. The NFA letter recommended that the site drainage system be updated to prevent future release of metal-contaminated soils to adjacent Red Rock Creek.

Data Sources:

1. Lab results;
2. Environmental Assessment, May, 1988;
3. Environmental Investigation, October 1988;
4. Status Report, Sampling and Disposal of Wastes, Hahn and Associates, July 1990;
5. Preliminary Assessment, DEQ, January 1991;
6. Environmental Investigation, RZA, December 1991;
7. Environmental Site Assessment and Cleanup Report, AGRA, January 1998;
8. File Review Memorandum, DEQ, October 1998;
9. File Review Response, AGRA, August, 1999;
10. Rock Creek Sediment Assessment, AGRA, September 2000;
11. Closeout Memo, DEQ, September 2001.
12. NFA Letter, December 7, 2001.

Substance Contamination Information

Substance	Media Contaminated	Concentration Level	Date Recorded	Lab Data	Agency Observation	Owner Operator Admission
CADMIUM	Sediment	14 ppm		Yes	No	No
CADMIUM	Soil	34 ppm - TCLP 0.49 ppm	9/21/1991	Yes	No	No
CHROMIUM	Sediment	180 ppm		Yes	No	No
CHROMIUM	Soil	130 ppm	9/20/1991	Yes	No	No
LEAD	Sediment	2,560 ppm		Yes	No	No

LEAD	Soil	10,000 ppm - TCLP 76 ppm	9/20/1991	Yes	No	No
OIL OR FUEL RELATED COMPOUNDS	Soil	61 ppm		Yes	No	No
PCBs	Soil	up to 7 ppm		Yes	No	No

Investigative, Remedial and Administrative Actions

Action	Start Date	Compl. Date	Resp. Staff	Agency Code	Region	Lead Pgm
Site added to database	8/8/1988	8/8/1988		DEQ	HQ	SAS
REMEDIAL INVESTIGATION	8/8/1988	8/8/1988		DEQ	HQ	SAS
SITE INVESTIGATION	8/8/1988	8/8/1988		DEQ	HQ	SAS
Responsible party notified re 11/88 Inventory listing	11/30/1988			DEQ	HQ	SAS
SITE EVALUATION	7/1/1990	7/1/1990		DEQ	HQ	SAS
State Basic Preliminary Assessment recommended (PA)	7/1/1990	7/1/1990		DEQ	HQ	SAS
BASIC PRELIMINARY ASSESSEMENT	7/2/1990	1/14/1991		DEQ	HQ	SAS
Listing Review completed	8/13/1990	8/13/1990		DEQ	HQ	SAS
Proposal for Confirmed Release List recommended	8/14/1990	8/14/1990		DEQ	HQ	SAS
Facility proposed for Confirmed Release List	8/30/1990	8/30/1990		DEQ	HQ	SAS
Review for final listing	2/25/1991	2/25/1991		DEQ	HQ	SAS
Listing on Confirmed Release List recommended	2/26/1991	2/26/1991		DEQ	HQ	SAS
Facility placed on Confirmed Release List	5/15/1991	5/15/1991	Loretta Pickerell	DEQ	HQ	SAS
Listing Review completed	5/16/1991	5/16/1991		DEQ	HQ	SAS
Proposal for Inventory recommended	5/17/1991	5/17/1991		DEQ	HQ	SAS
Facility proposed for Inventory	10/28/1992	10/28/1992		DEQ	HQ	SAS
Review for final listing	5/31/1993	5/31/1993		DEQ	HQ	SAS
Listing on Inventory recommended	6/1/1993	6/1/1993		DEQ	HQ	SAS
Facility placed on Inventory	6/2/1993	6/2/1993		DEQ	HQ	SAS
SITE PRIORITY EVALUATION FOR FURTHER ACTION	12/16/1993	12/16/1993	Kevin Dana	DEQ	HQ	SAS
SITE PRIORITY EVALUATION FOR FURTHER ACTION	10/4/1994	10/4/1994	Gil Wistar	DEQ	NWR	SAS
Remedial Investigation/Feasibility Study recommended	10/5/1994	10/5/1994	Gil Wistar	DEQ	NWR	SAS
VCS Waiting List	4/17/1997	10/10/1997	Michael Rosen	DEQ	NWR	VCS
NEGOTIATIONS	10/13/1997	10/16/1997	Daniel Hafley	DEQ	NWR	VCS

Letter Agreement	10/16/1997	10/16/1997	Daniel Hafley	DEQ	NWR	VCS
SITE INVESTIGATION	3/1/1998	9/30/2001	Daniel Hafley	DEQ	NWR	VCS
NO FURTHER STATE ACTION REQUIRED	12/7/2001	12/7/2001	Daniel Hafley	DEQ	NWR	VCS

Key to certain acronyms and terms in this report:

CERCLIS No.: The U.S. EPA's Hazardous Waste Site identification number, shown only if EPA has been involved at the site.

Region: DEQ divides the state into three regions (E, NW, and W); the regional office shown is responsible for site investigation/cleanup.

NPL Site: Is the site on EPA's Superfund List? (Y/N).

Orphan Site: Has DEQ's Orphan Program been active at this site? (Y/N). The Orphan Program cleans up high-priority sites where owners and operators responsible for the contamination are absent, or are unwilling or unable to use their own resources for cleanup.

Study Area: Is this site a Study Area? (Y/N). ECSI assigns unique Site ID numbers to both individual sites and to Study Areas, which are groupings of individual ECSI sites that may be contributing to a larger, area-wide problem.

SIC Code: The Standard Industrial Classification code assigned to the operation described in this part of the report.

Pathways: A description of human or environmental resources that site contamination could affect.

Lead Pgm: This column refers to the Cleanup Program affiliation of the DEQ employee responsible for the action shown. SAS = Site Assessment; VCS = Voluntary Cleanup; SRS = Site Response (enforcement cleanup).

For more information about this page please contact Gil Wistar at (503) 229-5512 or via email at wistar.gil@deq.state.or.us.

DEQ Online is the official web site for the Oregon Department of Environmental Quality.

State of Oregon
Department of Environmental Quality

Memorandum

Date: December 26, 2002

To: File Western Foundry 96-0441

From: Greg Toran DEQ/NWR

Subject: Review and memo to file

Backlog review for closure status.

RP contact is Rex Gerig with Smith-Gerig Western Properties.

Unassigned site. No CR & file review request on file.

No recent activity. Backlog letters in file from 2001 and prior.

UST facility 1416, one 3000 gallon gasoline tank listed on database as decommissioned by removal in 1989.

No tank closure records at NWR office. Requested records from HQ office by email today.

Information found in the Northwest Environmental Corp report from 1989:

Oldest record in file is lab report from PAL. Gasoline in soil, low concentrations, dated March 27, 1989. Report directed to David Coles. Consultant company listed on lab report as Beak Consultants.

Site sketch shows tank excavation with a dispenser island on the southeast side. Also shown is a stockpile of PCS undergoing aeration. A tributary (Red rock Creek) to Fanno Creek is shown nearby on the southeast boundary of the property, distance from stockpile or aeration area to the creek is unclear.

Report in file shows that Western Foundry hired Northwest Environmental Corporation to decommission the UST in 1989. Tank contained gasoline at the time of the decommissioning. Included tank removal, excavation of PCS, and creation of soil treatment area. Reference in this report to another report by Hahn and Associates dated December 12, 1988 and three monitoring wells on the southwest side of the property.

Contamination encountered near the pump island area and in the sand backfill around and above the tank. Groundwater entered the excavation following tank and PCS removal. The tank nest was pumped and the water discharged directly on the ground surface. Composite samples were collected from the soil stockpile and also from the tank nest sidewalls.

Additional samples collected from the NE and SW ends of the excavation following additional excavation of PCS, #5 and #6. Low BTEX and TPH detections in soil.

Product loss mentioned as spill and overflow, or leaky product piping. The suction system used to dispense fuel reportedly had a history of losing prime. The area directly under the dispenser was said to be clean. The tank was said to be free of holes.

The report states that the release was reported to Richard Wixom with the NWR office and that Wixom visited the site on March 22, 1989 and approved soil aeration as a valid cleanup method.

According to the report, contamination was primarily contained and limited to the sand backfill and silty clay soils directly surrounding the tank nest. The report also states that contamination could have impacted groundwater, however additional follow-up is noted as being unnecessary and not recommended. No water sampling data with this report.

No confirmed release report found for 1989.

Information found in the AGRA report from 1996:

Release report by Leonard Farr with AGRA in 1996 as part of a site assessment.

Additional report submitted in 1996 by AGRA. Three AST's and stained soil reported as removed in 1995. Report contains table showing monitoring well sampling data from 1991 to 1996. Benzene levels for 1996 is 16,000 ppb in report table, no lab data included. Soil aeration treatment plan is attached. Report states that site has additional non UST environmental issues of concern to address and that in the future, Department oversight would be requested. Property has been purchased by Smith-Gerig for development as a business park. Paid fee for LOA.

1996 report states that source material from tank excavation remains (up to 500 yards) and has been a source of continuing groundwater contamination. Sample data from test pits, lab report shows diesel detection, no follow-up testing for diesel. TPH-G at 1400 mg/kg. Unclear how these test pits relate to completion of the site evaluation and delineation. Arsenic detected at background level.

LOA issued expires February 20, 1997.

Inspection by Steve Hooper August 22, 1996. Open tank excavation, soil stockpiles, and established soil treatment area. Unclear what happened with prior soil treatment and PCS from 1989.

August 3, 1996, phone request to place treated PCS back into excavation, additional soil needing treatment.

FAX to Don Pettit dated October 8, 1996. Additional PCS excavated on September 3, 1996. Samples collected from excavated stockpile on September 10, 1996, noted as being below level two matrix. Request made for returning one third of the stockpile to the excavation and spreading out of the remaining PCS above matrix level two. Hardcopy received October 10, 1996.

October 9, 1996, phone note showing Pettit leaving voice mail with approval to backfill treated into excavation.

Issues to consider:

Report to describe initial site characterization is incomplete. Extent of initial soil and groundwater contamination unclear. Full report and lab data not submitted.

Fate of UST and wastes or product is unknown.

Sampling data for and fate of initial soil treatment cell is unknown.

Final report for PCS treatment from 1996 under LOA not submitted.

Lab report from 1996 shows diesel detection by HCID, no explanation or follow-up.

References made to source of groundwater contamination and well placement, very little information about the placement of the wells, flow direction, or concentrations in water since 1989.

Lab report from 1996 for mw-7 shows 16,000 ppb. According to table submitted with this report, this would represent an increase in concentrations over time since 1991.

Recommendation:

Request report to include information about initial site characterization, magnitude and extent, and the remediation option being used to achieve closure. Report should also include, information about well placement and sampling data, groundwater flow direction, removal of source material, soil sampling data, tank and product disposal records, diesel detection in lab report, 1989 and 1996 PCS treatment sampling and soil reuse, quarterly groundwater monitoring, and current status.

February 3, 2003

Site found listed with VCS. No further action required December 7, 2001 for issues that may have been related to USTs. PM was Dan Hafley. Email to Dan today. Email from Dan followed by review of VCS file. Based on VCS review, NWR UST cleanup section will be administratively closing this file. Email to staff on admin closure.



Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality

Northwest Region
2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

May 18, 2001

REX GERRY
SMITH GERRY WESTERN PROPERTIES
PO BOX 930
WILSONVILLE OR 97070

Re: WESTERN FOUNDRY COMPANY
File No.: 34-96-0441

To Whom It May Concern:

The purpose of this letter is to provide an annual update on the underground storage tank (UST) cleanup project located at 8200 SW HUNZIKER in TIGARD, Oregon. You are receiving this letter because a release from a UST system was reported at this property and because the Department of Environmental Quality (DEQ) has not assigned the project to a project manager to review the cleanup and/or to close out your file. File closure occurs when cleanup has met the appropriate requirements, the DEQ has reviewed the reports, and a "no further action" (nfa) letter has been issued.

In the last year, DEQ has been working on its backlog of projects waiting for review. As a result, most of the projects that met all of the cleanup requirements have been closed. If you would like to have your project reviewed for closure or to get an idea of what additional work is necessary, please call Tina Leppaluoto at (503) 226-5472. She will provide you details on how to accomplish this.

If you plan to sell your property or refinance in the next two to three years, you may want to consider requesting review now. Once the Department receives a request for review, it can take three to six months or more before a project is assigned to a project manager. This, coupled with the possible need for more work, could delay refinancing or a property transaction.

If your file is still open and cleanup is not complete, the Department expects you to be working towards closure regardless of whether or not you are receiving direct oversight. Failure to maintain monitoring and take remedial action can result in enforcement actions, including penalties, by the Department.

We recommend that you visit our website (<http://www.deq.state.or.us/wmc/tank/ust-lust.htm>) for up to date information on the program. This includes an updated version of the "UST Cleanup Manual."



May 18, 2001
Page 2

Please remember that the Department is required by law to recover its costs from responsible parties for its work on UST cleanup projects. You will be receiving an invoice for the Department's time to prepare and mail this letter and will receive invoices for anytime the Department devotes to your file.

If you have any questions or would like copies of the above referenced documents, please call Tina Leppaluoto at (503) 229-5472.

Sincerely,

A handwritten signature in black ink that reads "Andree Pollock". The signature is written in a cursive style with a large initial 'A'.

Andree Pollock, Manager
UST Cleanup and Compliance Section

(avp:AVP)



Oregon

John A. Kitzhaber, M.D., Governor

April 20, 2000

Department of Environmental Quality

Northwest Region
2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

REX GERRY
SMITH GERRY WESTERN PROPERTIES
PO BOX 930
WILSONVILLE OR 97070

Re: WESTERN FOUNDRY COMPANY
File No.: 34-96-0441

The purpose of this letter is to provide an update on your underground storage tank (UST) cleanup project, located at 8200 SW HUNZIKER in TIGARD, Oregon, and to inform you of some changes to the DEQ's program. You are receiving this letter because you or your contractor reported a release from the UST system at this property and because the DEQ has not assigned your project to a project manager or closed out your file. File closure occurs when cleanup has met the appropriate requirements and the DEQ has reviewed the reports and issued a "no further action" (nfa) letter.

BACKLOGGED PROJECTS

The DEQ's first priority is to work on projects that pose the highest threat to human health or the environment. Due to staffing limitations, not all projects are assigned to project managers for review and are placed on DEQ's backlog of work needing to be completed.

To accommodate people who do not want to (or cannot) wait years for the DEQ to work down its list of priorities, the DEQ has set up a program by which responsible parties can request oversight. Filling out and signing a "cost recovery agreement" does this. By signing this document, the responsible party agrees to work with the DEQ in resolving the cleanup issues and agrees to pay the oversight costs which DEQ is required by law to collect.

Once a "cost recovery agreement" has been received for a project, DEQ places the project on a waiting list for assignment to the next available project manager. How long this takes depends on a lot of factors including current DEQ staffing and the number of high priority projects that need to be dealt with. In the past, it has taken up to two years for DEQ project managers to be assigned to a project. Currently the wait is about six months for more complicated projects. If there is an immediate need (i.e. a property transaction pending) for DEQ review, projects are usually assigned within two to four weeks.

Backlog letter
Page 2

NEW PROGRAM INFORMATION

In November 1998, revised rules went into effect for UST Cleanups. These rules included housekeeping items as well as rules governing low impact sites (LIP) and for developing generic remedies. These rules are available at the DEQ's website (<http://www.deq.state.or.us/wmc/tank/200rules.htm>) or can be obtained from the Northwest Region office.

Guidance for LIP sites was prepared in December 1998. Copies of this guidance are available at the DEQ's website (<http://www.deq.state.or.us/wmc/tank/lisguid.htm>) or from the Northwest Region office.

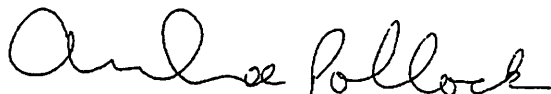
During 1999, DEQ developed a generic remedy for risk based assessments. The generic remedy and guidance document was finalized on September 29, 1999. Copies of this guidance are available at the DEQ's website (http://www.deq.state.or.us/wmc/tank/rbdm_notice.htm) or from the Northwest Region office. This document replaces the DEQ's "Interim Guidance On Incorporating Risk Based Corrective Action For Petroleum Release Sites" (April 1996).

Another significant change is that the cleanup levels in Oregon Administrative Rules (OAR) 340-122-242 (4) have been replaced by the risk based screening levels in the risk based generic remedy.

The new rules and guidance apply to new releases and to cleanups that were not completed by the adoption date of the rules and guidance. If your cleanup was completed prior to these dates, or if you were operating under a DEQ *approved* corrective action plan, DEQ will apply the rules in place at the time of the cleanup when conducting our review.

If you have any questions or would like copies of the above referenced documents, please call Tina Leppaluoto at (503) 229-5472.

Sincerely,



Andree Pollock, Manager
UST Cleanup and Compliance Section

Enclosures: Cost Recovery Agreement

(avp:AVP)

UST CLEANUP TELEPHONE USE REPORT

CALL FROM/TO: Len Farr DATE: 10/9/96
WITH: AEE TIME: 4:00
TELEPHONE NO: () 639-3400
REGARDING: Former Western Foundary
FILE NO: 34-96-0441

SUMMARY OF CALL

Left voice mail message w/authorization to re-place treated soils into excavation as per AEE's request via fax (10/8/96).

Don J. Pettit
Staff Signature



AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

October 8, 1996
21-07953-00

Mr. Don Petit
ODEQ, Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

OCT 10 1996

Dear Don:

RE: FORMER WESTERN FOUNDRY SITE
8200 SW HUNZIKER STREET
TIGARD, OREGON
ODEQ File No. 34-96-0441

NORTHWEST REGION

As authorized by the Oregon Department of Environmental Quality (ODEQ) in a Letter Authorization issued to Smith-Gerig Western Properties, L.L.C. (Smith-Gerig) on August 20, 1996, gasoline contaminated soils have been excavated and are being aerated on the above-referenced site. The excavation and construction of the soil pile was initially carried out on August 21 and 22, 1996. The results of laboratory analyses of soil samples collected from the sidewalls of the excavation indicated that significant gasoline concentrations remained in two discreet areas. Therefore, further excavation was performed. The second phase of excavation was carried-out on September 3, 1996. Soils removed during the second excavation phase were placed at the south end of the soil pile. The total volume of soil excavated during the two excavation phases was approximately 260 cubic yards.

On September 10, 1996, AGRA Earth & Environmental, Inc. (AEE) collected six soil samples from the soil pile (see attached map and laboratory testing results). Soils removed during the initial excavation phase exhibited only low to moderate levels of gasoline. The two samples collected near the southern end of the soil pile, and one of the soil samples collected near the center of the soil pile, yielded gasoline concentrations below matrix level two numeric cleanup standards for gasoline.

AEE requests authorization from the ODEQ to return soils from the southern approximately 1/3 of the soil pile to the excavation (see attached map). This would allow the remaining soils exhibiting gasoline concentrations above matrix level two numeric soil cleanup standards to be spread-out, thereby accelerating the aeration process.



UST Area Soil Aeration Project
Former Western Foundry Property
Tigard, Oregon

October 8, 1996
21-07953-00
Page 2


AEE and Smith-Gerig appreciate the attention you have given to assisting with management and mitigation of petroleum contaminated soils at the site. Please do not hesitate to contact us at (503) 639-3400 if you have any questions.

Sincerely,

AGRA Earth & Environmental, Inc.



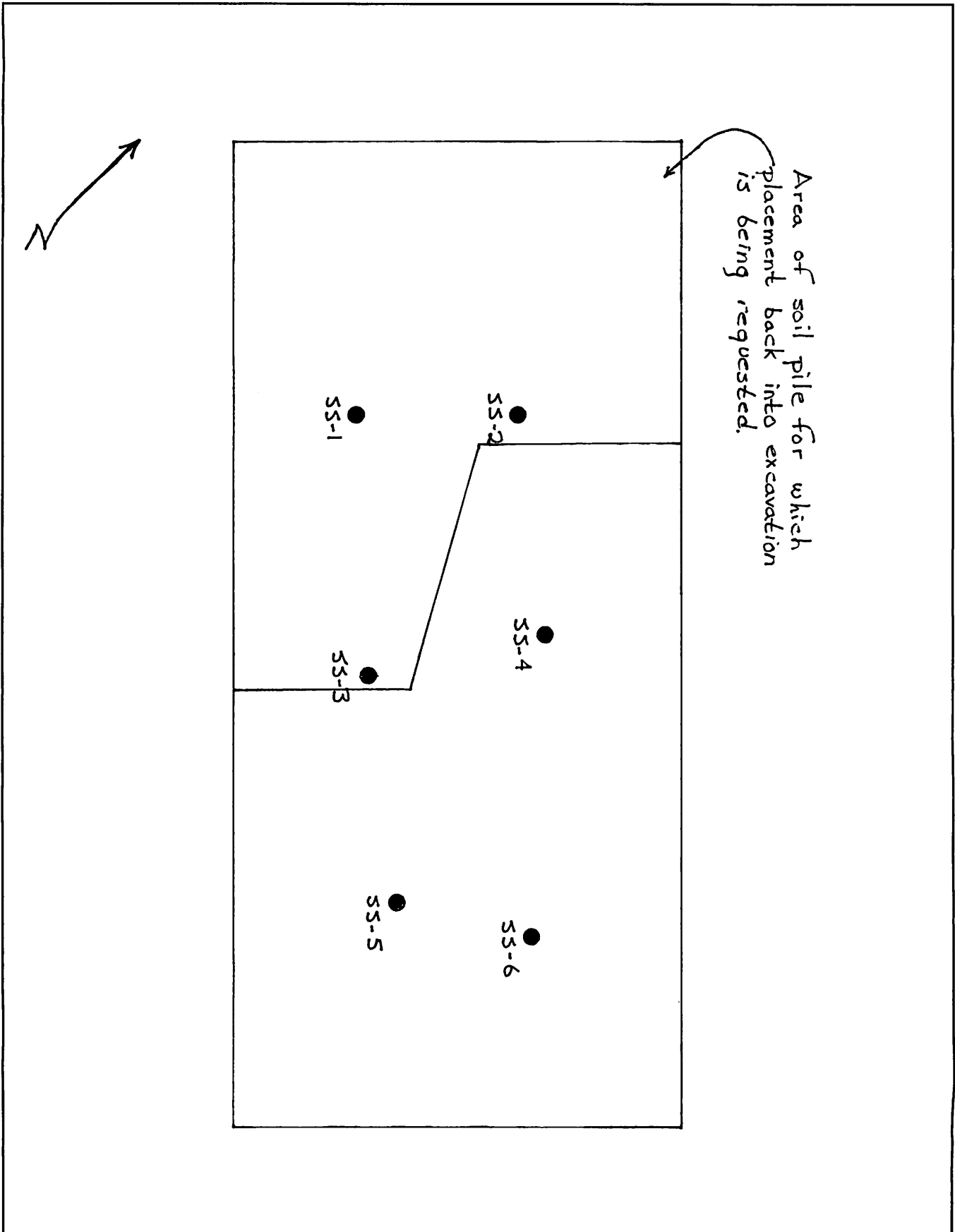
Leonard C. Farr Jr., P.G.
Senior Geologist



Douglas A. Smith, P.G.
Vice President



PROJECT NAME <i>Western Foundary</i>		PROJECT No. 21-7953-00
SUBJECT		PAGE 1 of 1
CALCULATED BY	DATE	CHECKED BY
		DATE 10-8-96

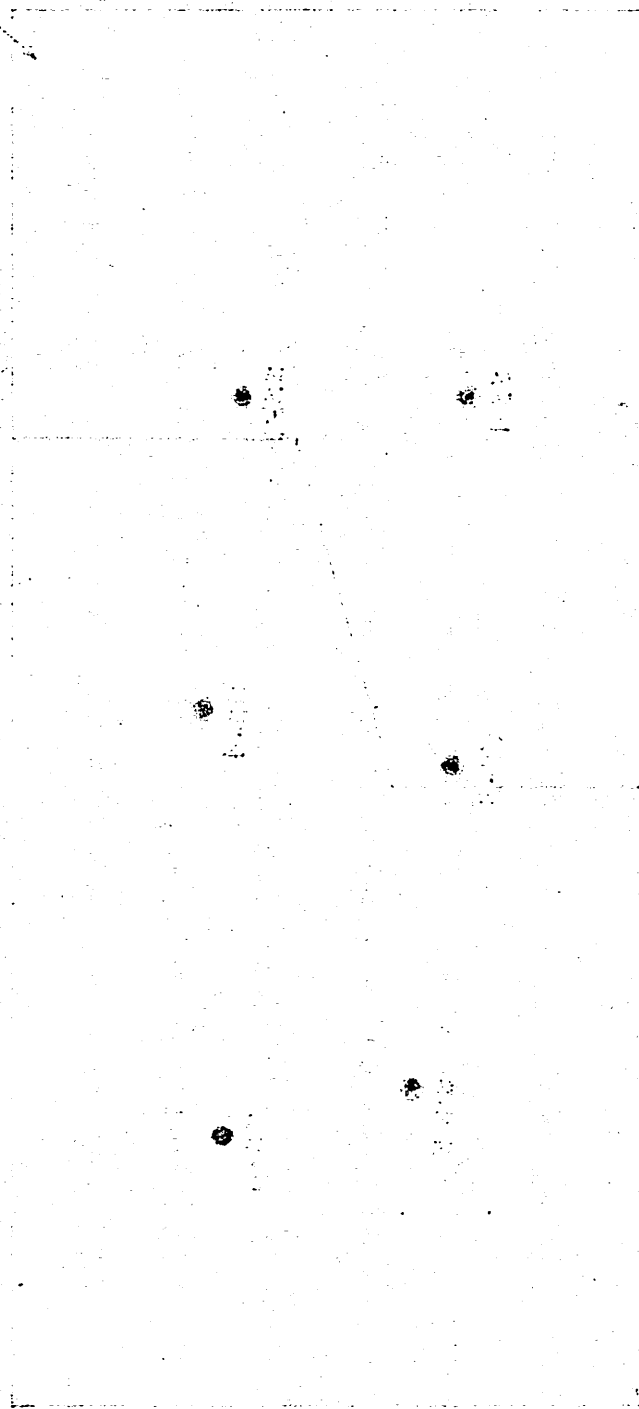


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SECTION 50





AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

September 23, 1996

AGRA Earth & Environmental
7477 SW Tech Center Drive
Portland, OR 97223-8025

Attention: Mr. Doug Smith

Dear Mr. Smith:

RE: Analytical Results For Project 21-07953-00

Attached are the results for the samples submitted on September 10, 1996 from the above referenced project. For your reference, our project number associated with these samples is OR960640.

The samples were analyzed for total petroleum hydrocarbons as gasoline at the AGRA Earth & Environmental Portland Chemistry Laboratory.

All analyses were conducted in accordance with applicable QA/QC guidelines. The results apply only to the samples submitted.

Please feel free to contact me if you have any questions regarding this report, or if I can be of any assistance in any other matter.

Respectfully submitted,

AGRA Earth & Environmental

A handwritten signature in black ink, appearing to read "Sean Gormley". The signature is written in a cursive style with a long horizontal stroke at the end.

Sean Gormley
Laboratory Manager

Project: Former Western Foundry
Project No.: 21-07953-00
Project Manager: Doug Smith/Len Farr
Sample Matrix: Soil

Service Request No.: OR960640
Report Date: 9/20/96
Report No.: 96064001
C.O.C. No.: 02694

Total Petroleum Hydrocarbons as Gasoline
ODEQ Method OTPH-G
mg/kg(ppm)

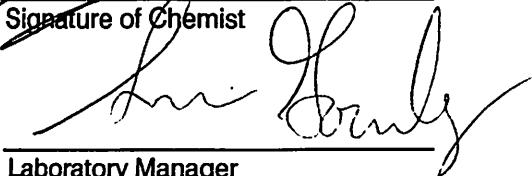
Sample Name	Lab Code	Sample Date	Extraction Date	Analysis Date	Method Reporting Limit	Result	Surrogate Rec. a,a,a - TFT
SS1@1.5'(Soil Pile)	0640-1	9/10/96	9/17/96	9/18/96	5.0	30	100
SS2@2.0'(Soil Pile)	0640-2	9/10/96	9/17/96	9/18/96	5.0	23	107
SS3@1.0'(Soil Pile)	0640-3	9/10/96	9/17/96	9/18/96	5.0	25	109
SS4@2.0'(Soil Pile)	0640-4	9/10/96	9/17/96	9/18/96	5.0	135	139
SS5@2.0'(Soil Pile)	0640-5	9/10/96	9/17/96	9/18/96	250(a)	5800(b)	(c)
SS6@2.0'(Soil Pile)	0640-6	9/10/96	9/17/96	9/19/96	25(a)	490(d)	(c)
Lab Blank	0640-MB	9/17/96	9/17/96	9/17/96	5.0	ND	106

ND Not Detected

ODEQ Acceptance Criteria 50%-150%

- (a) Elevated method reporting limit due to a required dilution factor.
- (b) Result is from a 1:50 dilution.
- (c) Surrogate recovery cannot be reported due to a dilution factor which reduced the surrogate concentration below the method detection limit.
- (d) Result is from a 1:5 dilution.

Signature of Chemist



Laboratory Manager

Project: Former Western Foundry
 Project No.: 21-07953-00
 Project Manager: Doug Smith/Len Farr
 Sample Matrix: Soil

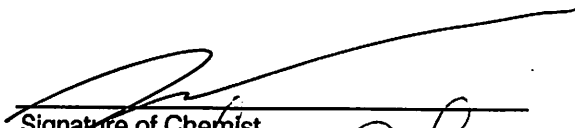
Service Request No.: OR960640
 Report Date: 9/20/96
 Report No.: 96064002
 C.O.C. No.: 02694

QC Data Report
Blank Spike Recoveries
Gasoline Range Organics
ODEQ Method TPH-G
mg/kg(ppm)

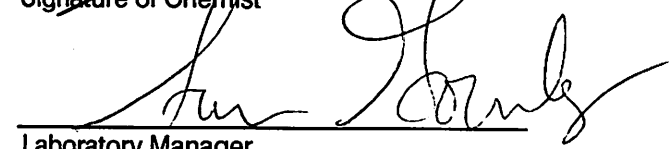
Sample Name:	Lab Blank	Spike Level	Blank Spike	Percent Recovery	Blank Spike Duplicate	Percent Recovery	Relative Percent Difference
Lab Code:	0640-MB	(mg/kg)	(BS)	(BS)	(BSD)	(BSD)	
Gasoline:	ND	25	22	88	23	92	4.4
Acceptance Limits:	~	~	~	75%-125%	~	75%-125%	<25
Sample Date:	9/17/96	~	9/17/96	~	9/17/96	~	~
Extraction Date:	9/17/96	~	9/17/96	~	9/17/96	~	~
Analysis Date:	9/17/96	~	9/17/96	~	9/17/96	~	~
Surrogate Recovery:							Control Limits
a,a,a-Trifluorotoluene:	106%	~	114%	~	118%	~	50%-150%

ND Not Detected

Spike Source: Accustandard GA-001-20X-BTEX, Lot # 125-152.



 Signature of Chemist



 Laboratory Manager

Project: Former Western Foundry
 Project No.: 21-07953-00
 Project Manager: Doug Smith/Len Farr
 Sample Matrix: Soil

Service Request No.: OR960640
 Report Date: 9/20/96
 Report No.: 96064003
 C.O.C. No.: 02694

QC Data Report
Matrix Spike Recoveries
Gasoline Range Organics
ODEQ Method TPH-G
mg/kg(ppm)

Sample Name:	SS2@2.0' (Soil Pile)	Spike Level (mg/kg)	Matrix Spike (MS)	Percent Recovery (MS)	Matrix Spike Duplicate (MSD)	Percent Recovery (MSD)	Relative Percent Difference
Lab Code:	0640-2						
Gasoline:	23	25	99	(a)	95	(a)	4.1

Acceptance Limits: ~ ~ ~ 75%-125% ~ 75%-125% <25

Sample Date: 9/10/96 ~ 9/10/96 ~ 9/10/96 ~
Extraction Date: 9/17/96 ~ 9/17/96 ~ 9/17/96 ~
Analysis Date: 9/18/96 ~ 9/19/96 ~ 9/19/96 ~

Surrogate Recovery: ~ ~ ~ ~ ~ ~ **Control Limits**
 a,a,a-Trifluorotoluene: 107% ~ 167%(b) ~ 157%(b) ~ 50%-150%

ND Not Detected

Spike Source: Accustandard GA-001-20X-BTEX, Lot # 125-152.

(a) Percent recovery not applicable due to the spike level not being five times the sample concentration.

(b) Surrogate recovery is outside of control limits due to the presence of target and non-target analytes within the retention time window of the surrogate.

Signature of Chemist

Laboratory Manager

AGRA Earth & Environmental Portland Chemis Laboratory
Sample Receipt Documentation Form

Client: <u>Former Western Foundry</u> Sample No.: <u>02960640</u> Date: <u>9/10/96</u> Time: <u>2:15</u> Temperature Of Cooler Interior Upon Receipt (Record To The Right): Received By: <u>Shawna Job</u>	Cooler Temperatures
---	---------------------

Section 1: Shipping/Delivery Issues

1. Method of Sample Delivery: <u>Hand</u>			
2. Airbill or Courier Receipt Number: _____			
3. Is a copy of the airbill or courier receipt available to be placed in the job file?	Yes	No	<u>NA</u>

Section 2: Sample Custody Issues

4. Are custody seals on the shipping container intact?	<u>Yes</u>	No	<u>NA</u>
5. Is a COC or other sample transmittal document present?	<u>Yes</u>	No	NA
6. Is the COC complete?	<u>Yes</u>	No	NA
7. Are sample seals intact?	Yes	No	<u>NA</u>
8. Does the COC match the samples received?	<u>Yes</u>	No	NA

Section 3: Sample Integrity Issues


9. Are all sample containers intact and not leaking?	<u>Yes</u>	No	NA
10. Are all samples preserved properly?	<u>Yes</u>	No	NA
11. Are all samples within holding time for the required tests?	<u>Yes</u>	No	NA
12. Were all samples received at the proper temperature?	<u>Yes</u>	No	NA
13. Are samples for volatiles and other headspace sensitive parameters free of headspace or bubbles?	Yes	No	<u>NA</u>


Section 4: Sample Containers Received:

14. 4 oz glass jars <u>6</u>
15. 8 oz glass jars
16. 40 ml VOA vials
17. 1 liter glass
18. Other (describe):

NOTE: Any response of no above requires filing a nonconformance report with laboratory management.

Reviewed By:



 Laboratory Manager or Designee 

AGRA Earth & Environmental, Inc.

FACSIMILE TRANSMITTAL

TO: Don Petit

AGRA Earth & Environmental, Inc.
7477 S.W. Tech Center Drive
Portland, Oregon 97223-8025
Phone Number (503) 639-3400
Fax Number (503) 620-7892

COMPANY: ODEQ

FAX NUMBER: 229-6945

SENDER: Len Farr

FILE NO.: 21-7953-00

FAX OPERATOR: Glenda

DATE: October 8, 1996

NO. OF PAGES: 10 (including this page)

HARD COPY TO FOLLOW?

Yes No

This transmission is intended only for the Addressee. It may contain privileged or confidential information. Any unauthorized disclosure is strictly prohibited. If you have received this transmission in error, please notify us immediately (collect) so we may correct our transmission. Please then destroy the original. Thank you.



AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

October 8, 1996
21-07953-00

Mr. Don Petit
ODEQ, Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Dear Don:

RE: FORMER WESTERN FOUNDRY SITE
8200 SW HUNZIKER STREET
TIGARD, OREGON
ODEQ File No. 34-96-0441

As authorized by the Oregon Department of Environmental Quality (ODEQ) in a Letter Authorization issued to Smith-Gerig Western Properties, L.L.C. (Smith-Gerig) on August 20, 1996, gasoline contaminated soils have been excavated and are being aerated on the above-referenced site. The excavation and construction of the soil pile was initially carried out on August 21 and 22, 1996. The results of laboratory analyses of soil samples collected from the sidewalls of the excavation indicated that significant gasoline concentrations remained in two discreet areas. Therefore, further excavation was performed. The second phase of excavation was carried-out on September 3, 1996. Soils removed during the second excavation phase were placed at the south end of the soil pile. The total volume of soil excavated during the two excavation phases was approximately 260 cubic yards.

On September 10, 1996, AGRA Earth & Environmental, Inc. (AEE) collected six soil samples from the soil pile (see attached map and laboratory testing results). Soils removed during the initial excavation phase exhibited only low to moderate levels of gasoline. The two samples collected near the southern end of the soil pile, and one of the soil samples collected near the center of the soil pile, yielded gasoline concentrations below matrix level two numeric cleanup standards for gasoline.

AEE requests authorization from the ODEQ to return soils from the southern approximately 1/3 of the soil pile to the excavation (see attached map). This would allow the remaining soils exhibiting gasoline concentrations above matrix level two numeric soil cleanup standards to be spread-out, thereby accelerating the aeration process.



UST Area Soil Aeration Project
Former Western Foundry Property
Tigard, Oregon

October 8, 1996
21-07953-00
Page 2

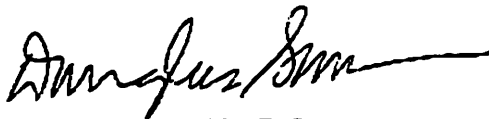
AEE and Smith-Gerig appreciate the attention you have given to assisting with management and mitigation of petroleum contaminated soils at the site. Please do not hesitate to contact us at (503) 639-3400 if you have any questions.

Sincerely,

AGRA Earth & Environmental, Inc.



Leonard C. Farr Jr., P.G.
Senior Geologist



Douglas A. Smith, P.G.
Vice President

PROJECT NAME

Western Foundary

PROJECT NO.

21-7953-00

SUBJECT

PAGE

1 of 1

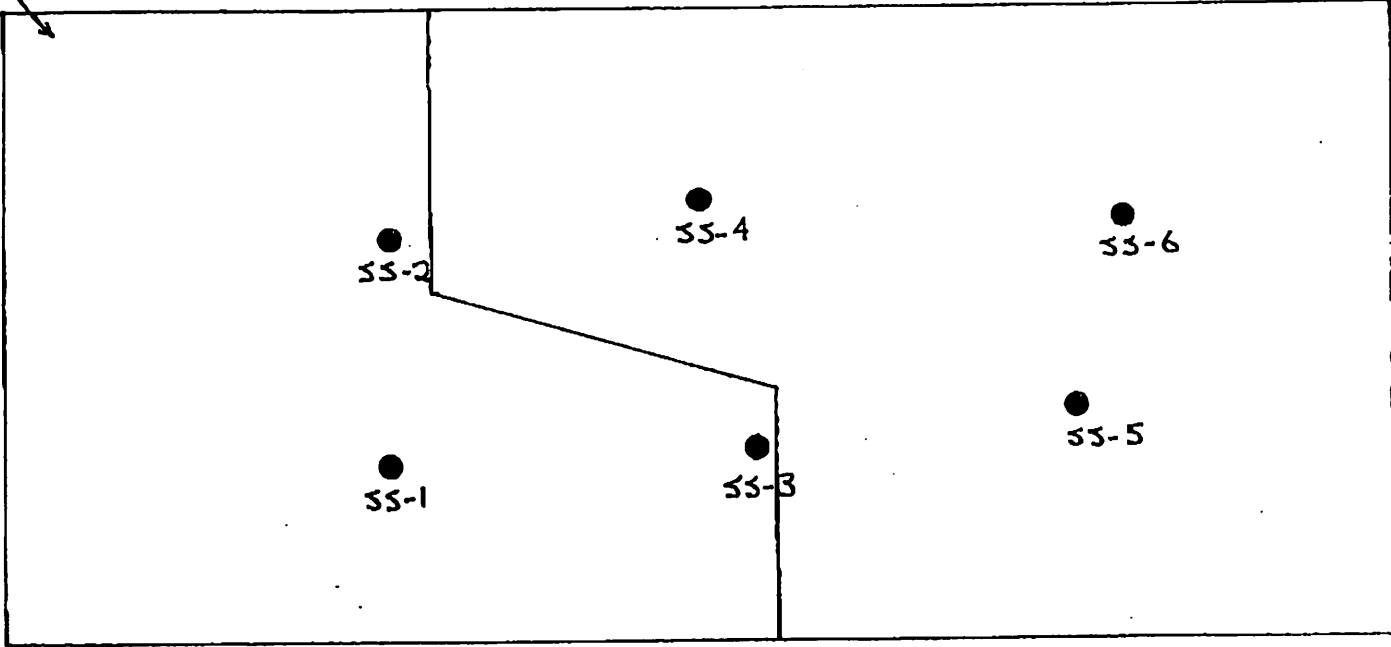
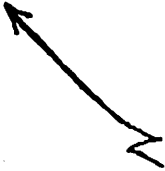
CALCULATED BY

DATE

CHECKED BY

DATE

10-8-96



Area of soil pile for which placement back into excavation is being requested.



AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

September 23, 1996

AGRA Earth & Environmental
7477 SW Tech Center Drive
Portland, OR 97223-8025

Attention: Mr. Doug Smith

Dear Mr. Smith:

RE: Analytical Results For Project 21-07953-00

Attached are the results for the samples submitted on September 10, 1996 from the above referenced project. For your reference, our project number associated with these samples is OR960640.

The samples were analyzed for total petroleum hydrocarbons as gasoline at the AGRA Earth & Environmental Portland Chemistry Laboratory.

All analyses were conducted in accordance with applicable QA/QC guidelines. The results apply only to the samples submitted.

Please feel free to contact me if you have any questions regarding this report, or if I can be of any assistance in any other matter.

Respectfully submitted,

AGRA Earth & Environmental



Sean Gormley
Laboratory Manager

Project: Former Western Foundry
 Project No.: 21-07953-00
 Project Manager: Doug Smith/Len Fair
 Sample Matrix: Soil

Service Request No.: OR960640
 Report Date: 9/20/96
 Report No.: 96064001
 C.O.C. No.: 02694

Total Petroleum Hydrocarbons as Gasoline
ODEQ Method OTPH-G
mg/kg(ppm)

Sample Name	Lab Code	Sample Date	Extraction Date	Analysis Date	Method Reporting Limit	Result	Surrogate Rec. a,a,a - TFT
SS1@1.5'(Soil Pile)	0640-1	9/10/96	9/17/96	9/18/96	5.0	30	100
SS2@2.0'(Soil Pile)	0640-2	9/10/96	9/17/96	9/18/96	5.0	23	107
SS3@1.0'(Soil Pile)	0640-3	9/10/96	9/17/96	9/18/96	5.0	25	109
SS4@2.0'(Soil Pile)	0640-4	9/10/96	9/17/96	9/18/96	5.0	135	139
SS5@2.0'(Soil Pile)	0640-5	9/10/96	9/17/96	9/18/96	250(a)	5800(b)	(c)
SS6@2.0'(Soil Pile)	0640-6	9/10/96	9/17/96	9/19/96	25(a)	490(d)	(c)
Lab Blank	0640-MB	9/17/96	9/17/96	9/17/96	5.0	ND	106

ND Not Detected

ODEQ Acceptance Criteria 50%-150%

(a) Elevated method reporting limit due to a required dilution factor.

(b) Result is from a 1:50 dilution.

(c) Surrogate recovery cannot be reported due to a dilution factor which reduced the surrogate concentration below the method detection limit.

(d) Result is from a 1:5 dilution.

Signature of Chemist

Laboratory Manager

Project: Former Western Foundry
 Project No.: 21-07953-00
 Project Manager: Doug Smith/Len Farr
 Sample Matrix: Soil

Service Request No.: OR960640
 Report Date: 9/20/96
 Report No.: 96064002
 C.O.C. No.: 02694

QC Data Report
Blank Spike Recoveries
Gasoline Range Organics
ODEQ Method TPH-G
mg/kg(ppm)


Sample Name:	Lab Blank	Spike Level	Blank Spike	Percent Recovery	Blank Spike Duplicate	Percent Recovery	Relative Percent Difference
Lab Code:	0640-MB	(mg/kg)	(BS)	(BS)	(BSD)	(BSD)	
Gasoline:	ND	25	22	88	23	92	4.4

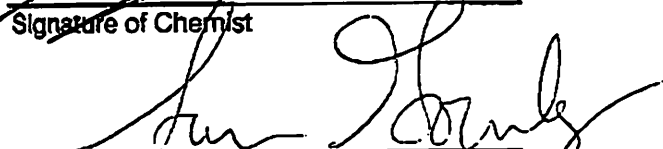
Acceptance Limits: ~ ~ ~ 75%-125% ~ 75%-125% <25

Sample Date: 9/17/96 ~ 9/17/96 ~ 9/17/96 ~ ~
 Extraction Date: 9/17/96 ~ 9/17/96 ~ 9/17/96 ~ ~
 Analysis Date: 9/17/96 ~ 9/17/96 ~ 9/17/96 ~ ~

Surrogate Recovery: **Control Limits**
 a,a,a-Trifluorotoluene: 106% ~ 114% ~ 118% ~ 50%-150%

ND Not Detected
 Spike Source: Accustandard GA-001-20X-BTEX, Lot # 125-152.



 Signature of Chemist


 Laboratory Manager

Project: Former Western Foundry
 Project No.: 21-07953-00
 Project Manager: Doug Smith/Len Farr
 Sample Matrix: Soil

Service Request No.: OR960640
 Report Date: 9/20/96
 Report No.: 96064003
 C.O.C. No.: 02694

QC Data Report
Matrix Spike Recoveries
Gasoline Range Organics
ODEQ Method TPH-G
mg/kg(ppm)

Sample Name:	SS2@2.0' (Soil Pile)	Spike Level (mg/kg)	Matrix Spike (MS)	Percent Recovery (MS)	Matrix Spike Duplicate (MSD)	Percent Recovery (MSD)	Relative Percent Difference
Lab Code:	0640-2						
Gasoline:	23	25	99	(a)	95	(a)	4.1
Acceptance Limits:	~	-	~	75%-125%	~	75%-125%	<25
Sample Date:	9/10/96	~	9/10/96	~	9/10/96	~	~
Extraction Date:	9/17/96	-	9/17/96	~	9/17/96	~	~
Analysis Date:	9/18/96	~	9/19/96	~	9/19/96	~	~
Surrogate Recovery:							Control Limits
a,a,a-Trifluorotoluene:	107%	~	167%(b)	~	157%(b)	~	50%-150%

ND Not Detected

Spike Source: Accustandard GA-001-20X-BTEX, Lot # 125-152.

- (a) Percent recovery not applicable due to the spike level not being five times the sample concentration.
- (b) Surrogate recovery is outside of control limits due to the presence of target and non-target analytes within the retention time window of the surrogate.

Signature of Chemist

Laboratory Manager

AGRA Earth Environmental Portland Chemistry Laboratory
Sample Receipt Documentation Form

Client: Former Western Foundry	Cooler Temperatures
R No.: 02960640	
Date: 9/10/96	
Time: 2:15	
Temperature of Cooler Interior Upon Receipt (Record To The Right): Temperature of Cooler	
Received By: Shawna Job	

Section 1: Shipping/Delivery Issues

1. Method of Sample Delivery: Hand			
2. Airbill or Courier Receipt Number: _____			
3. Is a copy of the airbill or courier receipt available to be placed in the job file?	Yes	No	NA

Section 2: Sample Custody Issues

4. Are custody seals on the shipping container intact?	Yes	No	NA
5. Is a COC or other sample transmittal document present?	Yes	No	NA
6. Is the COC complete?	Yes	No	NA
7. Are sample seals intact?	Yes	No	NA
8. Does the COC match the samples received?	Yes	No	NA

Section 3: Sample Integrity Issues



9. Are all sample containers intact and not leaking?	Yes	No	NA
10. Are all samples preserved properly?	Yes	No	NA
11. Are all samples within holding time for the required tests?	Yes	No	NA
12. Were all samples received at the proper temperature?	Yes	No	NA
13. Are samples for volatiles and other headspace sensitive parameters free of headspace or bubbles?	Yes	No	NA

Section 4: Sample Containers Received:

14. 4 oz glass jars	0
15. 8 oz glass jars	
16. 40 ml VOA vials	
17. 1 liter glass	
18. Other (describe):	

NOTE: Any response of no above requires filing a nonconformance report with laboratory management.

Reviewed By:


 Laboratory Manager or Designee 

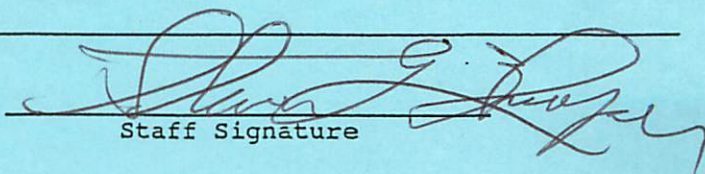
UST CLEANUP TELEPHONE USE REPORT

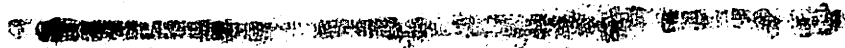
CALL FROM/TO: ~~Len~~ Len Ferr DATE: 10/3/96
WITH: AGRA TIME: 1:40 PM
TELEPHONE NO: (503) 639-3400
REGARDING: Western Foundry
FILE NO: 34-96-0441

SUMMARY OF CALL

Mr. Ferr stated that the treated soil is now below the 80 ppm threshold for gasoline cleanup and wanted to know if they could place it back in the pit. They have additional soil to treat. I stated that since it's Don's project I'd have him call back.

DJP → Len Ferr - Len will summarize status
3:00 w/ lab results, Fax Monday.


Staff Signature



DEPARTMENT OF ENVIRONMENTAL QUALITY
 TRANSMITTAL ADVICE
 SOLID WASTE PERMITS

CK #	TRAN AMNT	FOR THE ACCOUNT OF	INV #	PJT #
CHECK NAME		REASON FOR PAYMENT	REF #	RCPT #
10617	500.00	BERGESON-BOESE & ASSOCIATES, INC. LETTER OF AUTHORIZATION		
1101	500.00	SMITH GERIG WESTERN PROPERTIES, LETTER OF AUTHORIZATION		
<u>1,000.00</u>		TOTAL		

RECEIVED

AUG 0 8 1996

WESTERN REGION - SALEM OFFICE

DEPT OF ENVIRONMENTAL QUALITY
 RECEIVED

AUG 2 1 1996

NORTHWEST REGION

NWR UST FIELD INSPECTION REPORT

Inspection Date: 8/22/96

Site Name: Western Foundry

Time Begin 1500 End 1630 Total* 1 1/2 hrs.

Site Address: 8200 SW Hunziker, Tigard OR

*Include inspection, travel, paperwork

File/Facility No.: 34-96-0441
(both UST & UST Cleanup file #'s as appropriate)

Inspector: Steven L. Hooper

Others Onsite: None
include
company
name

Inspection Type (check one)

- Install (New/Retro/StII)
- Decommission
- UST Facility - Full
- UST Facility - Partial
- Cleanup
- Soil Treatment
- Complaint
- Distrib. Audit
- Service Provider Audit
- Leak Detection
- Fuels (StI/StII/Tanker)

Supervisor License No.: _____ Exp. date _____
(note name with ** that Lic. No. applies to)

Potential Site Hazards

Hazards Appraised? Y / N
Photos Taken? Y / N (attach)
Samples Taken? Y / N (attach results)

INSPECTION RESULTS - IN COMPLIANCE? Y / N / NA under construction

↑ SITE SKETCH (Plan View) Notes (use back of form as necessary)



Treatment area
bermed with hay bales
and lined with
visqueen. Contaminated
soil up to 2 ft. deep
in treatment area.
Treatment area
approx. 74' x 34'
(outside dimensions).

Area not fenced
but access somewhat limited.

F

Oregon

August 20, 1996

REX GERIG
SMITH GERIG WESTERN PROPERTIES
PO BOX 930
WILSONVILLE OR 97070

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

NORTHWEST REGION

RE: Solid Waste Letter of Authorization for Treatment of
PCS
File No. 34-96-0441
Permit #PCSLA-NWR-96-009
Permit Expiration Date: February 20, 1997

Dear Mr. Gerig:

Your application and written Soil Management Plan to treat Petroleum Contaminated Soil (PCS), from the underground storage tank cleanup project at 8200 SW Hunziker, Tigard, Oregon, has been approved. Any Department specific changes to the permit are listed in the conditions listed below.

This letter permit authorizes you to conduct the soil treatment in accordance with the following conditions:

1. The treatment site is located at 8200 SW Hunziker, Tigard Oregon.
2. Once treatment is complete, the treated soil will be returned to the original excavation from which it originated on-site.
3. Treatment will be accomplished by soil aeration.
4. Treatment is to be conducted in accordance with the Soil Management Plan dated July 26, 1996 and as approved by the Department. The maximum contaminant level allowed after treatment is 80 ppm for TPH-G.
5. This permit does not authorize the violation of any state, federal, or local rules or regulations.
6. Adequate site security (e.g., fencing or equivalent) must be maintained to prevent unauthorized access to the treatment area at all times.
7. Department staff shall be allowed access at reasonable times to inspect both the treatment site and any or all final soil disposition sites for compliance purposes and to collect samples as necessary.

John A. Kitzhaber
Governor



2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

DEQ-1

REX GERIG

August 20, 1996

Page 2

8. This permit only authorizes the one-time treatment of petroleum contaminated soils generated from the cleanup operation identified in this permit at the specific treatment site noted. Contaminated soils otherwise classified as hazardous waste are specifically excluded. The treatment site may not be reused for treatment of soil from any additional cleanup projects or receive soils from multiple cleanup projects without Department approval.
9. At any time active treatment is not in progress, the contaminated soil must be kept covered and the cover securely anchored (e.g., during rain or storm events).
10. The soil treatment and/or storage area(s) must have a suitable liner and be effectively bermed. Surface water run-off is prohibited.
11. Any leachate produced shall be collected, evaporated, or otherwise treated and controlled in a manner so as to prevent odors, public health hazards, and escapement to public waters.
12. The creation of public safety concerns, environmental hazards, or nuisance conditions (such as, but not limited to, odors or dust), is prohibited.
13. The treated soils must be reused on the property listed in condition 2. and in accordance with the statement signed by the property owner. Treated soils must be placed out of human contact (e.g., covered with clean soil, paved, etc.), placed above the seasonal high groundwater level, and may not be placed within approximately 100 feet of a surface water body, wetlands area, or 100 year flood plain area.
14. If treatment lasts longer than three months, interim quarterly reports must be submitted on a form provided by the Department or equivalent. Reports are due on the first day of January, April, July, and October, or as otherwise agreed upon.
15. No treated soils shall be reused on-site or moved off-site for final disposition without first coordinating with the Department.
16. Upon expiration of this permit, all PCS containing levels of contamination above the established treatment standard must be removed to an authorized disposal facility within thirty (30) days. Soil that has successfully met the treatment standard must be reused according to the Treatment Plan and the Department's policy for soil reuse within thirty (30) days, unless an alternate schedule has been approved by the Department.
17. A final treatment report is due on **March 20, 1997** and must indicate whether or not the treatment has been successful in reducing contaminant concentrations to the levels required in this permit. This report must include final soil sampling data, a description of the sampling methods used, a diagram of sampling locations, a summary of the treatment history, and a recommendation for disposal at an approved facility or reuse of the treated

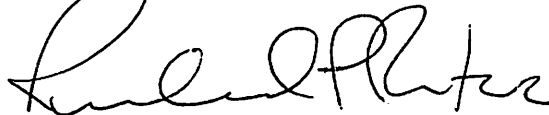
soil. Following a review of this report, the Department will provide a written response outlining closure activities, including soil disposal or reuse.

18. A closure report must be submitted following movement of the treated soils. This report must include disposal documents (if any), and a description of all work related to closure. Closure activities include: field screening the treated soil for "hot spots," reuse of the treated soil, closure sampling (sampling from under the treatment area), disposal of hay bales, plastic sheeting, leachate, and any additional work deemed necessary by the Department. Additional work may include the excavation of native soil and additional sampling if the area under the treatment cell has become impacted.
19. Additional time for treatment beyond the permit expiration date is not allowed unless the Department has approved the renewal of this permit.

If your treatment activity is expected to last longer than the permit expiration date, the Department may consider a renewal of this permit if certain conditions are met. Please contact Steven L. Hooper at (503) 229-5493 prior to the permit expiration date if you wish to inquire about a permit renewal.

Thank you for your cooperation and your efforts to comply with the conditions of this permit.

Sincerely,



Richard P. Reiter, Manager
NWR UST Compliance and
Corrective Action Program

cc: Leonard C. Farr
AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon 97223-8025



AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

August 13, 1996
21-07953-00

Mr. Don Petit
ODEQ, Western Region
2020 S. W. Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Dear Don:

RE: LOT FOR FORMER WESTERN FOUNDRY SITE
8200 SW HUNZIKER STREET
TIGARD, OREGON

On July 31, 1996, AGRA Earth & Environmental, Inc. (AEE), discussed with ODEQ personnel additional data needed to obtain approval of an application for a Letter of Authorization (LOT) at the former Western Foundry Site. Based upon this discussion, AEE collected soil samples from four test pits on August 2, 1996 (see attached map). Objectives of the test pit sampling included:

- characterizing metal and volatile organic compound (VOC) concentrations in underground storage tank (UST) area soils to assure that the soil removed would not be hazardous by characteristic, and
- further delineating the magnitude and extent of gasoline contamination in the UST area.

The test results have indicated the following:

- RCRA eight total metals were not detected at concentrations above residential numeric soil cleanup standards (OAR 340-122-045, Appendix 1), except for arsenic which was not detected at a concentration above the local background level,
- VOCs were detected in both soil samples (TP1@6'-7' and TP3@8') submitted for testing. However, the VOCs detected included only benzene, toluene, ethylbenzene and xylenes (BTEX), and
- gasoline was detected in a soil sample collected from two of the four test pits, better delineating the extent of soil contamination associated with the former gasoline UST. Based upon these results, a previous estimate of the volume of soil acting as a source of continuing groundwater contamination (500 cubic yards) has been refined. It appears that excavation and treatment of soils within an area 30 feet by 30 feet by eight feet deep (270 cubic yards) should effectively eliminate vadose zone soil as a source for groundwater contamination.



ODEQ, Western Region
August 13, 1996
21-07953-00
Page 2

Based on the information gathered (see attached table), AEE requests that the ODEQ proceed with its review of the LOT application hand-delivered on July 26, 1996. We request that the review be expedited so that the work described in the LOT can begin as soon as possible.

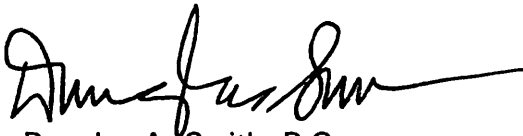
AEE appreciates the attention you have given to the LOT application, and is hopeful that review and approval of the LOT can be completed quickly. As we have discussed, the property owner has equipment available to conduct the work this week. Please do not hesitate to contact us at (503) 639-3400 if you have any questions.

Sincerely,

AGRA Earth & Environmental, Inc.

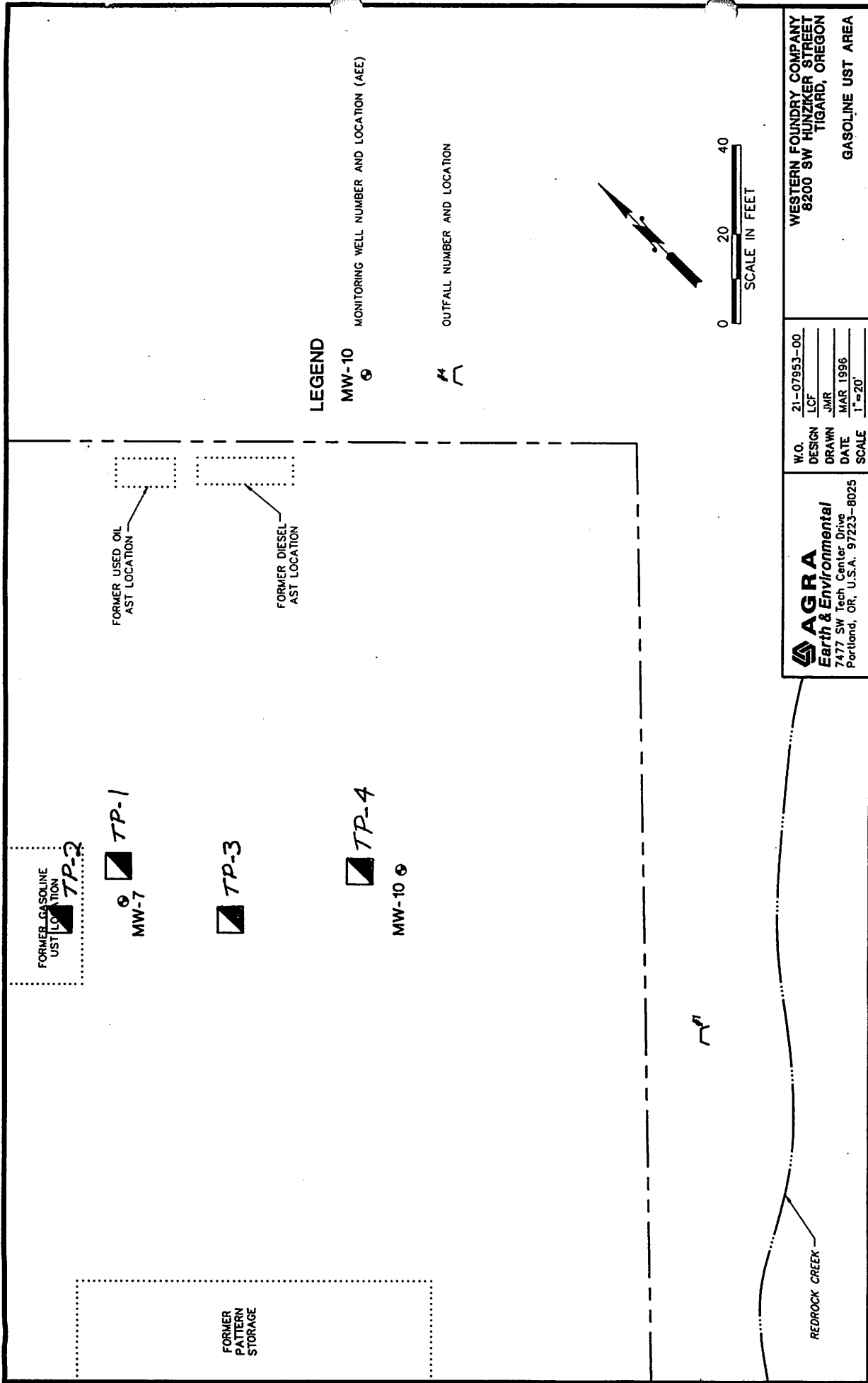


Leonard C. Farr Jr., P.G.
Senior Geologist



Douglas A. Smith, P.G.
Vice President

LCF/skh



LEGEND

MW-10 MONITORING WELL NUMBER AND LOCATION (AEE)

OUTFALL NUMBER AND LOCATION

AGRA Earth & Environmental 7477 Sw Tech Center Drive Portland, OR, U.S.A. 97223-8025		W.O. 21-07953-00 DESIGN LCF DRAWN JMR DATE MAR 1996 SCALE 1"=20'	WESTERN FOUNDRY COMPANY 8200 SW HUNZIKER STREET TIGARD, OREGON GASOLINE UST AREA
--	--	--	---

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. 0107953VPRO-SIED.WC

**Soil Sample Analytical Data Summary (mg/kg)
Petroleum Hydrocarbons and VOCs
Former Western Foundry Site
AEE Job # 21-7953-00**

Date	Test Pit ID	Depth	ODEQ TPH-HCID			ODEQ TPH-G	EPA Method 8260			
			Gas	Diesel	Heavy Oil	Gas	Benzene	Toluene	Ethyl-benzene	Xylenes
8/2/96	TP-1	6-7'	POS. ID	PRESENT	<200	1400	2.1	11	25	131
	TP-2	8'	POS. ID	PRESENT	<200	83	-	-	-	-
	TP-3	5'	<20	<50	<200	-	-	-	-	-
		8'	<20	<50	<200	-	0.55	2.8	6.1	37
	TP-4	9'	<20	<50	<200	-	-	-	-	-
UST LEVEL 2 SITE CLEANUP LEVEL			-	-	-	80	-	-	-	-

**Soil Sample Analytical Data Summary (mg/kg)
RCRA Metals
Former Western Foundry Site
AEE Job # 21-7953-00**

Date	Test Pit ID	Depth	EPA 6010/7000 Series							
			As	Ba	Cd	Cr	Pb	Hg	Se	Ag
8/2/96	TP-1	6-7'	-	-	-	-	-	-	-	-
	TP-2	8'	2.9	160	0.67	23	<10	<0.05	<0.50	<0.50
	TP-3	5'	2.7	100	0.62	20	13	<0.05	<0.50	<0.50
		8'	-	-	-	-	-	-	-	-
	TP-4	9'	-	-	-	-	-	-	-	-
OAR 340-122-045, Residential/Industrial			0.4/3	20,000/140,000	100/1,000	1,000/1,500	200/2,000	80/600	-	1,500/10,000



AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

July 26, 1996
21-07953-00

Andree Pollock
ODEQ Northwest Region
2020 SW Fourth, Suite 400
Portland, Oregon 97201

Dear Mr. Pollock:

RE: APPLICATION FOR LOA
FOR MANAGEMENT OF PCS
FORMER WESTERN FOUNDRY PROPERTY
TIGARD, OREGON
ECSIS FILE NO. 185

Attached is a Solid Waste Letter Authorization Permit Application for the Management of Petroleum Contaminated Soils from a UST Cleanup Project. The work will be performed by the property owner, with oversight by AGRA Earth & Environmental, Inc. (AEE). The current property owner (Smith-Gerig Western Properties, L.L.C) purchased the property in 1995. Smith-Gerig intends to assess and mitigate the site, and then to develop the site as a business park. Because there are other non-UST environmental concerns at the site, Smith-Gerig has elected to not sign a Cost Recovery Agreement at this time. A request for ODEQ oversight will be made in the future to look at all site issues.

If you have any question regarding the application, please feel free to contact the undersigned at (503) 639-3400.

Sincerely,

AGRA Earth & Environmental, Inc.

A handwritten signature in cursive script that reads "Leonard C. Farr Jr.".

Leonard C. Farr Jr., P.G.
Senior Geologist

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

JUL 26 1996

NORTHWEST REGION



UST Compliance Query

----- Facility -----

Facility ID 1416 SIC 3324 LUST facility N
Facility Name WESTERN FOUNDRY COMPANY
Facility Address 8200 SW HUNZIKER
City, ST Zip TIGARD OR 97223
Comments

----- Tanks -----

Tank ID	1	Contents:	
Tank Status	REMOVED	Empty	
Date Decomm.	21-MAR-89	Petroleum	GASOLINE
Permit #	AAA	Haz. Material	
Permit Status	TERMINATED	Unknown	
Installed	03-MAR-73	Construction	STEEL
Gallons	3000	External Prot	UNKNOWN
Overfill			
Leak Detect			

Count: *1

<Replace>

----- Contacts -----

Permitee:

Name

Organization

Address1

Address2

City, ST Zip

Phonel

Western Foundry Company

PO Box 1328

Portland

(503) 639-2141

OR 97207-1328

Owner:

Name

Organization

Address1

Address2

City, ST Zip

Phonel

Western Foundry Company

PO Box 1328

Portland

(503) 639-2141

OR 97207-1328

Property Owner:

Name

Organization

Address1

Address2

City, ST Zip

Phonel

Count: 1

v

<Replace>

July 29, 1996

F
Oregon

REX GERIG
SMITH GERIG WESTERN PROPERTIES
PO BOX 930
WILSONVILLE OR 97070

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

NORTHWEST REGION

RE: Western Foundry
File No. 34-96-0441

Dear Mr. Gerig:

On July 25, 1996, a release was reported from an underground storage tank (UST) system at your facility located at 8200 SW Hunziker in Tigard, Oregon. As the responsible party for the facility, you are required to clean up the release according to OAR 340-122-201 through 340-122-360.

An Initial Report Form for UST Cleanup Projects is enclosed, which needs to be completed and returned to this office within twenty (20) days from the date the release was reported. An outline of additional reporting requirements and due dates is also enclosed. A copy of the UST Cleanup regulations will be provided upon request. As the responsible party, you should be aware of what the requirements are, even if you have hired a qualified contractor or consultant to assist you.

Please reference the DEQ File Number listed above in all future correspondence and reports.

By law, DEQ is required to recover all cleanup project oversight costs. DEQ oversight begins with the initial site characterization and continues through site closure. Oversight includes activities such as reviewing reports, preparing correspondence, answering technical assistance questions, site inspections, and enforcement actions. You will be receiving an invoice each month for all oversight activities performed to-date.

DEQ's highest priority for oversight are those sites which pose the greatest hazard to human health, safety and the environment. As a result, many lower environmental priority sites will not be reviewed in detail or receive a final "No further action" or "closure" letter from DEQ until the higher priority sites are addressed. However, all projects - simple or complex - require at least some oversight. At a minimum, sufficient review of reports and data submitted is conducted to determine the environmental priority of the cleanup project.

John A. Kitzhaber
governor



2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

DEQ-1

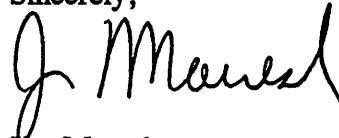
Rex Gerig
July 29, 1996
Page Two

For those responsible parties who desire DEQ oversight, regardless of environmental priority, we have developed a Responsible Party Priority Site Program. To receive oversight and more effectively schedule your project, you will be asked to sign an agreement requesting priority review and confirming your agreement to pay DEQ oversight costs in a timely manner.

Not entering into the Agreement does not release you from responsibility for investigation and/or cleanup of the contamination; nor does it mean that you are exempt from paying for DEQ oversight costs. Please be aware that there may be a waiting list for assignment to the next available project manager, and that these projects are assigned on a first come, first served basis. Please read the attached information on the cost recovery and invoice process. We have also included information about the Responsible Party Priority Site Program and an agreement, if you are interested in expediting review of your project. You may contact the Waste Management and Cleanup Program at (503) 229-6635 if you have questions about cost recovery.

Thank you for your cooperation and continued efforts to comply with the regulations. If you have any questions about the regulations and/or your cleanup please call (503) 229-5489 and ask to speak to the Underground Storage Tank Duty Officer.

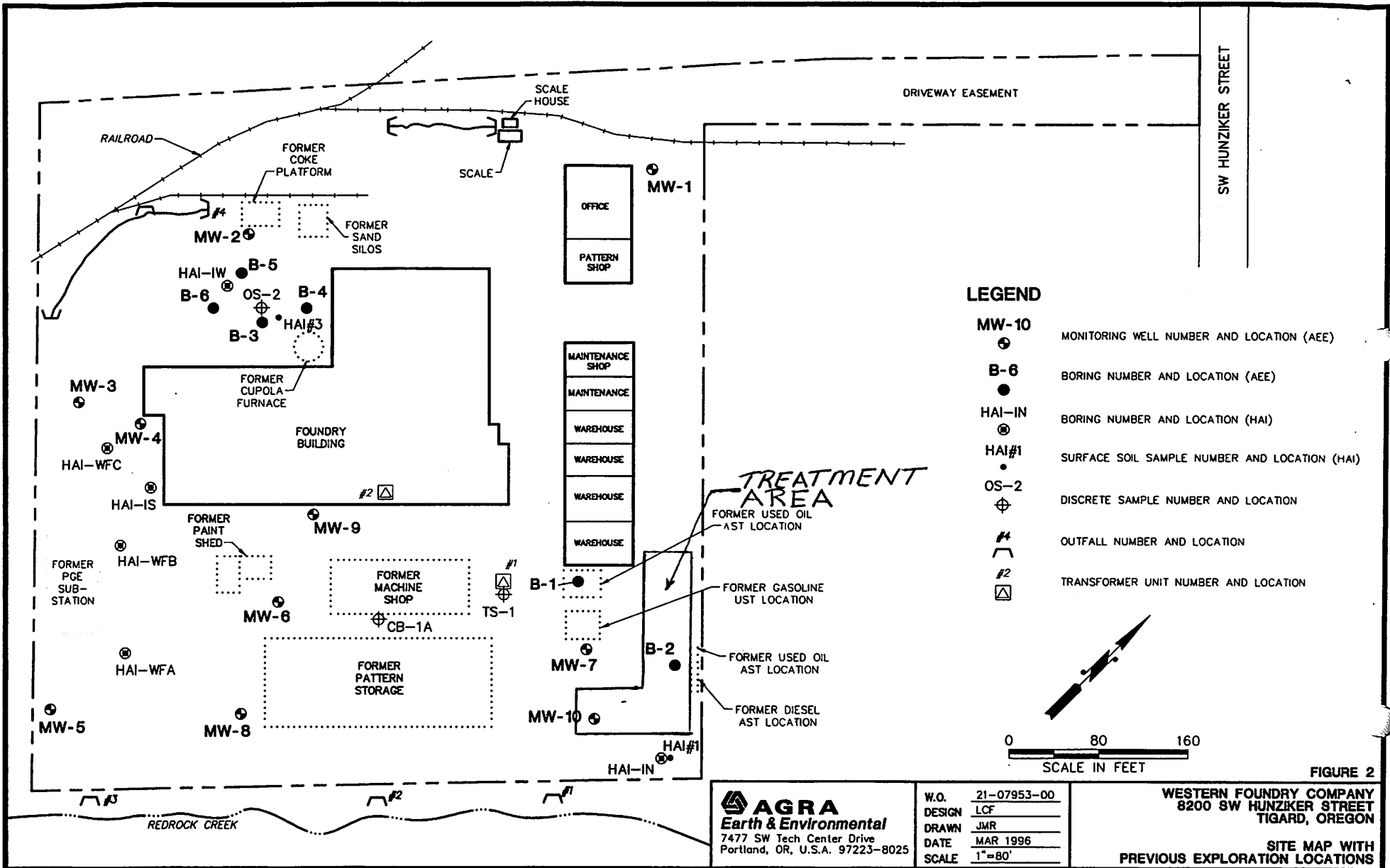
Sincerely,



Jim Maresh
Duty Officer
Underground Storage Tanks
Northwest Region

Enclosures

(GERIG:VCB)



SW HUNZIKER STREET

LEGEND

- MW-10 MONITORING WELL NUMBER AND LOCATION (AEE)
- B-6 BORING NUMBER AND LOCATION (AEE)
- HAI-IN BORING NUMBER AND LOCATION (HAI)
- HAI#1 SURFACE SOIL SAMPLE NUMBER AND LOCATION (HAI)
- OS-2 DISCRETE SAMPLE NUMBER AND LOCATION
- #4 OUTFALL NUMBER AND LOCATION
- #2 TRANSFORMER UNIT NUMBER AND LOCATION

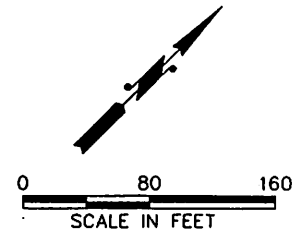


FIGURE 2

AGRA
 Earth & Environmental
 7477 SW Tech Center Drive
 Portland, OR, U.S.A. 97223-8025

W.O.	21-07953-00
DESIGN	LCF
DRAWN	JMR
DATE	MAR 1996
SCALE	1"=80'

WESTERN FOUNDRY COMPANY
 8200 SW HUNZIKER STREET
 TIGARD, OREGON

**SITE MAP WITH
 PREVIOUS EXPLORATION LOCATIONS**

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \61\07953\SITE.DWG

2.0 SITE DESCRIPTION

2.1 PHYSICAL SETTING

2.1.1 Location and Site Description

The WFC site is a former industrial facility located at 8200 SW Hunziker Street, in a mixed industrial, commercial and residential area of Tigard (Figure 1). The 8.5 acre site is generally flat lying and is bordered by Redrock Creek, a tributary of Fanno Creek, on its southeast side. The southern and western portions of the site are underlain by coarse gravels and foundry sand fill materials. The northern and central portions of the property are paved with one to three inches of asphalt pavement (Figure 2).

2.1.2 Site Structures

Several former WFC structures occupy the subject site, including the Office, the Foundry Building, and several warehouse and storage buildings. Several buildings have been demolished since the current owner purchased the property. These include the Pattern Storage Building, Machine Shop, and Paint Shed (Figure 2). No building foundations or subgrade utilities have been removed or disturbed.

2.1.3 Storage Tanks

No underground storage tanks (USTs) or above-ground storage tanks (ASTs) are currently located at the site. Three ASTs, a 100-gallon used-oil AST, a used-oil AST of unknown volume and a 1,000-gallon diesel AST, were formerly located near the northeastern corner of the property (Figure 2). Minor stained soil was observed beneath both ASTs. The ASTs and stained soils were removed from the site in 1995.

A 3000-gallon gasoline UST was located north of the former Pattern Storage Building (Figure 2). The UST was decommissioned by removal in April 1991.



2.1.4 Building Plans

Building plans dated May 25, 1985, were reviewed to determine the locations of catch basins, sumps, underground utilities and storm sewer outfall points. Sumps with pumps are located in the Foundry Building near the Shake-out and Carpenter Shop, outside near the Cupola, and outside near the Scale House. The building plans indicate that the Shake-out and Carpenter Shop sumps discharged to the sanitary sewer. The plans indicate that the Cupola Scrubber and Scale House sumps discharge to a ditch which carries surface water to Redrock Creek. However, the plan also indicates that the Cupola Scrubber sump lines were capped and abandoned.

Three outfall points were identified in the plans along Redrock Creek. The outfall for the ditch into which the Scale House sump discharges and the Cupola Scrubber sump formerly discharged (Outfall #3) is located near the south corner of the site (Figure 3). Outfall #2 is located southeast of the former Pattern Storage Building. The source of water discharging to Redrock Creek from Outfall #2 is two catch basins located near the former Machine Shop, and two drains and a catch basin located near the southeast wall of the Foundry Building. Six catch basins located in the Office and warehouse building area discharge into Redrock Creek at Outfall #1 (Figure 3).

2.1.5 Vicinity Land Usage

The property is bounded by Redrock Creek on the southeast, by the Palmer G. Lewis Co. property on the northeast, by Southern Pacific Railroad tracks on the northwest, and by the Columbia Hardwood property on the southwest. The area surrounding the subject site primarily consists of mixed industrial, commercial and residential properties.

2.1.6 Geography

The project site is located in the southern portion of Tigard, Oregon, approximately 2.5 miles north of the Tualatin River and 2.5 miles east of Bull Mountain. The site is situated at an elevation of approximately 150 feet above sea level.

The topography of the area generally slopes down to the southeast from nearby Bull Mountain. However, several small hills surround the area. Surface drainage runs towards the southwest via Fanno Creek, which ultimately flows into the Tualatin River.

2.1.7 Climate

The climate of the Tualatin Valley region is temperate, with warm, dry summers and cloudy, wet winters. Winter storms generally move in from the west and are strongly influenced by marine weather systems. Annual precipitation is approximately 44 inches and occurs predominantly as rain between the months of October and March. The average annual temperature for the Tualatin Valley region is approximately 53 degrees Fahrenheit.



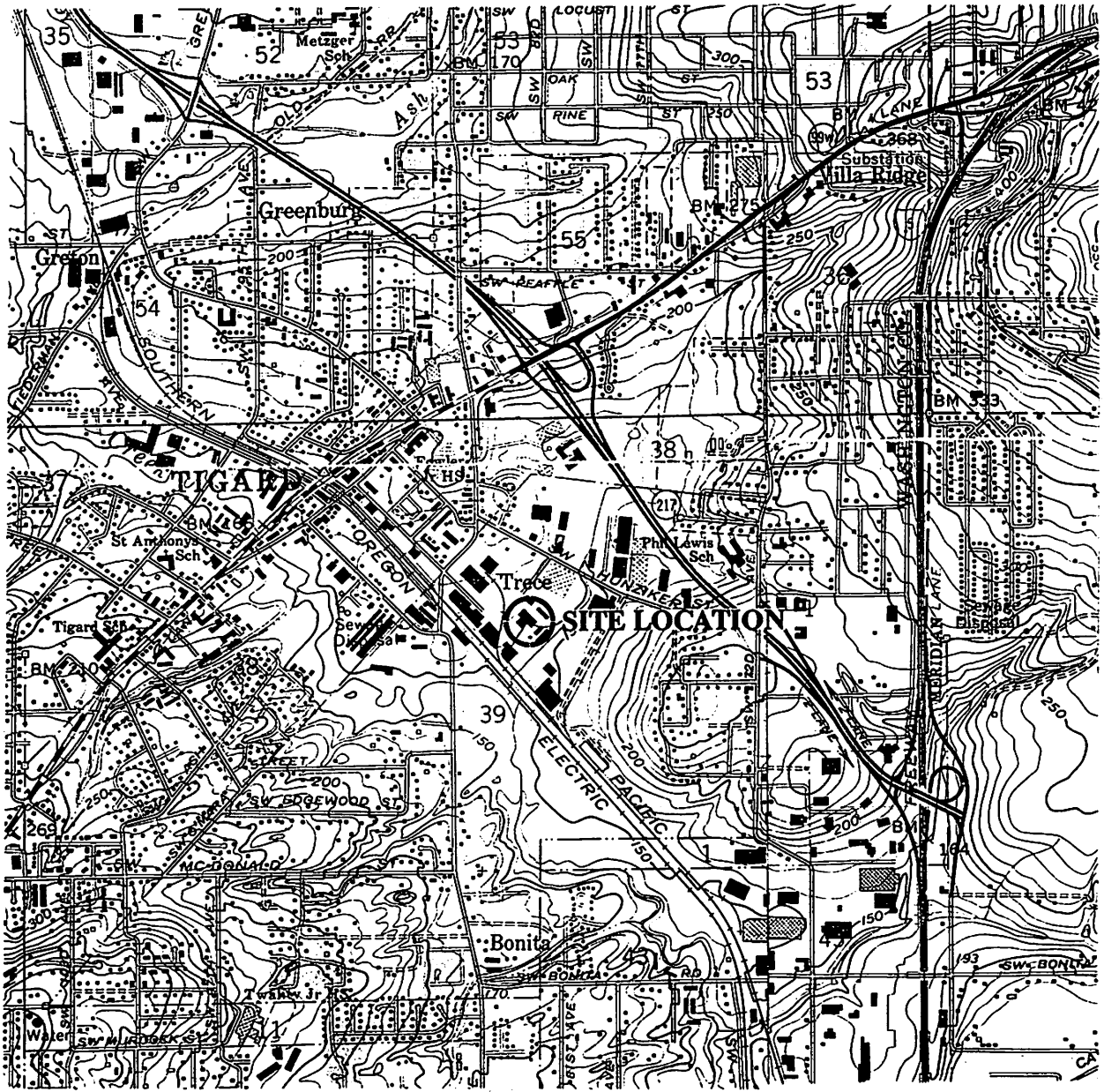


FIGURE 1

AGRA
Earth & Environmental

7477 SW Tech Center Drive
 Portland, OR, U.S.A. 97223-8025

W.O.	21-07953-00
DESIGN	LCF
DRAWN	JMR
DATE	MAR 1996
SCALE	

WESTERN FOUNDRY COMPANY
 8200 SW HUNZIKER STREET
 TIGARD, OREGON

SITE LOCATION MAP

2.1.8 Regional Geology

Underlying the near-surface gravels and foundry sand fills at the project site, are native soils consisting of silt, clay and fine sands. These sediments are the result of Quaternary and Tertiary-aged alluvial, floodplain and valley-fill processes, and are likely derived from the Tualatin and Willamette Rivers or their precursors. Beneath the alluvial sediments are Pliocene to late Pleistocene-age volcanic rocks which define the Boring Lava Formation. Underlying the Boring Lava are the Troutdale Formation and the Columbia River Basalt Group.

2.1.9 Regional Hydrogeology

Groundwater in the Tualatin Valley region occurs under confined, unconfined and perched conditions. Groundwater in the upper-most aquifer at the subject site is unconfined and occurs within fine-grained alluvial silts and sands. Shallow groundwater flow is directed to the south-southeast, towards the Tualatin River and its tributaries. The slope of the uppermost water table mimics local topography.

**ANALYTICAL DATA SUMMARY
GASOLINE UST AREA
FORMER WESTERN FOUNDRY CO. PROPERTY, TIGARD, OREGON
AEE Job #21-7953-00 (ppm)**

Date	Location ID	Depth	Sample Matrix	EPA 8010 METALS			ODEQ TPH-G	EPA 8020				EPA 8010	
				Cd	Cr	Pb	Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TCE	Other HVOCs
9/12/91	MW-7	5-6.5	SOIL	-	-	-	90.3	331	757	1270	4990	ND	ND
9/19/91	MW-7	-	GROUNDWATER	-	-	-	-	1.66	0.0643	1.07	0.631	0.00155	ND
10/22/91	MW-10	-	GROUNDWATER	-	-	-	-	0.0444	ND	ND	ND	-	-
11/14/94	MW-7	-	GROUNDWATER	-	-	-	-	11.4	1.1	4.22	4.19	-	-
	MW-10	-	GROUNDWATER	-	-	-	-	ND	ND	ND	ND	-	-
5/2/96	MW-7	-	GROUNDWATER	ND	0.034	0.21	-	16	5.6	2.6	9.2	ND	ND
	MW-10	-	GROUNDWATER	0.12	0.028	0.066	-	0.00087	ND	ND	0.0005	ND	ND

DEQ Method TPH-G
Units: mg/kg(ppm)

Client: Intern. Management Co.
Attn: Scott Bourcy

Job#: 6046
Item: 1 Soil Sample

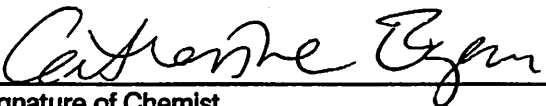
Sample Name	Sample Date	Date of Analysis	Concentration
MW7S1	9/12	9/23	90.3

Surrogate Recovery: 61.1%
Detection Limit: 5.00
Blank: <5.00

Analyst: CE
Report Date: 9/27/91
Lab Report #: 1895

Respectfully submitted,

RITTENHOUSE ZEMAN & ASSOCIATES



Signature of Chemist

Reviewed by: mt

ANALYSIS

EPA Methods 8010/8020

Soil Results in ug/kg (ppb)

	MW7S1	Lab Blank	Detection Limit
Bromodichloromethane	nd	nd	3.50
Bromoform	nd	nd	5.50
Bromomethane	nd	nd	104
Carbon Tetrachloride	nd	nd	2.00
Chlorobenzene	nd	nd	5.00
2-Chloroethylvinyl ether	nd	nd	5.50
Chloroethane	nd	nd	4.00
Chloroform	8.45*	11.0	2.50
Chloromethane	nd	nd	250
Dibromochloromethane	nd	nd	23.0
1,2-Dichlorobenzene	nd	nd	5.00
1,3-Dichlorobenzene	nd	nd	4.00
1,4-Dichlorobenzene	nd	nd	3.00
1,1-Dichloroethane	nd	nd	2.00
1,2-Dichloroethane	nd	nd	3.00
1,1-Dichloroethene	nd	nd	4.00
T-1,2-Dichloroethene	nd	nd	3.50
1,2-Dichloropropane	nd	nd	3.50
C-1,3-Dichloropropene	nd	nd	5.00
T-1,3-Dichloropropene	nd	nd	4.00
Methylene Chloride	83.1*	80.0	6.50
1,1,2,2-Tetrachloroethane	nd	nd	4.50
Tetrachloroethene (PCE)	nd	nd	4.00
1,1,1-Trichloroethane (TCA)	nd	nd	2.50
1,1,2-Trichloroethane	nd	nd	4.00
Trichloroethene (TCE)	nd	nd	5.00
Trichlorofluoromethane	nd	nd	5.50
Vinyl Chloride	nd	nd	60.0
Benzene	331	nd	10.5
Ethylbenzene	1270	<80.0	55.0
Toluene	757	nd	120
m/p-Xylene	2900	120	55.0
o-Xylene	2090	<80.0	55.0
Sample Date:	9/12		
Analysis Date:	9/25,26	9/26	

ANALYSIS
 EPA Methods 8010/8020
 Water Results in ug/L (ppb)

	MW-7	Lab	Detection
		Blank	Limit
Bromodichloromethane	0.26	nd	0.07
Bromoform	nd	nd	0.11
Bromomethane	nd	nd	2.08
Carbon Tetrachloride	nd	nd	0.04
Chlorobenzene	nd	nd	0.10
2-Chloroethylvinyl ether	nd	nd	0.11
Chloroethane	0.70	nd	0.08
Chloroform	0.62	nd	0.05
Chloromethane	nd	nd	5.00
Dibromochloromethane	nd	nd	0.46
1,2-Dichlorobenzene	nd	nd	0.10
1,3-Dichlorobenzene	nd	nd	0.08
1,4-Dichlorobenzene	nd	nd	0.06
1,1-Dichloroethane	nd	nd	0.04
1,2-Dichloroethane	0.98	nd	0.06
1,1-Dichloroethene	nd	nd	0.08
T-1,2-Dichloroethene	0.13	nd	0.07
1,2-Dichloropropane	nd	nd	0.07
C-1,3-Dichloropropene	nd	nd	0.10
T-1,3-Dichloropropene	nd	nd	0.08
Methylene Chloride	nd	nd	0.13
1,1,2,2-Tetrachloroethane	nd	nd	0.09
Tetrachloroethene (PCE)	nd	nd	0.08
1,1,1-Trichloroethane (TCA)	nd	nd	0.05
1,1,2-Trichloroethane	nd	nd	0.08
Trichloroethene (TCE)	1.55	nd	0.10
Trichlorofluoromethane	nd	nd	0.11
Vinyl Chloride	nd	nd	1.20
Benzene	1660	nd	10.5
Ethylbenzene	64.3	nd	5.50
Toluene	1070	nd	12.0
m/p-Xylene	367	nd	5.50
o-Xylene	264	nd	5.50
Sample Date:	9/19		
Analysis Date:	9/28,30	9/28,30	

Report Date: Oct. 24, 1991
Lab Report #: 2087 ce/jmv
Attn: Joe Fassio

Project Number: 6046
Client: Western Foundry
Item: 1 Water Sample

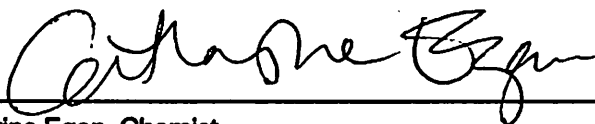
ANALYSIS
METHOD: BETX by EPA Method 8020
Results in ug/l (ppb)

	MW10	Lab Blank	Detection Limit
Benzene	44.4	nd	0.21
Ethylbenzene	nd	nd	0.11
Toluene	<0.38	nd	0.24
m/p-Xylene	<0.17	nd	0.11
o-Xylene	<0.16	nd	0.11
Sample Date:	10/22		
Analysis Date:	10/23	10/23	

Surrogate Recovery: 105%

Respectfully submitted,

Rittenhouse-Zeman and Associates:



Catherine Egan, Chemist

Reviewed by:





RITTENHOUSE-ZEMAN & ASSOCIATES, INC.
EARTH & ENVIRONMENTAL CONSULTANTS

1194 CHAIN-OF-CUSTODY RECORD / LABORATORY ANALYSES REQUEST

7409 S.W. Tech Center Drive, Suite 135
Portland, Oregon 97223-8024
(503) 639-3400 FAX: (503) 620-7892

PROJECT: WESTERN FOUNDRY JOB #: 0-6096 ANALYSIS REQUESTED: (Circle, Check Box, or Write Preferred Method in Box) OTHER: (Write In)

CLIENT: INTERM MNGT. CO.
PROJ. MANAGER: SCOTT B. PHONE #: 639-3400
SITE ADDRESS: 8200 SW HUNZIKER
TIGARD, OR.

SAMPLERS NAME: SCOTT B. PHONE #: 639-3400
SAMPLERS SIGNATURE: Scott C. Boucey

SAMPLE ID #	DATE	TIME	PRESERV.	MATRIX	Halogenated Volatiles EPA 601 EPA 8010	Aromatics (BTX&E) EPA 602 EPA 8020	Fuel Scan/TPH by GC EPA 602-mod/8015-mod	Volatile Organ. Compnds	GC Fingerprint	Penta/tetra-chlorophenol EPA 604 EPA 8040	Tot. Petrol. Hydrocarbons EPA 413.1. 418.1 TLC	Total Metals ICP AA Other	EP-TOX Metals	Purgeable Organics EPA 624 8240	Base/Neut.Acids EPA 625 8270	pH Cond. Alk Color	NO3/NO2 N-NO3 NH3-N	Ca Mg Na K Fe Cl SO4	TOX TOC TDS COD	TPH-G	# of Containers	Sample Preparation	Detection Limits Desired	
1. B-1 S-1	9/10/91	14:40	Ice	Soil	X	X	X															2		
2. B-1 S-2	9/11/91	15:00																				1		
3. Mw-1 S-1	9/11/91	10:12																				1		
4. Mw-4 S-1	9/12/91	8:44																				1		
5. Mw-5 S-1	9/12/91	11:25																				1		
6. Mw-6 S-1	9/12/91	14:15																				2		
7. Mw-6 S-2	9/12/91	14:22																				1		
8. Mw-7 S-1	9/12/91	14:35			X	X																2		
9.																								
10.																								

RELINQUISHED BY RZA:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	LABORATORY:	SAMPLE RECEIPT:
Signature: Scott C. Boucey Printed Name: SCOTT C. BOUCEY Firm: RZA	Signature: Printed Name: Firm:	Signature: Printed Name: Firm:	Signature: Printed Name: Firm:	Shipping ID. #: Carrier: DOT Designation:	Total # Containers: Condition of Containers? Condition of Seal?
Date/Time: 9/10/91 11:40 RECEIVED BY:	Date/Time: RECEIVED BY:	Date/Time: RECEIVED BY:	Date/Time: RECEIVED BY:	SPECIAL INSTRUCTIONS/COMMENTS:	

Signature: [Signature] Printed Name: D. Villameo Firm: RZA	Signature: Printed Name: Firm:	Signature: Printed Name: Firm:	Signature: Printed Name: Firm:		
Date/Time: 9/18/91 11:40 RECEIVED BY:	Date/Time: RECEIVED BY:	Date/Time: RECEIVED BY:	Date/Time: RECEIVED BY:		



RITTENHOUSE-ZEMAN & ASSOCIATES, INC.
EARTH & ENVIRONMENTAL CONSULTANTS

7409 S.W. Tech Center Drive, Suite 135
Portland, Oregon 97223-8024
(503) 639-3400 FAX: (503) 620-7892

1203 CHAIN-OF-CUSTODY RECORD / LABORATORY ANALYSES REQUEST

PROJECT: WESTERN FUGAZIDY		JOB #: 6-6046		ANALYSIS REQUESTED: (Circle, Check Box, or Write Preferred Method in Box)		OTHER: (Write In)															
CLIENT: INTEPM MGMT Co.		PROJ. MANAGER: SOT BOWEY		PHONE #: 639-3400																	
SITE ADDRESS: 8260 SW HWY 215 SE		TIA RD, OR																			
SAMPLER'S NAME: SOT BOWEY		PHONE #: 639-3400																			
SAMPLER'S SIGNATURE: SOT BOWEY																					
SAMPLE ID #	DATE	TIME	PRESERV.	MATRIX	Halogenated Volatiles EPA 601 EPA 8010	Aromatics (BTX&E) EPA 602 EPA 8020	Fuel Scan/TPH by GC EPA 602-mod	Volatile Organ. Compnds	GC Fingerprint	Penta/tetra-chlorophenol EPA 604 EPA 8040	Total Metals ICP AA Other	EP-TOX Metals	Purgeable Organics EPA 624 8240	Base/Neut. Acids EPA 625 8270	pH Cond. Alk Color	NO3/NO2 N-N03 NH3-N	Ca Mg Na K Fe Cl SO4	TOX TOC TDS COD	# of Containers	Sample Preparation	Detection Limits Desired
1. Mu-1A	7/19/91	9:50	Ice	H2O	X	X													2		
2. Mu-2A	9/19/91	10:25																	1		
3. Mu-3A	9/19/91	11:46																	1		
4. Mu-4A	9/19/91	14:40																	2		
5. Mu-5A	9/19/91	14:02																	3		
6. Mu-6A	9/19/91	13:25																	3		
7. Mu-7A	9/19/91	12:58																	3		
8. Mu-8A	9/19/91	13:30																	3		
9.																					
10.																					
RELINQUISHED BY RZA:		RELINQUISHED BY:		RELINQUISHED BY:		RELINQUISHED BY:		LABORATORY:		SAMPLE RECEIPT:											
Signature: SOT BOWEY		Signature:		Signature:		Signature:		Shipping ID. #:		Total # Containers:											
Printed Name: SOT BOWEY		Printed Name:		Printed Name:		Printed Name:		Carrier:		Condition of Containers:											
Firm: RZA		Firm:		Firm:		Firm:		DOT Designation:		Condition of Sealers:											
Date/Time: 9/20/91 13:20		Date/Time: 13:20		Date/Time:		Date/Time:		SPECIAL INSTRUCTIONS/COMMENTS:													
Signature: M. Washburne Smith		Signature:		Signature:		Signature:															
Printed Name: M. Washburne Smith		Printed Name:		Printed Name:		Printed Name:															
Firm: RZA		Firm:		Firm:		Firm:															
Date/Time: 9/20/91 13:20		Date/Time:		Date/Time:		Date/Time:															

DISTRIBUTION: WHITE-return to RZA; YELLOW-lab; PINK-retained by RZA.

----- Compliance Payments -----

Facility ID 1416
Facility Name WESTERN FOUNDRY COMPANY

Invoice ID	Status	Billed	Fee Received
UST90-00974	CANC	25	0
UST89-00377	PAID	25	25

Count: *2

<Replace>

SOLID WASTE LETTER AUTHORIZATION
PERMIT APPLICATION

DEQ USE ONLY

Application Rec'd: _____

Fee Rec'd: _____

Approved/Denied: _____

Management of Petroleum Contaminated Soils from an UST Cleanup Project

THIS APPLICATION IS FOR THE FOLLOWING ACTIVITY:

Treatment Activity

Complete Questions Listed

On-site Thermal Treatment (mobile unit)

#1, #2, #4, #5, and #7

On-site Bioremediation

#1, #2, #3, #5, and #7

On-site Soil Aeration

#1, #2, #3, #5, and #7

Off-site Thermal Treatment (mobile unit)

#1, #2, #4, #5, and #6

Off-site Bioremediation

#1, #2, #3, #5, and #6

Off-site Soil Aeration

#1, #2, #3, #5, and #6

< PLEASE COMPLETE THE FOLLOWING INFORMATION AS REQUIRED ABOVE >

1. Facility Information - UST cleanup project where contaminated soils originated

DEQ File Number assigned to site: ECS15 #185

Facility Name: Former Western Foundry Property

Facility Address: 8200 SW Hunziker St.

Tigard OR

2. Attach the completed and signed Property Owner Statements for the treatment site and the site where the soils will be placed after treatment is complete (soil disposition site).
3. Attach a written Soil Treatment Plan, using the "Aeration of Petroleum Contaminated Soils" guidance document and treatment plan form or a written report which contains all elements of the form.
4. Attach a written Soil Management Plan, using the Thermal Treatment by Mobile Unit form or a written report which contains all elements of the form.
5. Explain the need and justification for the proposed project. What other disposal or treatment options were considered and why is this the most appropriate treatment method?
Gasoline contaminated soil and groundwater has been identified at the site. Contaminated soil is likely a continuing source of groundwater contamination.
6. Attach a completed and signed Land Use Compatibility Statement.

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

JUL 26 1996

SOLID WASTE LETTER OF AUTHORIZATION PERMIT APPLICATION - PAGE 2

7. You must confirm with the local authorities that the proposed treatment activity for the treatment site property location is compatible with local land use ordinances.

Land use approval granted and/or verified that activity is allowed with approval of grading permit
Name of Official: Dave Scott Jim Funk Date: 7-26-96
Department: City of Tigard Phone: 639-4171

BY THE FOLLOWING SIGNATURE, THE RESPONSIBLE PARTY STATES THAT ALL INFORMATION SUBMITTED WITH THIS APPLICATION, INCLUDING ATTACHMENTS, IS TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE. SIGNATURE ALSO ACKNOWLEDGES THAT A LETTER OF AUTHORIZATION MAY BE SUSPENDED OR REVOKED IF THE APPLICATION CONTAINS A MATERIAL MISREPRESENTATION OR FALSE STATEMENT.

Responsible Party Name: Smith Gerig Properties (please print)
Signature: Rep Gerig
Date: 7-24-96

Note: Contractors or consultants retained by the responsible party to conduct work associated with the cleanup or soil treatment MAY NOT sign this application in lieu of the responsible party.

DETERMINE IF PERMIT FEE IS REQUIRED OR IF A FEE WAIVER IS APPROPRIATE:

The Department will waive the required permit fee if you have agreed to reimburse the Department for oversight costs associated with your UST cleanup project. If you have questions about the cost recovery process, or wish to have a Cost Recovery Agreement form mailed to you, please contact Ms. Darby Bacon at 503-229-6635 or Ms. Marcie Murphy at 503-229-5790. The Department's toll-free, call-back number is 1-800-452-4011.

- a. IF THE PERMIT FEE IS DUE: Complete the attached Fee Invoice Form and submit a check for the permit fee to the Business Office address listed.
- b. IF A PERMIT FEE WAIVER IS APPROPRIATE: Note the following as applicable:
 - A signed Cost Recovery Agreement has already been submitted to the Department on _____ (date).
 - A signed Cost Recovery Agreement is attached.

Submit this application, along with the appropriate attachments, to the DEQ Regional office that has jurisdiction for the UST cleanup project.

REMINDER - Have you:

- Attached the completed and signed Property Owner Statements, for both the treatment site and the final disposition site?
- Attached a written soil treatment plan?
- Attached a signed/approved Land Use Compatibility Statement (if necessary)?
- Attached a signed Cost Recovery Agreement (if appropriate)?
- Submitted the letter authorization fee to the DEQ Business Office (if appropriate)?

PROPERTY OWNER STATEMENT

TREATMENT SITE

FACILITY INFORMATION

(UST cleanup project where soils originated)

DEQ File Number assigned to site: ECS15 #185

Facility Name: Former Western Foundry Property

Facility Address: 8200 SW Hunziker St.

Tigard OR

TREATMENT SITE INFORMATION

(location where soils will be treated)

Site Address: 8200 SW Hunziker St.

Tax Lot No.(s): _____ County: Washington

Approximate size of property:

Acres: 8.5 or Sq. Ft: _____ or Dimensions: _____

Property Owner Name: Smith Gerig Properties

Mail Address: P.O. Box 930

Wilsonville OR 97070

Phone Number: 638-6900

THE PROPERTY OWNER WHERE TREATMENT WILL OCCUR MUST SIGN AND DATE THE FOLLOWING STATEMENT:

As the owner of the property listed above which is proposed to be used as a petroleum contaminated soil treatment area, I agree that only petroleum contaminated soils from the UST cleanup project listed above will be allowed to be deposited and treated on this property. I agree that this is a one-time only use of this property for this purpose. I, or a representative for me, have confirmed that this activity is compatible with local land use ordinances. I also understand that I may be jointly responsible and liable for any future problems arising from this treatment project.

Signature: Rex Oserig Date: 7-24-96

This signed statement must be included with the Soil Treatment Plan.

UNITED STATES DEPARTMENT OF JUSTICE

FEDERAL BUREAU OF INVESTIGATION

MEMORANDUM FOR THE DIRECTOR

Subject: [Illegible text]

Reference is made to [Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

PROPERTY OWNER STATEMENT

FINAL SOIL DISPOSITION

FACILITY INFORMATION

(UST cleanup project where soils originated)

DEQ File Number assigned to site: ECS15 #185

Facility Name: Former Western Foundry Property

Facility Address: 8200 SW Hunziker St
Tigard OR

FINAL DISPOSITION SITE INFORMATION

(Property where treated soils will be placed once treatment is complete)

Site Address: 8200 SW Hunziker St
Tigard OR

Tax Lot No. (s): _____ County: Washington

Approximate size of property:

Acres: 8.5 or Sq. Ft.: _____ or Dimensions: _____

Property Owner Name: Smith Gerig Properties

Mail Address: P.O. Box 930
Wilsonville OR 97070

Phone Number: _____

THE PROPERTY OWNER WHERE THE TREATED SOILS WILL BE DEPOSITED MUST SIGN AND DATE THE FOLLOWING STATEMENT:

As the owner of the property listed above which will receive the treated soil from the UST cleanup project also listed above once treatment is complete, I agree to ensure that the soils will be placed on my property such that they are 1) above seasonal high groundwater levels, 2) not located near wetlands or surface water, 3) not located within a 100 year floodplain, and 4) will be placed out of human contact or possible exposure. I also understand that I may be jointly responsible and liable for any future problems arising from this soil disposition activity.

Signature: Ray W. Gerig Date: 7-24-96

This signed statement must be included with the Soil Treatment Plan.

UST CLEANUP SOIL TREATMENT PLAN

Complete the following information and submit with the Solid Waste Letter of Authorization application. Please print or type.

DEQ File Number assigned to site: ECSIS #185

Facility where contaminated soils originated:

Facility Name: Former Western Foundry Property

Address: 8200 SW Hunziker St.
Tigard OR

1. Type of petroleum contamination (check all that apply):

Gasoline Diesel Waste Oil Heating Oil Other

NOTE: If any waste oil contaminated soil is proposed for treatment, you must also include a copy of sample results and chain of custody forms for halogenated solvents, BTEX, and TCLP Pb, Cr, & Cd (plus PCBs as necessary).

IF YOU PROPOSE SOIL AERATION FOR ANY PETROLEUM CONTAMINATION OTHER THAN GASOLINE, YOU MUST PROVIDE WRITTEN JUSTIFICATION. PROPOSALS FOR SIMPLE AERATION OF HEAVY OIL CONTAMINATED SOIL ARE GENERALLY NOT APPROPRIATE AND MAY BE REJECTED; PROPOSALS TO AERATE DIESEL CONTAMINATED SOILS WILL BE REVIEWED ON A CASE-BY-CASE BASIS.

2. Estimated volume of soil to be treated: 500 yd³
(cubic yards)

3. Highest concentration of TPH detected in the excavated soil:

Value 90.3 TPH mg/kg By TPH-G TPH-D 418.1m (circle one)

ATTACH COPIES OF ALL ANALYTICAL DATA AND CHAIN OF CUSTODY FORMS. IF ADDITIONAL PARAMETERS WERE ANALYZED (FOR THE EXCAVATED SOIL) OTHER THAN TPH, ATTACH COPIES OF THESE ADDITIONAL TEST RESULTS AND CHAIN OF CUSTODY FORMS.

4. Primary treatment method used: Aeration Bioremediation Thermal (check one)

5. Describe what specific active treatment methods and procedures will be used from the moment treatment begins until the point of completion: (tilling, blowers, moisture, bio-reagents, etc.)

The soil will be tilled every two weeks
for the rest of the summer. If cleanup is
not complete at that time a new schedule
for tilling will be proposed.

6. Y N If soil will be thermally treated, it has been verified that thermal treatment is allowed for the types of contamination present in the soil.

UST CLEANUP SOIL TREATMENT PLAN - PAGE 2

7. Y N It is proposed that treated soils will be reused in the original tank excavation. If yes:

Y N Was groundwater encountered or likely to be encountered?

The matrix score/level for this site is: 34 / 2

8. Y N Is the final disposition site located near (<100 feet) a wetlands, stream, 100-year floodplain or residential area?

9. Is the final disposition site (check and/or circle all that apply):

- Authorized Landfill (to be used as cover)
- Public or private roadway (to be used as subgrade)
- Private property - industrial/commercial/residential

NOTE: If the treated soil will be reused as fill at any site other than (public) road subgrade, then you must attach a signed Property Owners Statement.

10. Describe how the treated soil will be managed at the final disposition site to minimize/prevent human contact and contact with groundwater or surface waters:

The soil will be returned to the excavation.

11. It is estimated that it will take approximately 8 weeks/months (circle one) to complete the treatment based on the amount of soil to be treated, concentrations of contamination and treatment method to be used.

12. Attach a sketch or drawing (drawn to scale) of the proposed treatment area that displays:

- a. The location of the treatment area in relation to existing structures on the subject property and adjacent properties; indicate relative distances.
Attached
- b. The size of the proposed treatment cell or area.
Attached
- c. A brief description of the current use of both the subject property and adjacent properties.
Attached
- d. The location of blowers and piping which may be used in the construction of biopiles or as an assist to aeration. Include description of system design and operation.

13. Work associated with active treatment will be done on the following schedule:
Once every (circle one) day/week/month/ 2 weeks (other)

This work will be done by: Smith-Gerig
(company/individual)

14. The treatment site will be inspected on the following schedule:
Once every (circle one) day/week/month/ week (other)

Inspections will be made by: Smith-Gerig and/or AEE
(company/individual)

UST CLEANUP SOIL TREATMENT PLAN - PAGE 3

15. Describe how the treatment site was selected as appropriate for treating petroleum contaminated soil:
Located near excavation, is available, is ~100 feet from Red Rock Cr., is flat and soil pile should be easy to construct.
16. Y N Is the treatment area located near (<100 feet) a wetlands, stream, or residential area?
17. Describe how the underlying soils, surface water, or groundwater in the treatment area will be protected from coming in contact with the contaminated soil:
Treatment area will be lined with plastic sheeting, bermed with straw bails, covered during rainy periods.
18. Describe how surface water run-off and run-on will be controlled within the treatment area:
See above (17)
19. Y N Will the contaminated soil be kept covered and the cover anchored whenever it rains or treatment is not actively in progress? Who will be responsible for doing this?
AEE and/or Smith Gerig
20. Describe how you will handle any leachate that collects in the treatment area:
Will be pumped with a vacuum truck and transported off-site for treatment/disposal
21. Y N Will the treatment site be completely fenced? If no, describe how adequate site security will be maintained to prevent unauthorized access to the treatment area:
Site access is limited to tenants
22. Describe how the creation of public safety concerns, environmental hazards, or nuisance conditions (such as odors or dust) will be prevented at the treatment site:
Partial fencing or caution tape will be set-up to address safety issues.
23. 5 (#) discrete composite (circle one) interim samples will be collected every ~~week~~ month (circle one) to demonstrate treatment progress.
24. Interim samples will be analyzed for (circle all that apply):
 TPH-G TPH-D TPH by 418.1m Other: _____
25. Describe how the appropriate number of interim samples to collect was determined:
1 sample per 100 yd³

UST CLEANUP SOIL TREATMENT PLAN - PAGE 4

26. Describe how sample locations will be chosen for all interim samples to be collected:

Randomly from near base of pile.

27. 10 (#) discrete final samples will be collected to determine that the contaminated soil has been successfully treated.

28. Final samples will be analyzed for (circle all that apply):

TPH-G TPH-D TPH by 418.1m Other: _____

29. Describe how the appropriate number of final samples to collect was determined:

1 sample per 50yd³

30. Describe how sample locations will be chosen for all final samples to be collected:

Randomly from near base of pile.

31. 5 (#) discrete/composite (circle one) closure samples will be collected from under the treatment area to determine if the area under the treatment site has been contaminated.

32. Closure samples will be analyzed for (circle all that apply):

TPH-G TPH-D TPH by 418.1m Other: _____

33. Describe how the appropriate number of closure samples to collect was determined:

1 sample per 2500ft²

34. Describe how sample locations will be chosen for all closure samples to be collected:

Randomly unless tears are noted in liner. If tears are noted, these areas will preferentially be tested

NOTE: All sample collection and analyses must be performed in accordance with proper sampling protocols, chain of custody, and quality assurance/quality control requirements. Samples should be collected by the Responsible Party or a licensed Soil Matrix Service Provider if licensing is required for the cleanup project.

35. Describe how the treated soil will be field-screened as it is moved to the final disposition site, once treatment is complete:

Soils will be screened for VOCs with a PID

36. Describe what actions will be taken if further contamination is discovered during the screening process:

Additional testing will be done to segregate clean soils from contaminated soils. Additional treatment of soils exhibiting incomplete treatment would be further treated.

UST CLEANUP SOIL TREATMENT PLAN - PAGE 5

THIS PLAN WAS PREPARED BY:

Date: 7-24-96

Individual: Len Farr Phone: 639-3400

Company: AGRA Earth & Environmental

Address: 7477 SW Tech Center Dr.

NOTE: If treatment will take longer than three months to complete, quarterly progress reports must be submitted.

NOTE: Questions about specific treatment project plans, permits and/or the forms to be used should be directed to the regional office that has jurisdiction for the UST cleanup project.

Regional Office

Phone Number (503)

Eastern Region - Bend	388-6147
Eastern Region - Pendleton	276-4063
Eastern Region - The Dalles	298-7255
Northwest Region - Portland	229-5489
Western Region - Salem	378-8240
Western Region - Eugene	646-7838
Western Region - Medford	776-6136

The Department's toll-free, call-back number is 1-800-452-4011.

Report on an Underground Storage Tank Removal,
Investigation, and Remediation:

Western Foundry Company
8200 S.W. Hunziker
Tigard, OR 97223

I. Introduction

Western Foundry Company hired Northwest Environmental Corporation to excavate and remove an underground storage tank (UST) containing gasoline from their foundry property in Tigard, OR. This effort included an investigation of the site for possible gasoline contamination from the UST system. Additional excavation was undertaken after gasoline contamination was discovered at the site. Excavated soil was stockpiled onsite for aeration to complete the remediation effort.

The purpose of this report is to document the tank removal operation, the site investigation, and the site remediation effort. The report describes the site and its surface condition, describes the excavation and tank removal operation, describes the condition of the tank and subsurface after the excavation, describes the location of subsurface samples taken and the results of their analyses, describes the remediation excavation and soil aeration activities, and finally summarizes the investigation and remediation effort.

The excavation, tank removal, and initial soil sampling was done on Tuesday, 21 March 1989. Remedial cleanup (soil stockpiling and aeration) of contamination found was completed by Friday, 24 March 1989. No historical-use investigation was done for this report because it was not included in the project scope-of-work.

II. Site Location and Layout

The site is in Tigard, OR at Western Foundry Company's industrial property, located at 8200 S.W. Hunziker Road. Appendix A is a photocopy of a portion of the USGS Beaverton, OR 7.5 minute, topographic map covering the area of the site. The site is located in Section 1, Township 2S, Range 1W, W.M. The specific site location is shown in Appendix A with an arrow on the topographic map pointing to an approximate outline of the property.

Appendix B is a plan view sketch of the southeastern quarter corner of the approximately 7.5 acre property. This portion of the property consists mostly of a graveled storage lot. A small creek that is a tributary to Fanno Creek forms the SE boundary of the property. The UST that was excavated and removed is located in the western corner of this quarter corner. Stockpiled soil excavated from the area of the tank was placed on this graveled storage lot.

III. Site Geology

The site is located in a poorly drained, broad valley terrace approximately 1000 feet NE of Fanno Creek. The SE boundary of the property parallels a SW flowing creek that enters Fanno Creek approximately 1400 feet downstream. This tributary drains surface water from the property and is expected to control the direction of local ground water flow.

Based on the USDA Soil Conservation Service's "Soil Survey of Washington County, Oregon" (7/82) publication, soils at the site are defined as Aloha Silt Loam and Verboort Silty Clay Loam. The map-line defining these two soil types is shown in the soil report as crossing the property parallel to the tributary creek at about the location of the tank. Because it is only a map representation, it should be considered approximate. The Aloha Silt Loam series of soils is generally a combination of fluvial (formed in a stream environment) and lacustrine (formed in a lake environment) silts. Soils and subsoils from this series are mottled yellow-brown and show moderately slow

permeability. Verboort Silty Clay Loam is part of the Verboort series of soils. These soils form on bottom lands and generally have a fine texture. They can be gray-brown to dark gray in color. Permeability is very low. Based on the soil report map, Verboort Silty Clay Loam soils are located between the tank site and the tributary creek.

Material beneath these soils at this site are expected to be of similar nature, given the bottomland environment and poorly drained nature of this area. Expectations are that the immediate area may have been a depositional environment for many years (subsidence?). Consequently, the silty clay sedimentary deposits may extend well below the tank depth. Low permeability may dominate the site, although hydrogeologic testing was not performed to verify this assumption.

In a recent report ("An Environmental Investigation of the Western Foundry Company", prepared by Hahn and Associates, Inc., 12 December, 1988), three monitoring wells were drilled on the SW side of the property. Well logs in that report stated that the estimated static water level varied from 7.7 feet to 10 feet beneath the surface. Because these depths are based on the surface grade, rather than elevation, no ground water flow direction can be inferred. However, the logs indicate the presence of gray-green and brown mottled silt at the lower depths (to 11.5 feet deep). This is consistent with the soil report discussed previously. Interfingering of both types of soil could be expected near the margin of a creek under subsidence conditions.

IV. Description of Site Surface Conditions

See Appendix B for a plan view sketch of the site and Appendix D for site photographs. The surface of the site in the area of the UST showed visual evidence of fuel contamination near the pump. Generally, the area was free of other debris in the immediate vicinity of the pump. The surface over the tank was covered with a thick (4-8"), steel reinforced cement pad. Soil at low end of this pad (drainage direction) showed the most surface contamination. Asphalt pavement was to the SW, between the tank and foundry buildings. To the NW was a graveled road, to the NE, a graveled storage lot, and to the SE were found scrap steel, a small shed used to house a drum,

and pallet storage. The pump was located on a raised concrete pad protected by two vertical pipes cemented into the ground.

There was no survey done over the rest of the subject property. No buildings were entered or investigated. Contamination mentioned in this report relates only to the UST excavation and the area proximate to it. Other contamination may exist on the site, but it was not observed during this limited investigation.

V. Description of Tank Excavation and Removal

A vacuum truck was used to pump residual gasoline from the tank. The gasoline pump was disconnected and removed from its concrete pad. Appendix B provides a schematic map of the tank orientation and plumbing. The tank was found to be slightly misaligned relative to the pump, concrete pad, and buildings.

A back hoe was used to remove the concrete pad and excavate the soil around the tank. The top of the tank was located at approximately three feet below grade. An excavation of approximately 16 feet by 12 feet by 9 feet deep was needed to complete the removal process. Gasoline fumes were prevalent during this operation. The tank was removed from the excavated pit by hooking onto a hoisting bracket welded to the NE end of the tank and then lifting and dragging it out of the hole with the backhoe. The tank was placed on the surface near the a building located to the northwest.

VI. Description of the Tank Condition

This tank facility is listed in the 25 April 1988 DEQ UST Facilities list with a facility ID of 1416. The 3000-gallon, mild-steel tank showed no visible corrosion once it was removed. Its surface had the appearance of new, bare metal. Welds were clearly defined and looked new. The tank's dimensions were 13 feet long by 6 feet in diameter. It was rolled over such that the bottom could be inspected. No obvious holes were observed in the tank. There was no visual evidence that the tank had leaked. When installed, the tank was set into a bed of foundry sand. This same sand was used to backfill the tank

emplacement hole. Photos at the end of this report (Appendix D) document the condition of the tank. The tank had been tested for leaks on 19 December 1986 and certified as sound, within the limitations of the testing method used.

VII. Description of Subsurface Conditions in the Tank Pit

During the excavation process, fuel contamination of the soil to a depth of approximately 18 inches was evident in the area of the pump and at the low end of the cement pad. The odor of fuel was strong as the excavation proceeded and soil was removed from the top of the tank and along its sides. A distinctive contact could be observed between the backfilled foundry sand and the native, undisturbed silty-clay soil. The stratigraphy of the hole, from the surface to the level of the tank's bottom can be generalized as follows: surface to 8 inches was driveway gravel, 8 inches to 14 inches was cobble-sized, vitreous foundry (?) residue, 14 inches to 3 feet was brown to green mottled silty-clay soil, 3 feet to 6 feet was gray-green silty-clay soil, and 6 feet to 9 feet was yellow brown-silty-clay soil. The mineral composition of these soils was based on visual observations only. No mineralogical analyses or permeability tests were performed. Infrequently, small sand lenses (1-3 inches) were found in the lower, yellow-brown soil. The photos in Appendix D document the condition of the pit walls.

Contamination appeared to be concentrated in the permeable foundry sand used to backfill the tank emplacement hole. Once this material was excavated and removed, visual and odor evidence of contamination was less prevalent. It is expected that the foundry sand contained most of the gasoline because of its high permeability compared to the low permeability expected for the nature soil.

Ground water could be observed slowly entering the hole at a depth of approximately 9 feet below grade. Freshly scraped surfaces at this depth would slowly wet as water flowed into the open hole. This inflow rate was slow. It took at least 12 hours for the water level in the hole to stabilize at a level of about 9 foot below grade (see photos in Appendix D). To continue the excavation and sampling, this ground water was pumped to the surface using a portable submersible pump. The water pumped from the hole

was allowed to drain on the surface of the asphalt pavement because it did not show a visual sheen or odor.

VIII. Description of Soil Samples Taken

Two composite samples of the subsurface material were taken on the day the tank was removed. Three locations were sampled (approximately 12"x 2") along each of the two long sides of the excavation (see Appendix D photographs). The material from the three locations was combined such that a composite sample was obtained for both sides. The depth of these samples was between 8 and 9 feet, or approximately the depth of the bottom of the tank. Soil was hand scrapped from the walls to remove cross contamination from the backhoe bucket. Sample #1 was from the NW side of the hole and Sample #2 was from the SE side.

Because some contamination was found in Samples #1 and #2, two more composite samples were taken below the level of the tank bottom. For these samples, the depth chosen was where ground water was seeping back into the hole. Because gasoline floats on the surface of ground water, these two samples were assumed to provide the best determination of whether significant amounts of gasoline had migrated from the tank into the native soil.

As a final determination of the extent of contamination, two more composite samples were taken from the ends of the hole at the ground water seepage level. They were taken after the hole had been excavated about two feet wider, longer, and deeper. This additional excavation was to remove locally contaminated soil and foundry sand. Sample #5 was taken from the SW end of the excavation and Sample #6 was taken from the NE end. Sample #5 included a area containing a small sand lens (1-2 inches). Sand lenses, if large and continuous, can become conduits for contamination because of their higher permeability compared to silt and clay. However, in fluvial and lacustrine depositional environments, these sand lenses are generally small, discontinuous bodies that formed from slow-flow cross bedding of sediments.

IX. Results from an Analysis of Soil Samples

Appendix C presents the results from an analysis of the six soil samples. The samples were analyzed for aromatic gasoline components (BTEX, or benzene, toluene, ethyl benzene, and xylene), total gasoline, and total petroleum hydrocarbons (TPH, mainly oil and heavy gasoline compounds). Sample #1 did not contain detectable gasoline and BTEX, but did contain a small amount of TPH. The source for the TPH is unknown. Sample #2 contained 25 ppm gasoline, along with the aromatic components, and 17 ppm TPH. These values were very low considering that the excavated foundry-sand blanket and adjacent soils contained contamination that was obvious, both visually and by odor. The soils sampled were located only about 12 inches beyond the native soil-sand blanket interface.

Sample #3 and #4 did not detect BTEX, gasoline, or TPH. These two samples were taken from below the tank level where ground water was seeping into the hole. The analytical results indicated that no measurable gasoline had migrated to the samples' locations. This was an important observation because if gasoline contamination was extensive, it should show the highest concentration at the surface of the ground water.

Sample #5 and #6 both showed detectable TPH (35 ppm and 13 ppm, respectively) whereas Sample #5 showed 10 ppm gasoline and Sample #6 did not have detectable gasoline present. Again, the source for the TPH is unknown. It may be the result of contamination from the backhoe, although considerable care was taken to prevent such contamination. These samples were obtained after additional excavation had been completed. As mentioned previously, Sample #5 included a small sand lens. It is assumed that some gasoline had migrated to this lens from the tank. However, the low concentration of gasoline in a small sand lens so close to the tank (approximately 4 feet from the tank surface) likely indicates only limited, localized contamination was present. It is not expected that product had migrated much beyond this location because of the nature of the soil.

The analytical results are consistent with the field observations. Contamination of

gasoline appeared mostly to be localized in the foundry sand blanket surrounding the tank. When detected, only minor amounts had migrated a short distance into the native soil. Given the inferred high clay and silt content of these soils, and hence low permeability, this observation is not surprising.

The fact that the tank was not corroded, and showed no indication of leaks suggests that the contamination observed was probably due to plumbing problems or sloppy surface pumping operations, or both. Employees indicated that the pump had a history of losing its prime. This may indicate that a plumbing problem existed. This type of leak would also indicate that the loss of fuel would occur only when gasoline was being pumped. Consequently, the volume of gas lost may be low, depending on the length of time the plumbing was faulty, the amount of gas pumped through the system, and the local conditions that could effect evaporation from the sand blanket.

The six samples taken from this excavation hole are not adequate to entirely rule out the possibility of significant ground water contamination. However, such widespread contamination is considered unlikely given the general field observations of limited contamination based on the samples collected.

Overfilling of the tank is another possible source for gasoline contamination in the sand blanket. While contamination seemed to exist in the sand from above the tank to below it, there was no discernible concentration of product at either end, or under the pump. The high permeability of the sand blanket would allow gas to move more freely within the original backfilled tank emplacement hole. However, overfilling cannot be ruled out based on the limited sampling at this site.

X. Description of Remedial Actions

Foundry sand and soil adjacent to the sand blanket contained a considerable concentration of gasoline based on visual observations (color and sheen) and odor. Odor was strong enough to be a discomfort to staff working downwind of the excavation. As a result of these observations, remedial actions were required.

DEQ was notified that this tank system had leaked. Mr. Richard H. Wixom, from DEQ's Northwest Region, UST group, visited the site on Wednesday 22 March. Results from the previous day's sampling were available and were discussed with him. After being briefed on the excavation conditions, local geology and hydrogeology, and results from an analysis of the previous day's samples, Mr. Wixom agreed to onsite soil aeration as the most cost effective and appropriate method for remediating the soils that had been contaminated.

After additional excavations were completed to assure that the hole was clean, soil and foundry sands piled around the excavation pit were placed, tractor bucket by tractor bucket, in a stockpile near the excavation site (see Appendix B and Appendix D). The soil and sand were placed on large sheets of six mil black polyethylene film to a depth ranging from three to four feet deep. After the material had been placed on the film (a pile approximately 50 feet wide by 80 feet long), available wooden pallets were placed over the entire stockpile. The pallets separated the aerating soil from a cover sheet of polyethylene so that air could circulate between the cover and the soil. This circulation was necessary to optimize the evaporation process. The covering polyethylene was held in place with additional pallets being placed over the cover.

A plywood safety barrier was placed around the hole by Western Foundry Company employees. The intent was to refill the excavation pit with foundry sand and to remove the aerated soil to a landfill after the aeration process was completed.

XI. Summary of Tank the Removal Investigation

As part of a gasoline UST removal and investigation, gasoline contamination of localized soils and tank-installation backfill sand was discovered at this site. The gasoline contamination appears to have been localized near the tank and the source is suspected to have been leaking plumbing from the tank to the pump or by sloppy pumping practices, or by both. Soils and foundry sands contaminated with gasoline were excavated and aerated on site. Once aerated, they will be removed to a landfill.

Two features of this site are noteworthy. First, the tank that had been removed was reported by Western Foundry employees to have been installed for 12-15 years. That length of time is usually sufficient to corrode an unprotected, mild steel tank such as this one. However, the tank showed a remarkable absence of corrosion. It is suspected that the conditions at this site contributed to that lack of corrosion. The soils appear to have a high clay content which would likely limit ground water flow rates. Further, the bottomland, moist nature of this area probably has produced organic rich soils. Coupling this environment together with a tank surrounded in iron-rich foundry sands leads to the possibility that the local ground water is low in oxygen. If ground water is low in oxygen, and hence reducing in nature, corrosion of metals would be expected to be a very slow process. This could explain the condition of the excavated tank.

The second noteworthy feature is that the tank was emplaced in low permeability, clay-rich soils surrounded by a blanket of high-permeability foundry sands. This may have formed a "bowl" that contained the gasoline. Containment in this manner assumes that only a limited volume was leaked into the subsurface. That is, the "bowl" was not overfilled. This effect could explain the localized contamination observed at this site.

Based only on a limited excavation, sampling and analyses, and investigation effort, there was no evidence observed at this site to indicate that the gasoline had been spilled or leaked in volumes large enough to significantly contaminate the ground water beneath the tank and subsequently migrate off-site. Additional sampling and investigation would be required to confirm this assumption. However, such an investigation does not seem to be warranted and is not recommended.

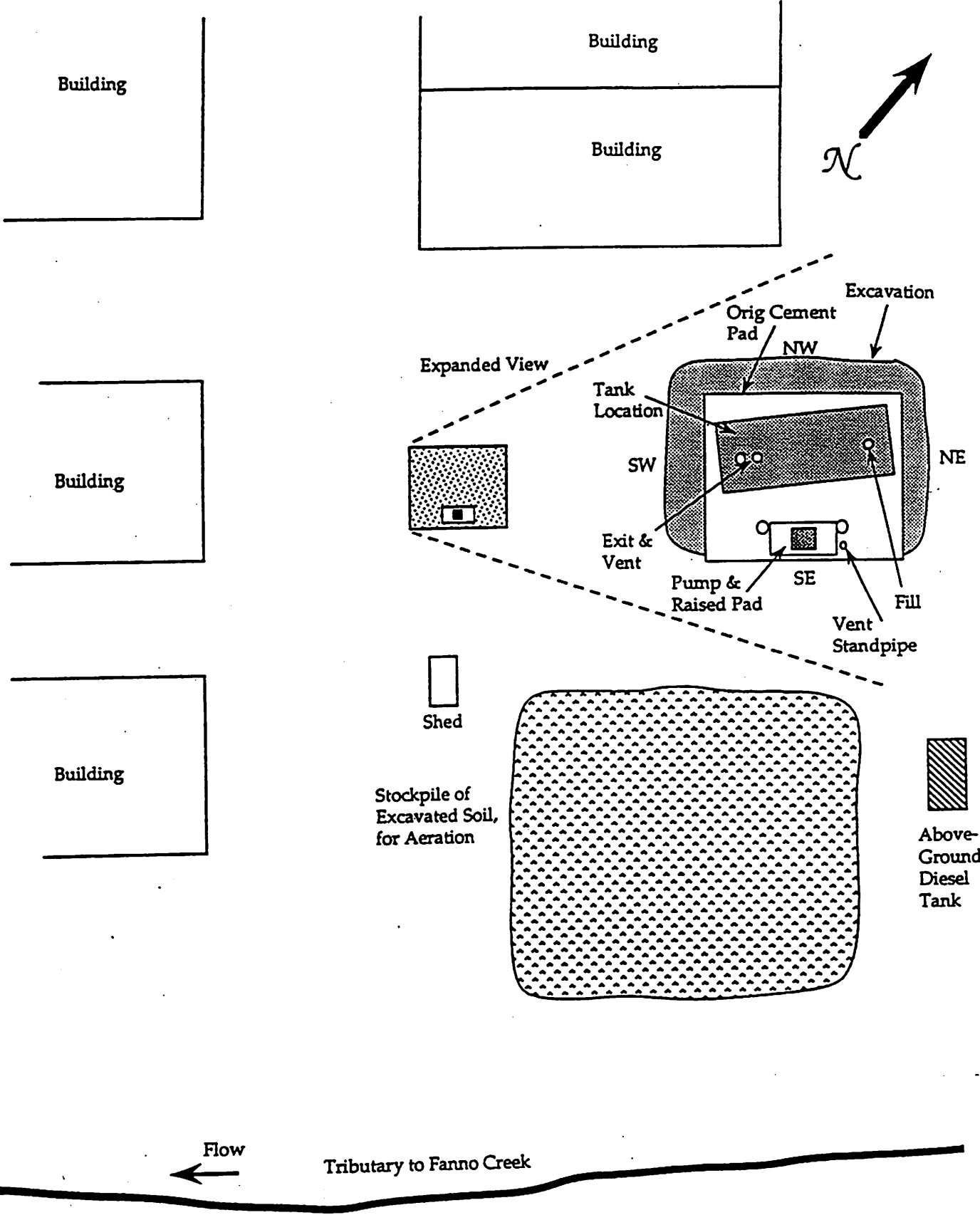
Appendix A

Portion of Beaverton, OR Topographic Map Covering Site



Appendix B

Plan-View Schematic Sketch of Site Showing a Portion of the Property



Note: Scale and Locations Approximate

Appendix C

Laboratory Analyses



PACIFIC
ANALYTICAL
LABORATORY *INC.*

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660

March 27, 1989

Beak Consultants Inc.
317 SW Alder
Portland, OR 97204-2583

Attn: David Coles

PAL REPORT NUMBER: 89-0238
P.O./JOB NUMBER: 73266.150 Western Foundry UST
DATE SUBMITTED: 3/24/89
ITEMS: Two Soil Samples

ANALYSIS

METHODS: BTEX, gas per Modified EPA 3810 (GC/MS)
TPH per EPA 418.1 (IR)

	5	6	Lab Blank	Detection Limit
Benzene	0.1	ND	ND	0.1
Toluene	1	ND	ND	0.1
Ethyl Benzene	0.4	ND	ND	0.1
Xylene	2	ND	ND	1
Gasoline	10	ND	ND	10
TPH	35	13	ND	

All values in mg/kg (ppm)

ND = Not Detected

Respectfully,

Philip Nerenberg
Philip Nerenberg
Chemist

Reviewed by: *TBA*

cc: Northwest Environmental Corp.



PACIFIC
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9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660

March 22, 1989

Beak Consultants Inc.
317 SW Alder
Portland, OR 97204-2583

Attn: David Coles

PAL REPORT NUMBER: 89-0224
P.O./JOB NUMBER: 73266.150 Western Foundry, Tigard UST
DATE SUBMITTED: 3/21/89
ITEMS: Two Soil Samples

ANALYSIS

METHODS: BTEX, gas per Modified EPA 3810 (GC/MS)
TPH per EPA 418.1 (IR)

	1	2	Lab Blank	Detection Limit
Benzene	ND	2	ND	0.1
Toluene	ND	3	ND	0.1
Ethyl Benzene	ND	0.6	ND	0.1
Xylene	ND	2	ND	0.1
Gasoline	ND	25	ND	1
TPH	17	17	ND	10

All values in mg/kg (ppm)

Sincerely,

Philip Nerenberg
Philip Nerenberg
Chemist

Reviewed by: *PHH*

cc: Northwest Environmental Corp.



PACIFIC
ANALYTICAL
LABORATORY Inc

9405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 644-0660

March 23, 1989

Beak Consultants Inc.
317 SW Alder
Portland, OR 97204-2583

Attn: David Coles

PAL REPORT NUMBER: 89-0229
P.O./JOB NUMBER: 73266.150
(NVEC/Western Foundary Tank Removal)
DATE SUBMITTED: 3/22/89
ITEMS: Two Soil Samples

ANALYSIS

METHODS: BTEX, gas per Modified EPA 3810 (GC/MS)
TPH per EPA 418.1 (IR)

	3	4	Lab Blank	Detection Limit
Benzene	ND	ND	ND	0.1
Toluene	ND	ND	ND	0.1
Ethyl Benzene	ND	ND	ND	0.1
Xylene	ND	ND	ND	0.1
Gasoline	ND	ND	ND	1
TPH	ND	ND	ND	10

All values in mg/kg (ppm)

ND = Not Detected

Respectfully,

Philip Nerenberg
Philip Nerenberg
Chemist

cc: Northwest Environmental Corp.

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* PETROLEUM RELEASE FORM *
Please Check All That Apply

-----INCIDENT INFORMATION-----

LOG NBR: 34-96-441 RECEIVED BY: AWP
UST FAC NBR: 1416 DATE REPORTED: 7/25/96
SITE NAME: Western Foundry
SITE ADDRESS: 8200 SW Hunziker
SITE CITY: Tigard ZIP: 97223
SITE COUNTY: Wash PHONE: _____
PROJECT MANAGER: _____

- REGULATED UST
- NON-REGULATED UST
- HEATING OIL TANK

FUNDING

- LUST
- OHC
- HSRAF
- FINANCIAL ASST
- INVOICE START
- INVOICE STOP
- LTR. AGR. NFA SENT
- DATE: _____

-----MAIL CONTACTS-----

REPORTED BY

NAME: Leonard Farr
COMPANY: AGRA
ADDRESS: 7477 SW Tech Center Dr.
CITY: Portland ZIP: 97223
STATE: OR PHONE: 639-3400

RESPONSIBLE PARTY

NAME: Rex Gerrig
COMPANY: Smith Gerrig Western Properties
ADDRESS: P.O. Box 930
CITY: Wilsonville ZIP: 97070
STATE: OR PHONE: 503-638-6900

INVOICE CONTACT

NAME: _____
COMPANY: SAME AS RP
ADDRESS: _____
CITY: _____ ZIP: _____
STATE: _____ PHONE: _____

OTHER CONTACT(S)

NAME: _____
COMPANY: _____
ADDRESS: _____
CITY: _____ ZIP: _____
STATE: _____ PHONE: _____

-----SITE ASSESSMENT-----

DATE DISCOVERED: 3/21/89
 EMERGENCY RESP.
 ENFORCEMENT

- FURTHER CLEANUP REQ.
- NO FURTHER CLEANUP REQ.
- OFFSITE MIGRATION

____ L.I.P.S. SCORE (Region)

CONFIRMATION:

- SJ) STAFF
- LD) LAB:DEQ
- LR) LAB:RP
- LO) LAB:OTHER
- RR) RP REPORT
- CN) CONTRACTOR
- OT) OTHER _____

DISCOVERY:

- BM) ROUTINE MONITORING
- DC) DECOMMISSIONING
- CP) COMPLAINT
- IC) INVENTORY CONTROL
- SA) SITE ASSESSMENT
- TT) TANK TEST
- OT) OTHER _____

CAUSE:

- TL) TANK LEAK
- PL) PIPE LEAK
- OF) OVERFILL
- SS) SURFACE SPILL
- PV) PUMP/VALVE LEAK
- OT) OTHER _____
- UN) UNKNOWN

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* PETROLEUM RELEASE FORM *
Please Check All That Apply

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- NON-REGULATED UST
- HEATING OIL TANK

PROJECT MANAGER: _____

- FUNDING
- LUST
 - OHC
 - HSRF
 - FINANCIAL ASST
- INVOICE START INVOICE STOP
LTR. AGR. NFA SENT
DATE: _____

-----MAIL CONTACTS-----

REPORTED BY

NAME: Leonard Farr
COMPANY: AGRA
ADDRESS: 7477 SW Techcenter Dr.
CITY: Portland ZIP: 97223
STATE: OR PHONE: 639-3400

RESPONSIBLE PARTY

NAME: Rex Gerig
COMPANY: Smith Gerig Western Properties
ADDRESS: P.O. Box 930
CITY: Wilsonville ZIP: 97070
STATE: OR PHONE: 503-638-6900

INVOICE CONTACT

NAME: _____
COMPANY: SAME AS RP
ADDRESS: _____
CITY: _____ ZIP: _____
STATE: _____ PHONE: _____

OTHER CONTACT(S)

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COMPANY: _____
ADDRESS: _____
CITY: _____ ZIP: _____
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- OF) OVERFILL
- SS) SURFACE SPILL
- PV) PUMP/VALVE LEAK
- OT) OTHER _____
- UN) UNKNOWN

This Space Provided For Regional Use

NOTES/COMMENTS:

FINAL DISPOSITION OF SOIL:

- ONSITE
- LANDFILL

- ROAD BASE
- OTHER

AMOUNT OF SOIL (yds³) DISPOSED OF: TREATED UNTREATED

AMOUNT OF SOIL (yds³) TREATED OFF SITE: _____

AMOUNT OF SOIL (yds³) TREATED ON SITE: _____

TREATMENT METHOD: AREATION

- THERMAL
- BIOLOGICAL
- OTHER

SWLA PERMIT NUMBER: _____

DATE ISSUED: _____

CLEANUP STARTED: _____

NO FURTHER ACTION: _____

RELEASE STOPPED: 3/21/89

REMEDATION COMPLETED: _____

-----SITE - SOIL MANAGEMENT-----

- UNLEADED GASOLINE (UG)
- LEADED GASOLINE (LG)
- MISC. GASOLINE (MG)
- DIESEL (DS)
- FUEL OIL (FO)
- WASTE OIL (WO)
- LUBRICANT (LB)

- SOLVENT (SV)
- BUNKER FUEL (BF)
- OTHER PET. DIST. (OP)
- CHEMICAL (CH)
- HEATING OIL (HO)
- UNKNOWN (UN)
- OTHER (OT)

- SOIL (SL)
- GROUNDWATER (GW)
- SURFACE WATER (SW)
- DRINKING WATER (DW)
- FACILITY (VAPOR) (FV)
- FACILITY (FREE PROD) (FP)

MEDIA/IMPACT:

CONTAMINANTS:

-----CONTAMINANTS - IMPACTS-----