

Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

July 3, 1989

Mr. Joe Thumma
Portfolio Collections Manager
Willamette Savings and Loan Association
100 S.W. Market Street
Portland, Oregon 97228

Re: UST-Clackamas County
Dralle International Truck

Dear Mr. Thumma:

We have completed our review of the report, submitted by Northwest Environmental Corporation, concerning the hydrocarbon contamination found at the former Dralle International Truck site, located at 595 East First Street in Gladstone, Oregon. Based on this information, we require no further action at this time.

This decision is a result of our evaluation and judgement based on the regulations and facts as we now understand them, including:

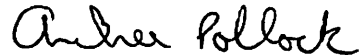
1. The gasoline underground storage tank and the two above ground waste oil tanks have been removed and properly disposed of.
2. The gasoline contaminated soil was removed from the tank excavation and allowed to aerate on site.
3. Confirmatory analyses did not indicate the presence of any gasoline constituents in the tank excavation and indicated total petroleum hydrocarbons (TPH) to be in concentrations below 56 parts per million (ppm) which is consistent with our current odor and visual contamination criteria.
4. The waste oil contaminated soil was excavated until no visible contamination or odor was apparent and transported to the Hillsboro Landfill.
5. After one month of aeration, the stock piled soil was sampled. The sample analysis did not detect any gasoline components while containing 1020 ppm TPH. This material was then used to backfill excavations that remained open.
6. Because ground water is at least 20 feet below the ground surface, based on observed conditions, and because natural degradation typically will reduce hydrocarbon concentrations in soils, the potential for remaining contaminant migration and ground water contamination appears to be minimal.

Joe Thumma
July 3, 1989
Page 2

Information concerning the tank and contaminated soil removal should be maintained with the permanent facility records. We remind you that the current investigation in no way transfers any liability to the State of Oregon. Although we agree that the current conditions at the site do not appear to pose an environmental threat, the responsibility for environmental evaluation, reporting, and cleanup rests with the landowners.

If you have any question regarding this matter, please contact me at 229-6923.

Sincerely,



Andree Pollock
IUST Specialist
Northwest Region

cc: Environmental Cleanup Division, IUST Section
Northwest Environmental Corporation
P.O. Box 8128
Portland, Oregon 97204
Attn: Mr. Terry N. Taylor
Beak Environmental Specialists
317 S.W. Alder, Suite 800
Portland, Or 97204-4583
Attn: Mr. David G. Coles



9 June 1989

Mr. Joe Thumma
Portfolio Collections Manager
Willamette Savings and Loan Association
100 SW Market Street
Portland, OR 97228

Dear Mr. Thumma:

Enclosed please find a report entitled "Report on an Underground Storage Tank Removal and Investigation: Dralle International Truck, Inc. Site, 595 East First Street, Gladstone, OR-- Volume II: Site Cleanup." This report, second of a pair, describes NWECE's effort to cleanup gasoline and oil contamination found during the removal of an underground storage tank from the property in March. The first report, submitted to you on 29 March 1989, documented the tank removal operation and the discovery of contamination problems at the site.

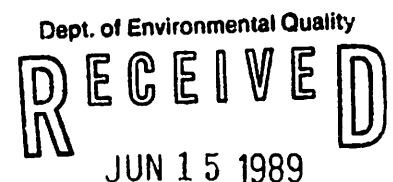
I am also forwarding a copy of both reports to Mr. Loren Garner, DEQ, (229-6142). After his review of the reports, you should contact him directly and request that DEQ prepare for you a site closure letter.

We have enjoyed working with you on this project and look forward to assisting you in the future should Willamette Savings and Loan Association encounter other environmental problems.

Sincerely yours,

Terry N. Taylor, President

cc: Loren Garner, DEQ



NORTHWEST REGION

Finally, as
promised.

Save Cos

It ?'s, can me.

RECEIVED
JUN 12 1988
Dept. of Environmental Quality

NORTHWEST REGION



While You Were Out

To 299
Date 4-27-89 Time 9:40

Joe Thumma called
of Willamette Savings
Phone 220-8712

☒ Telephoned

☐ In person

☐ Please call

☐ Wants to see you

☐ Will call again

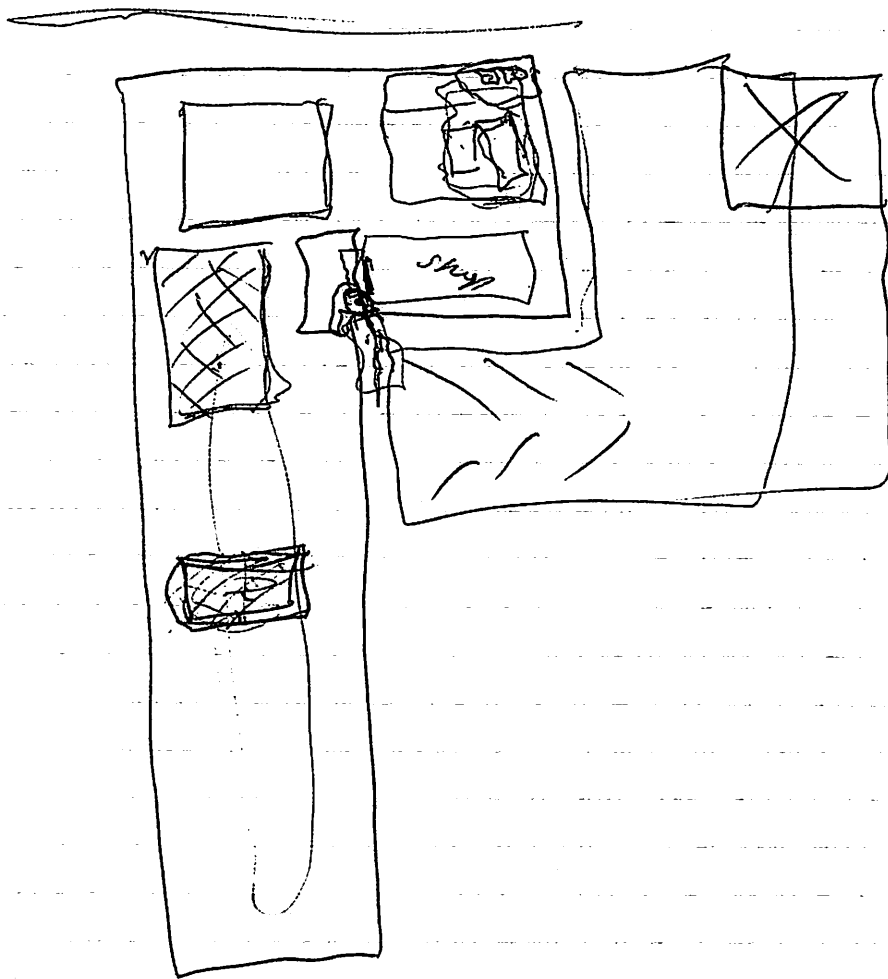
☐ Returned your call

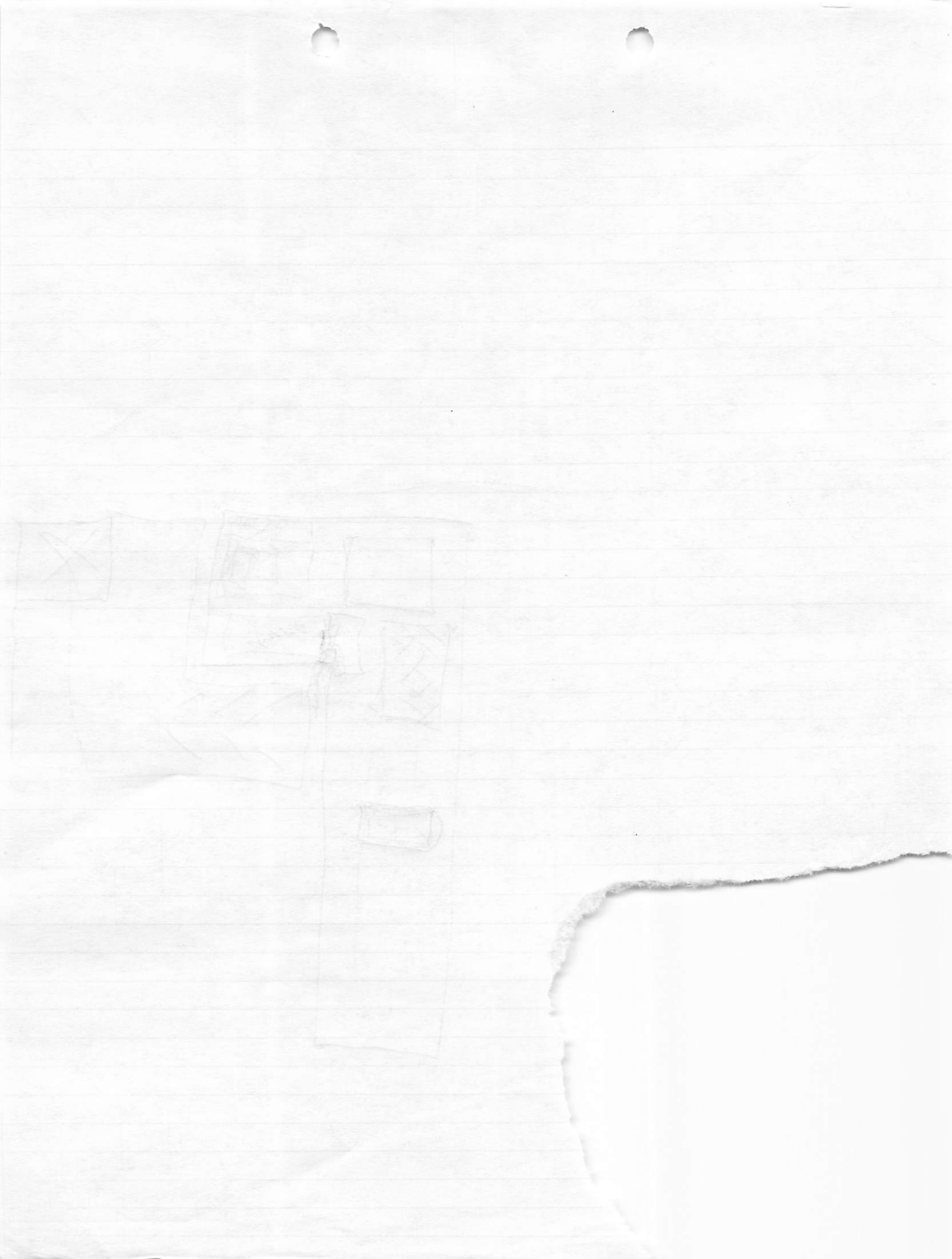
Message RE: 595 E 1st
St. Gladstone property

Approved keeping aerated
soils onsite and advised
to handle oily soils in ditch
CB

Taken by _____







* L U S T F O R M *

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

LUST Incident Nbr: _____ LUST Log Nbr: 03-89-046 UST Facility ID: _____
 Date Received: 3/30/89 Received By: L. Galarner Emergency Resp Taken: Y (N)
 Tank Location: Name: Draley International Truck Next to D7V
 Street: 595 E. 12th St
 City: Clackamas Zip: 97027
 County: Clack Phone: _____

Incident Comments: _____

----- CONTACT & MAIL TYPES -----

Reported By: Peak Consultants LUST Contact: _____ Responsible Party: Joe Thamma
 Name: David Colon Name: _____ Name: Williamette Savings
 Street: 317 SW Alder, 8th Fl. Street: _____ Street: 100 SW market + Loan
 City: Portland Zip: 97204 City: _____ Zip: _____ City: Portland Zip: 97229
 County: _____ Phone: 248-9507 County: _____ Phone: _____ County: Oregon Phone: 220-8712

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

LUST Incident Nbr: (XXXXXXXXXXXXXX)
 Date Investigated: _____ Investigated By: _____
 Release Exists: (Y) N Confirmation Method: A) Staff B) Lab: DEQ (C) Lab: RP D) Lab: Other E) RP F) Other
 Cleanup Necessary: (Y) N Regulated Tank: (Y) N Exposure Assessment: Y N
 Off-Site Migration: (Y) N ? Estimated Gallons Released: _____ Priority: _____
 Discovery Date: _____
 How Discovered: A) Routine Monitoring B) Inventory Control (C) Decommissioning D) Site Assessment
 (Circle) E) Complaint F) Tank Test G) Other
 Material Released: A) Unleaded Gasoline B) Leaded Gasoline (C) Misc. Gasoline
 (Circle) D) Diesel E) Fuel Oil (F) Waste Oil
 G) Lubricant H) Solvent I) Bunker Fuel
 J) Other Pet. Dist. K) Chemical L) Unknown
 Source of Release: A) Tank Leak (B) Pipe Leak C) Overfill D) Surface Spill
 (Circle) E) Pump/Valve Leak F) Other G) Unknown
 Impacts: Soil (Y) N % ?
 (Circle) Groundwater Y (N) % ?
 Surface Water Y (N) % ?
 Drinking Water Y (N) % ?
 Facility (Vapor) Y (N) % ?
 Facility (Free Product) Y (N) % ?

Site Assessment Comments: 5/1 gasoline soils have aerated - will be spread on site
Heavy oil soils awaiting disposal. Oils in ditch off-site have not been
 ----- SITE MANAGEMENT ----- addressed yet.

LUST Incident Nbr: (XXXXXXXXXXXXXX)

Date Released Stopped: 3/20/89

Cleanup Activity: Start Date: 3/20/89 Under Control Date: 3/20/89
 End Date: 5/9/89 Contractor Name: Northwest Environmental Corp.
 Cleanup Guideline: Matrix C.A.P. Cleanup Lead: RP SLW/TF SLW/OTF
 (Circle) (Circle)

Free Product Disposal: _____ Soil Disposal: _____
 Est. Gallons: N/A Est. Cu/Yds: ~100
 Resp. Party: _____ Resp. Party: Williamette Savings
 Disposal Location: _____ Disposal Location: Hillsboro Landfill
 Removal Date: _____ Removal Date: 5/9/89

Enforcement Action: Y (N)

Cost Recovery Initiated: Y (N)

Source of Cost Recovery: _____ Pct. R.P.: _____
 Pct. SLW/TF: _____
 Pct. SLW/OTF: _____

Estimations: Cost of Cleanup: _____ Staff Time On Project: _____

Site Management Comments: _____



03-89-046

Report on an Underground Storage Tank Removal and Investigation:

Dralle International Truck, Inc. Site
595 East First Street
Gladstone, OR

Volume II: Site Cleanup

Report prepared for:

Willamette Savings & Loan Association
100 S.W. Market Street
Portland, OR 97228

by
Northwest Environmental Corporation
Portland, OR

9 June 1989

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- III. Description of Initial Site Cleanup Efforts
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- Appendix A: Plan-View Schematic Map of Site
- Appendix B: Results from Laboratory Analyses
- Appendix C: DEQ Letter Authorizing Oil Contaminated Soil to be Disposed at Hillsboro Landfill
- Appendix D: Photographs Documenting Cleanup Operation

Dept. of Environmental Quality
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JUN 15 1989

NORTHWEST REGION

Report on an Underground Storage Tank Removal and Investigation:

Dralle International Truck, Inc. Site
595 East First Street
Gladstone, OR

Volume II: Site Cleanup

I. Introduction

Willamette Savings & Loan Association hired Northwest Environmental Corporation (NVEC) to excavate and remove an underground storage tank (UST) containing gasoline from a site in Gladstone, OR. This removal was done on 20 March 1989 and included an investigation of the site soils for possible gasoline contamination from the UST system and for used-oil contamination of the soils in the vicinity of the UST. Both oil and gasoline contamination were found in localized soils on the site. A report documenting the tank removal operation and the environmental problems discovered that related to both the tank and to the oil contamination was completed. That report was submitted to Willamette Savings on 29 March 1989.

Subsequent to the UST removal operation and report preparation, Willamette Savings authorized NVEC to undertake a cleanup of the oil and gasoline contamination discovered at the site.

The purpose of this report is to document the cleanup operation. It describes the site conditions after the tank was removed, describes the cleanup operation, describes the location of soil samples taken and the results of their analyses, and summarizes the findings of the cleanup effort.

The initial tank removal report provides information on site location, geology, hydrogeology, and site conditions prior to the tank removal. That information will not be repeated in this report.

II. Description of Site Conditions After Tank Removal

See Appendix A for a plan view map of the site and Appendix D for site photographs. Appendix A shows the general features of the site. The surface of the site in the area of the UST showed visual evidence of scattered oil contamination. Southeast of the tank, near the perimeter fence, was a pile of used tires, scrap iron, discarded auto parts, seven auto batteries, and miscellaneous garbage. Two approximately 275-gallon used oil tanks were located at the eastern corner of the property. The surface surrounding these tanks showed evidence of heavy oil contamination. The depth of this contamination was unknown prior to excavation.

At the western corner of the shop building, heavy oil contamination was observed to the west and southwest of a concrete entrance pad. This oil had saturated the surface soil to a depth of at least 18 inches, based on the excavation of a small test pit. The oil also had flowed to the west, under the perimeter fence and onto the adjacent property. This contamination was interpreted as originating from the shop operation because of its location. The contaminated area most likely was used for the convenient disposal of used motor oil. It should be emphasized that this assumed source for the oil is not supported by records or previous employee interviews. It is based solely on site observations by Northwest Environmental Corporation employees.

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

The soil excavated for the tank removal was piled around the perimeter of the excavation pit. Oil contamination could be observed to a depth of up to two feet at various locations in the bank of the pit. Gasoline odors could be detected in the area where the gasoline pump had been located. The initial tank removal report describes the results from an analysis of soil samples taken from the UST-removal pit. It also presents photographs that document the condition of the site after the UST removal.

III. Description of Site Cleanup Efforts

The UST excavation created a pit with dimensions of approximately 10 feet by 19 feet by 5 feet deep. The tank was removed from the ground and placed on the surface near the shop and south perimeter fence (see Appendix A site sketch).

Soil excavated for the UST removal was transferred to the aeration stockpile shown in the Appendix A site sketch. The expectation was that after sufficient time had elapsed for the gasoline to evaporate from the soil, it could be removed to a solid waste landfill or returned to the on-site excavation. A trackhoe and a tractor with a front-end loader were used to transfer the material. It was placed over six mil polyethylene sheeting in adjoining rows to a depth of 3-4 feet (see photo in Appendix D).

Once the soils from the UST excavation were transferred to the aeration stockpile, the pit was enlarged in all directions to removed additional contaminated material. Material from the enlarged pit was transferred to the aeration pile using the front-end loader. The excavation and soil transfer was continued until it was assumed that gasoline-free soil had been reached, based only on odor and appearance.

Confirmatory soil samples were then taken and submitted to the laboratory for analysis. The stockpile was covered with used tires, then six mil polyethylene sheeting, and finally with more tires to hold down the sheeting. The tires below the sheeting allowed for air movement between the soil and sheeting to promote gasoline evaporation. The sheeting prevented rain from washing the gasoline out of the soil.

Debris (tires, used auto batteries, used auto parts, scrap iron, and garbage) from the area along the fence (southeast side) near the expanded excavation pit was removed. Two used oil tanks were emptied and removed from the site (northeast side). The soils in this area were next removed, by expansion to the pit, to a depth of approximately two feet. This material was transferred to a separate stockpile. This second stockpile was for oil-contaminated soil. Oil will not evaporate from soils and heavily contaminated soils must be disposed at a DEQ-approved solid-waste landfill.

Oil contamination near the shop building, mentioned previously, was next excavated. This required that a second pit be excavated in front of the shop building and about 15 feet west of the shop building (see Appendix A sketch) to a depth of approximately 3-4 feet. This material was transferred to the oil-contaminated soil stockpile for later off-site disposal. The area outside the property perimeter fence was excavated to a depth of about 2 feet and parallel (westerly direction) to the fence. Excavated material from outside the fence was transferred to the oil-contaminated soil stockpile. The stockpile was covered with six mil polyethylene sheeting to prevent rain from washing oil out of the soil.

An area contaminated with oil that was not excavated was under the shop building's cement floor. The oil had migrated under the floor for an unknown distance but could not be excavated without demolishing the shop floor. Oil contaminated soils were sampled and analyzed for the presence of both PCB's and industrial solvents, as a precaution, as well as for total petroleum hydrocarbons (oil).

IV. Description of Soil Samples Taken

Three samples (numbers 1, 2, & 3) of the subsurface material were taken on the day the tank was removed. Results for these samples were reported in the initial tank removal report. Five additional samples were taken after the first report was completed. Sample No. 4 was an oil-contaminated, surface soil sample taken at the rear door of the shop. Sample No. 5 was an oil-contaminated, surface soil sample taken where the used-oil tanks had been located. Both samples 4 and 5 were analyzed

for total petroleum hydrocarbons (TPH). These two samples were also analyzed for PCB's and industrial solvents as an extra precaution.

Samples No. 6, 7, and 8 were soil samples taken from the expanded pit where the gasoline tank had been removed. The purpose of these samples was to verify that soils contaminated with gasoline had been removed to the aeration stockpile. The sampling was conducted on 29 March 1989. Sample No. 6 was taken at a depth of three feet under the area where the gasoline pump had been located. Sample No. 7 was a composite sample taken from the northwest bank of the expanded pit over a depth of one to three feet. Sample No. 8 was was a composite soil sample taken from the southeast bank of the expanded pit over a depth of one to two feet.

After one month of aeration, a composite soil sample was obtained over the entire soil aeration stockpile on 28 April 1989. The purpose of this sample was to determine if the gasoline had been evaporated from the soil. Using a one inch soil auger, soil cores were obtained to auger refusal on an approximately five foot grid. The cores were composited and a representative sample was taken for analysis. By compositing the cores, the average gasoline content in the soils could be determined. Auger refusal frequently occurred at depths of one to two feet due to the presence of river cobbles in the soil.

V. Results from an Analysis of Soil Samples

Appendix B presents the results from an analysis of the six soil samples. Samples No. 4 and 5 were analyzed for TPH, PCB's, and chlorinated solvents. Samples No. 6, 7, & 8, and the final post aeration composite sample, were analyzed for aromatic gasoline components (benzene, toluene, ethyl benzene, and xylene), total gasoline, and total petroleum hydrocarbons (mainly oil and heavy gasoline compounds).

Samples No. 4 and 5 contained 23,000 and 53,000 ppm TPH. No PCB's or chlorinated solvents were detected. The results confirmed that the two areas appearing to be contaminated with oil were contaminated. Further, the results

showed that because PCB's and chlorinated solvents were not detectable in the samples, the material could be disposed in a solid waste landfill rather than a hazardous waste disposal facility. Solid waste landfill disposal fees are much lower than for hazardous waste disposal facilities.

Samples No. 6, 7, and 8 did not contain detectable gasoline components or gasoline. They contained 56, 32, and 28 ppm TPH's, respectively. These results indicated that the gasoline-contaminated soils successfully had been removed to the aeration stockpile. The concentration of TPH (oil) in these three samples was relatively low.

The composite sample from the soil aeration pile taken after a month of aeration showed no detectable gasoline components or gasoline and 1020 ppm TPH (see Appendix B, second analytical report).

VI. Description of Final Site Cleanup Effort

Soils contaminated with high levels of oil required disposal at a solid waste landfill. Once it was demonstrated that the samples were free of PCB's and solvents, DEQ agreed to disposal of the material at the Hillsboro landfill. See Appendix C for a letter from DEQ authorizing disposal at Hillsboro. The oil-contaminated soil stockpile was hauled to Hillsboro on 9 May 1989.

Discussions were held with DEQ staff (Loren Garner) concerning backfilling the expanded tank removal pit with the soils from the aeration stockpile. Because an analysis of this material did not detect gasoline or gasoline components and detected only moderate levels of TPH (oil), because the material was sandy and gravelly (high permeability), and because it was located well above the water table (assumed to be 15-20 feet below the surface), DEQ agreed that the material could be used on site for backfilling the excavation pit.

The aeration soils were backfilled into the expanded soil excavation pit on 9-10

May 1989. Material was also placed into the pit located in front of the shop for safety and to maintain the stability of the foundation and floor of the building. The tank was removed from the site, scrapped, and the cleanup project was completed.

VII. Summary of the Cleanup Effort

As part of a gasoline UST removal and investigation, gasoline and oil contamination of soils was discovered at this site. Gasoline contaminated soils were excavated and aerated on site. After one month of aeration, an analysis of the material indicated the gasoline content was below analytical detection limits. With concurrence from DEQ, the soils were backfilled into the excavation hole.

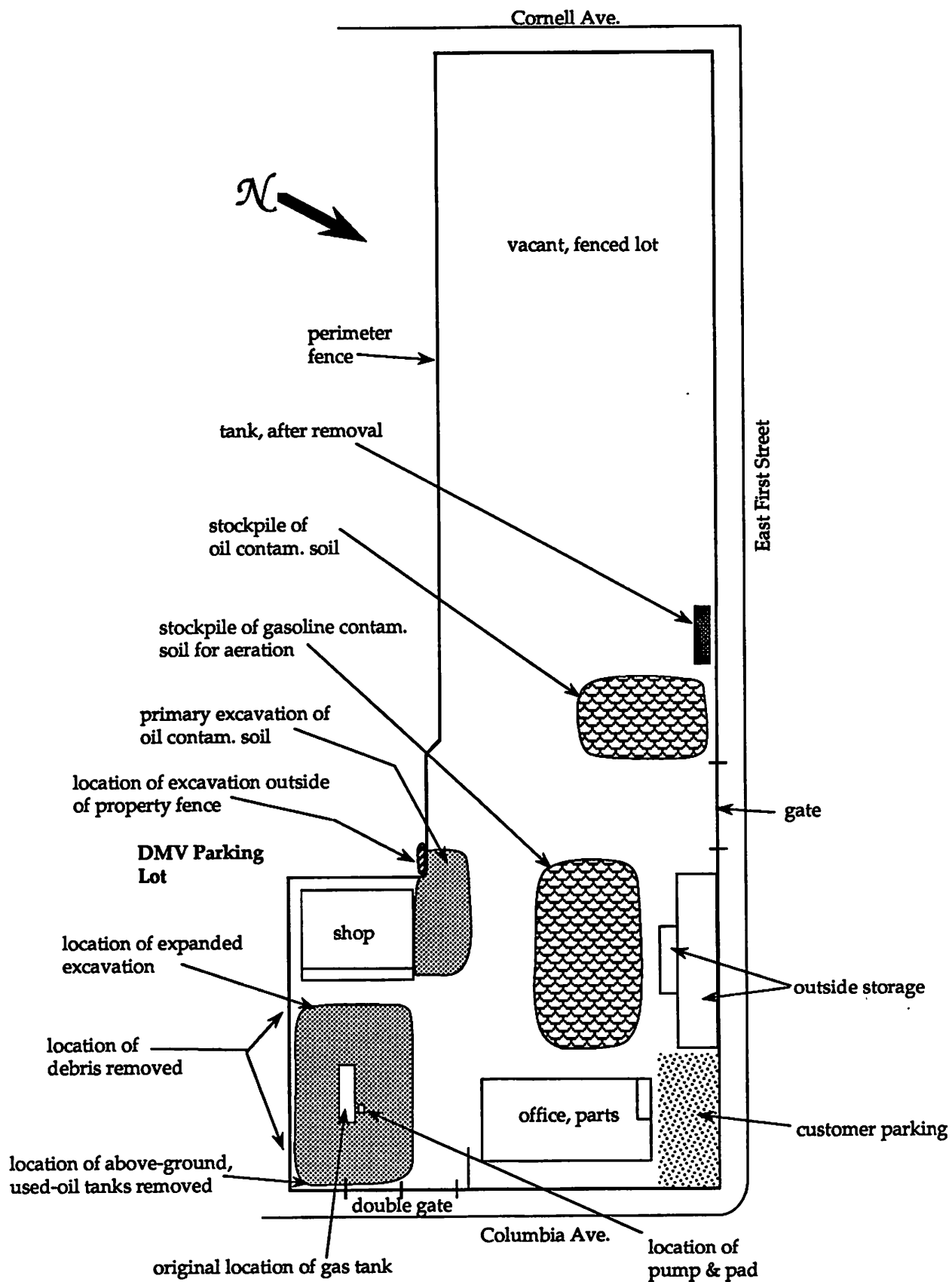
Soils contaminated with oil were excavated and stockpiled on site. After analyses indicated that the material was not contaminated with PCB's or chlorinated solvents, and with DEQ approval, the material was hauled to the Hillsboro landfill.

Other debris (tires, used auto batteries, used auto parts, scrap iron, and garbage) found along the SE and NE fence were removed from the site. The UST was removed from the site. The cleanup operation was then considered completed.

Appendix A

Plan-View Schematic Map of Site

Plan View Sketch of Dralle International Truck, Inc. Property, Gladstone, OR



Note: Size and location of features approximate.

Appendix B

Results from Laboratory Analyses



PACIFIC
ANALYTICAL
LABORATORY Inc.

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

March 30, 1989

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

Attn: David Coles

PAL REPORT NUMBER: 89-0253
P.O./JOB NUMBER: 73266.140
DATE SUBMITTED: 3/29/89
ITEMS: Five Soil Samples

ANALYSIS

METHODS: BTEX, gas per Modified EPA 3810 (GC/MS)
Chlorinated Solvents per Modified EPA 3810 (GC/MS)
TPH per EPA 418.1 (IR)
PCB's per EPA 8080 (GC/ECD)

	4	5	6	7
Benzene	--	--	ND	ND
Toluene	--	--	ND	ND
Ethyl Benzene	--	--	ND	ND
Xylene	--	--	ND	ND
Gasoline	--	--	ND	ND
TPH	23,000	53,000	56	32
Chlorinated Solvents	ND	ND	--	--
PCB's	ND	ND	--	--

	8	Lab Blank	Detection Limit
Benzene	ND	ND	0.1
Toluene	ND	ND	0.1
Ethyl Benzene	ND	ND	0.1
Xylene	ND	ND	0.1
Gasoline	ND	ND	1
TPH	28	ND	10
Chlorinated Solvents	--	ND	*
PCB's	--	ND	0.1

*See next page

All values in mg/kg (ppm)

ND = Not Detected



PACIFIC
ANALYTICAL
LABORATORY INC.

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

Page 2
Beak Consultants Inc.
March 30, 1989

PAL REPORT NUMBER: 89-0253
P.O./JOB NUMBER: 73266.140
DATE SUBMITTED: 3/29/89
ITEMS: Five Soil Samples

Chlorinated Solvents	Detection Limit mg/kg (ppm)
Bromodichloromethane	0.1
Bromoform	0.1
Carbon tetrachloride	0.1
Chlorobenzene	0.1
2-Chloroethylvinyl ether	0.2
Chloroform	0.1
Dibromochloromethane	0.1
1,2-Dichlorobenzene	0.1
1,3-Dichlorobenzene	0.1
1,4-Dichlorobenzene	0.1
Dichlorodifluoromethane	0.2
1,1-Dichloroethane	0.1
1,2-Dichloroethane	0.1
1,1-Dichloroethene	0.1
trans-1,2-Dichloroethene	0.1
1,2-Dichloropropane	0.1
cis-1,3-Dichloropropene	0.1
trans-1,3-Dichloropropene	0.1
Methylene chloride	0.1
1,1,2,2-Tetrachlorethane	0.1
Tetrachloroethene	0.1
1,1,1-Trichloroethane	0.1
1,1,2-Trichloroethane	0.1
Trichloroethene	0.1
Trichlorofluoromethane	0.1

Respectfully,

Philip Nerenberg
Philip Nerenberg
Chemist

Reviewed by *SMO*

cc: Northwest Environmental Corp.



PACIFIC
ANALYTICAL
LABORATORY Inc

8405 S.W. Nimbus Ave. Beaverton, OR 97005 (503) 844-0680

May 1, 1989

Terry Taylor
N.W. Environmental
P.O. Box 8128
Portland, Oregon 97204

PAL Report Number: 89-0355
PO/Job Number: 73266.140 NVEC/DRALLE
Date Submitted: 4/28/89
Items: One Soil Sample

ANALYSIS

Method: BTEX per Modified EPA 3810 (GC/MS)
TPH per EPA 418.1
Results in mg/kg (ppm)

	<u>1B</u>	<u>Lab Blank</u>	<u>Detection Limit</u>
Benzene	ND	ND	0.1
Toluene	ND	ND	0.1
Ethyl Benzene	ND	ND	0.1
Xylene	ND	ND	0.1
Gasoline	ND	ND	1
Total Petroleum Hydrocarbons	1020	ND	5

ND = Not Detected

Philip Nerenberg
Philip Nerenberg
Chemist

Reviewed by *SM*

Appendix C

DEQ Letter Authorizing Oil Contaminated Soil to be Disposed at Hillsboro Landfill



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

May 9, 1989

Gary Clapshaw
Hillsboro Landfill
3205 SE Minter Bridge Rd.
Hillsboro, OR 97123

Re: SW - Washington County
Hillsboro Landfill
SW Permit No. 112

Dear Mr. Clapshaw:

This letter will authorize disposal of motor oil contaminated soil from property located at 5995 E. First St., Gladstone, Oregon. This property was formerly occupied by Dralley International Trucking Company. Laboratory analysis indicate no Polychlorinated Biphenyls (PCB) or chlorinated solvents in the soil. Used motor vehicle oil appears to be the main contaminant.

The lead contractor is Northwest Environmental Corporation and we are authorizing disposal of approximately 100 cubic yards of this soil at your landfill. The soil should be placed and used for final soil cap.

If you should have any questions regarding this approval, please feel free to contact me at 229-5288.

Sincerely,

Charles H. Gray

Charles H. Gray
Regional Supervisor
Northwest Region

cc: Solid Waste Section, DEQ
Beak Consultants, Attn: David Coles

Appendix D

Photographs Documenting Cleanup Operation



Expansion of the Original UST Excavation Pit to Remove Contamination



Oil-Contaminated Soil Near the Rear Shop Door Before Excavation



Aeration Stockpile for Gasoline-Contaminated Soil--Early Stages of Construction



03-89-046

Report on an Underground Storage Tank Removal and Investigation:

**Dralle International Truck, Inc. Site
595 East First Street
Gladstone, OR**

Report prepared for:

**Willamette Savings & Loan Association
Portland, OR**

**by
Northwest Environmental Corporation
Portland, OR**

29 March 1989

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NORTHWEST REGION

Report on an Underground Storage Tank Removal and Investigation:

**Dralle International Truck, Inc. Site
595 East First Street
Gladstone, OR**

Report prepared for:

**Willamette Savings & Loan Association
Portland, OR**

**by
Northwest Environmental Corporation
Portland, OR**

29 March 1989

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Report on an Underground Storage Tank Removal and Investigation:

Dralle International Truck, Inc. Site,
595 East First Street
Gladstone, OR

I. Introduction

Willamette Savings & Loan Association hired Northwest Environmental Corporation to excavate and remove an underground storage tank (UST) containing gasoline from a site in Gladstone, OR. This effort included an investigation of the site soils for possible gasoline contamination from the UST system and for used-oil contamination of the soil surface in the vicinity of the UST.

The purpose of this report is to document the tank removal operation and document environmental problems discovered that are related to the tank and surface oil contamination. This report describes the site and its surface condition, describes the excavation and tank removal operation, describes the conditions of the tank and subsurface after the excavation, describes the location of subsurface samples taken and the results of their analyses, and summarizes the findings of the site investigation.

The excavation, tank removal, and soil sampling was done on Monday, 20 March 1989. Remedial cleanup of contamination found on-site was planned to be completed at a later time. This report does not discuss those remedial cleanup activities. It only discusses the tank removal and contamination investigation phase of the project. 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 located in Gladstone, OR at 595 East First Street. This address is at the corner of East First Street and Columbia Avenue. Appendix A is a photocopy of a portion of the USGS Gladstone, OR 7.5 minute, topographic map covering the area of the site. The site is located in Section 20, Township 2S, Range 2E, W.M. The specific site location is shown with an arrow on the topographic map. Based on building signs, the site was formally occupied by a firm named Dralle International Trucks, Inc. This firm presumably sold and serviced trucks.

Appendix B is a plan view map of the southeastern extension of the "L"-shaped property. The western extension is a large graveled parking lot. The northeast corner is occupied by what was apparently the main sales, parts, and office building. A building interpreted to be the service shop (based on signs) is located in the western portion of the southern extension. The UST that was excavated and removed is located in the eastern portion of the southeastern extension just inside of the Columbia Avenue gate.

III. Site Geology

The site is located approximately 500 feet NNW of the center of the Clackamas River. Based on the USDA Soil Conservation Service's "Soil Survey of the Clackamas County Area, Oregon" publication, soils at the site are defined as Salem Silt Loam. However, upon excavation, the subsurface material, to the approximate seven-foot depth of the excavation, consisted of poorly sorted gravel with rock fragments as large as cobbles grading down in size to sand and silt. This type of fluvial deposit is formed by river cut-and-fill and flood-plain processes. The soil between the site and the river is defined as Camas gravelly sandy loam by the soil survey report, a more accurate description of the site soils. Gravels were expected at this site, given its proximity to the current channel of the Clackamas River.

The fluvial deposits encountered at the site normally have high permeability for the movement of ground water and vadose water. Because of this high permeability, and

the fact that the site is approximately 45 feet above the level of the river over a distance of only 500 feet, the potential for subsurface drainage to the river is high. These assumptions are supported by the fact the excavated tank pit was unsaturated. The static ground water level at the site is unknown, but given the observed conditions at the site, it is expected to be at least 20 feet below the surface. This assumes that the highly permeable gravel extends to that depth.

IV. Description of Site Surface Conditions

See Appendix B for a plan view map of the site and Appendix D for site photographs. The surface of the site in the area of the UST showed visual evidence of scattered oil contamination. South of the tank, near the perimeter fence, was a pile of used tires, scrap iron, discarded auto parts, seven auto batteries, and miscellaneous garbage. Two approximately 275-gallon used oil tanks were located at the southeast corner of the property. The surface surrounding these tanks showed evidence of heavy oil contamination. The depth of this contamination is unknown.

At the northwest corner of the shop building, heavy oil contamination was observed to the west of a concrete entrance pad. This oil had saturated the surface soil to a depth of at least 18 inches, based on the excavation of a small test pit. The oil also had flowed to the west, under the perimeter fence and onto the adjacent property. This contamination is interpreted as originating from the shop operation because of its location. The contaminated area was most likely used for the convenient disposal of used motor oil. It should be emphasized that this assumed source for the oil is not supported by records or previous employee interviews. It is based solely on site observations by Northwest Environmental Corporation employees.

There was no extensive survey of the rest of the subject property. No buildings were entered or investigated. Contamination mentioned in this report relates only to the UST excavation, area proximate to the used oil tanks, and soil contamination near the shop. 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 pump was disconnected and removed from its concrete pad. Appendix B provides a schematic map of the tank orientation and plumbing. A back hoe was used to excavate the soil around the tank. The top of the tank was located at approximately one foot below grade. An excavation of approximately 10 feet by 19 feet by 5 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 the vent pipe fitting and then lifting and dragging it out of the hole with the backhoe. The tank was placed on the surface near the shop and south perimeter fence.

VI. Description of the Tank Condition

The 1200-gallon, mild-steel tank was visibly corroded and had fill material cemented to it by the corrosion. Its dimensions were 12 feet long by 4 feet in diameter. It was rolled over such that the bottom could be inspected. No obvious holes were observed in the tank. When installed, the tank was set directly onto cobbles rather than a sand backfill. This arrangement could easily lead to point stresses on the tank which could, in turn, lead to leaks. While no holes were observed, the tank was susceptible to leaks caused by this improper installation. Photos at the end of this report (Appendix D) document the condition of the tank.

VII. Description of Subsurface Conditions in Tank Pit

The walls of the excavation pit showed obvious oil contamination over much of the pit's perimeter. The oil was observed to a depth of nearly three feet at some locations. Gasoline odor was strongest in the vicinity of the pump pad. Oil and gas appeared to be mixed at this location and, in some cases, the soil was apparently saturated with this combination of hydrocarbons. The photos in Appendix D document the condition of the pit walls. At a depth of over three feet, little contamination was visually observed. Except for some soils at the south end of the pit, the subsurface material consisted

mostly of the poorly sorted gravels discussed earlier, but variously contaminated with oil and gasoline.

VIII. Description of Soil Samples Taken

Three samples of the subsurface material was taken on the day the tank was removed. Two samples were taken at a depth of approximately 2.5 feet. One was taken from the south pit wall and one was taken from the north pit wall. These samples were taken midway down the wall to evaluate the visual oil contamination and to determine if the gasoline that had leaked (based on odor) originated from a higher source, such as the pump or plumbing. The hole was deepened about two feet below the bottom of the tank and the third soil sample was taken. The purpose of this sample was to determine if fuel had penetrated below the bottom of the tank.

IX. Results from an Analysis of Soil Samples

Appendix C presents the results from an analysis of the three soil samples. The samples were analyzed for aromatic gasoline components (benzene, toluene, ethyl benzene, and xylene), total gasoline, and total petroleum hydrocarbons (mainly oil and heavy gasoline compounds). The sample from the north wall of the pit, nearest to the gasoline pump pad contained 2000 ppm gasoline, as well as the aromatic components. It also contained 4000 ppm petroleum hydrocarbons. The opposite side of the pit (south side) contained 55 ppm gasoline but 6000 ppm petroleum hydrocarbons. The sample obtained from two feet under the tank bottom did not contain detectable gasoline (<1 ppm) but did contained 32 ppm petroleum hydrocarbons.

The analytical results are consistent with the field observations. Surface oil contamination and subsurface oil contamination was observed over the surface of much of the UST proximate area. Contamination of gasoline appeared to be more localized near the gasoline pump and plumbing. Oil contamination seems to have been more concentrated towards the used oil storage tanks, but that assumption cannot be verified with so few soil samples.

The fact that no gasoline was detected beneath the tank indicates that the contamination observed in the other samples is probably due to plumbing problems or sloppy surface pumping operations, or both. It should be noted that gasoline could move through the highly permeable, low clay containing gravels found under the site with little residual fuel remaining. The one sample taken beneath the tank is not adequate to rule out this possibility. However, such widespread contamination is considered unlikely given the general field observations of limited contamination based on visual and odor information.

Overfilling of the tank is a another possible source for gasoline contamination in the upper portions of the soil column. However, contamination seemed to be more localized near the pump than to the fill pipe at the opposite end of the tank (see Appendix B diagram). While unlikely, overfilling cannot be ruled out based on the limited sampling at this site.

The widespread contamination of the surface and near surface with apparently used oil in the UST area and shop area suggests that dumping oil on the surface soil was probably a normal operational procedure at this facility. This method for oil disposal was a historical practice used by many vehicle service firms for years to limit dust on unpaved parking areas and as a method for convenient oil disposal. The oil is likely limited to crankcase oil. However, additional samples should be analyzed for PCB contamination before the contaminated soil is removed to a landfill.

X. Summary of Tank Removal Investigation

As part of a gasoline UST removal and investigation, gasoline and oil contamination of soils was discovered at this site. The gasoline contamination appears to have been localized near the tank and is suspected to have been caused by leaking plumbing from the tank to the pump or by sloppy pumping practices, or by both. Based on only limited excavation, sampling, and analyses, there was no evidence to indicate that the gasoline had been spilled or leaked in volumes large enough to contaminate the soils beneath the tank and subsequently migrate off-site through the highly porous soils. Additional

sampling would be required to confirm this assumption, but such an effort does not seem warranted, based on the observations from this investigation.

Soils suspected of being contaminated with gasoline should be excavated and aerated on site. Once aerated, they could be returned to the excavation pit if shown to be free of oil, to a level determined to be acceptable.

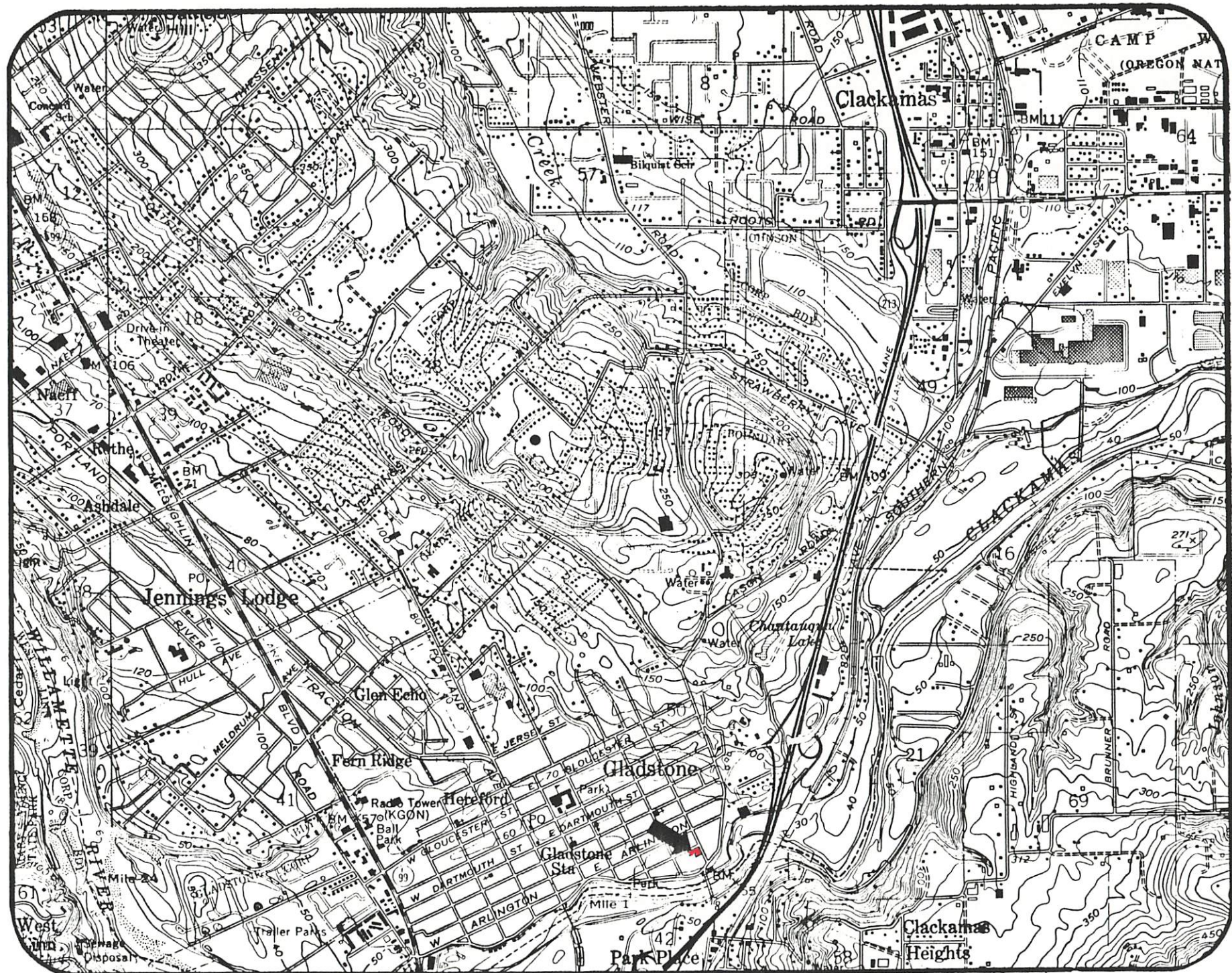
Ubiquitous surface and near surface contamination of the site proximate to the UST and shop is suspected to be caused by local surface disposal of used oil and sloppy operation of the used oil tanks. The oil-contaminated soils should be analyzed for the presence of PCB's, and then removed from the site to an appropriate disposal site. It does not appear that much of this oil has migrated below approximately three feet into the subsurface soils. The surface oil contamination near the shop seems to have been more concentrated and should be excavated to clean soil, both on-site and on the adjacent property.

Areas emanating away from the UST site that have visual oil contamination should be excavated and removed from the site to an appropriate landfill. This may require the excavation of soils to a depth of approximately three feet over much of the south extension of the property and the contaminated area near the shop. Once the excavation is considered complete, based on visual and odor criteria, additional soil samples should be taken and analyzed to verify that both the oil and gasoline have been removed from the site. When the area is determined to have been cleaned to an acceptable level, the excavations should be refilled with clean gravel or other appropriate fill material.

The pile of used tires, scrap iron, discarded auto parts, seven auto batteries, and miscellaneous garbage should be removed from the site to facilitate excavation of oil contamination in that area. There was no visual evidence that the batteries had leaked. When removed, they should be examined more carefully for leaks. If leaks are found, the soil under the batteries may have to be tested for sulfate and lead contamination

Appendix A

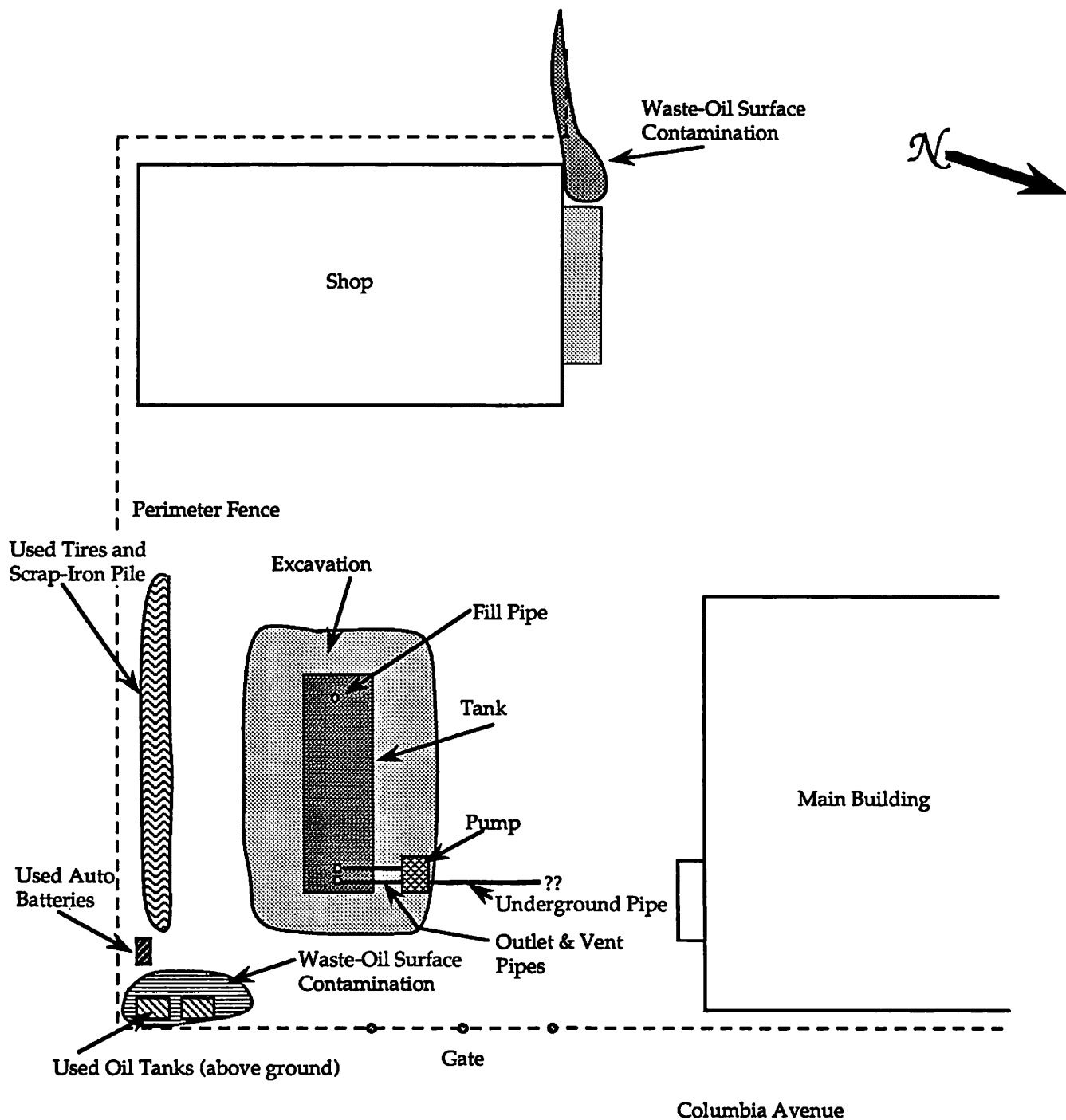
Portion of Gladstone, OR Topographic Map Covering Site



Appendix B

Plan-View Schematic Map of Site

Plan View Map of Dralle UST Removal Site, Gladstone, OR



Note: Diagram Not to Scale

Appendix C

Laboratory Analyses



PACIFIC
ANALYTICAL
LABORATORY Inc.

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: 89-0225
P.O./JOB NUMBER: 73266.140 Dralle, Gladstone UST
DATE SUBMITTED: 3/21/89
ITEMS: Three Soil Samples

ANALYSIS

	1	2	3	Lab Blank	Detection Limit
Benzene	0.9	ND	ND	ND	0.1
Toluene	110	2	ND	ND	0.1
Ethyl Benzene	65	1	ND	ND	0.1
Xylene	300	11	ND	ND	0.1
Gasoline	2000	55	ND	ND	1
TPH	4000	6000	32	ND	10

All values in mg/kg (ppm)

Sincerely,

Philip Nerenberg
Philip Nerenberg
Chemist

Reviewed by: *ABH*

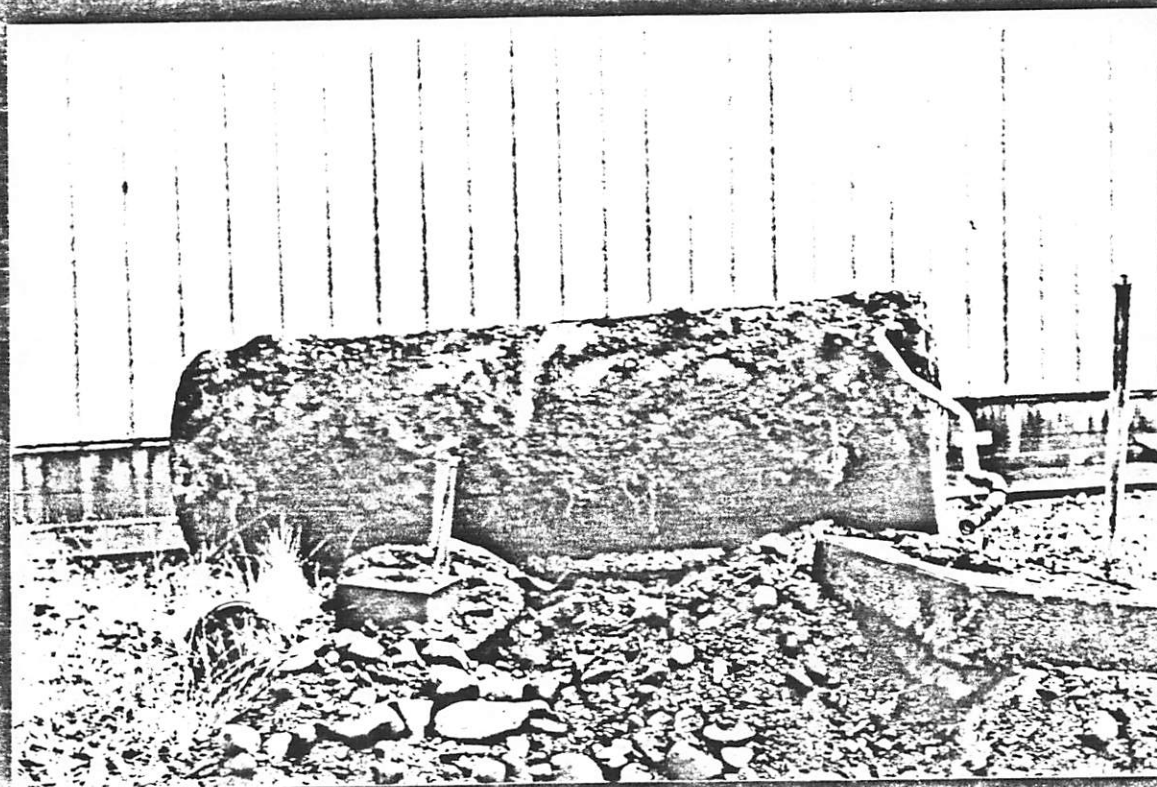
cc: Northwest Environmental Corp.

Appendix D

Photographs Documenting Tank Removal and Site Conditions



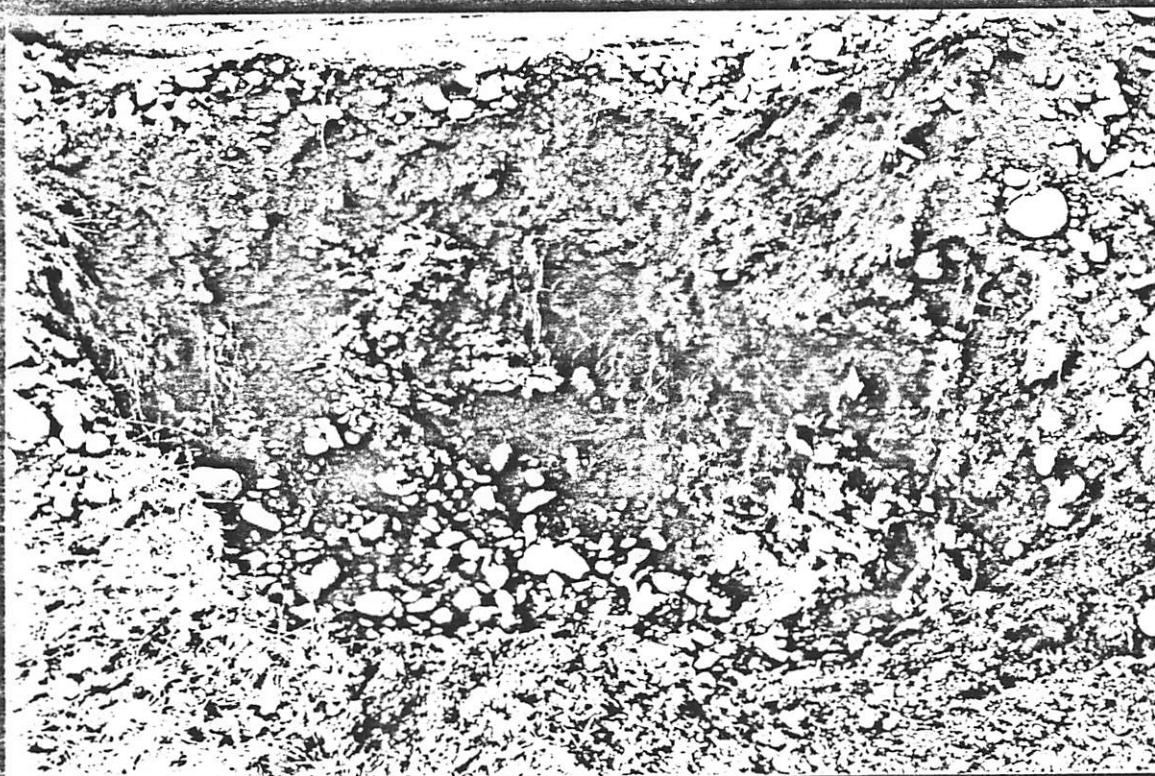
Overview of Property



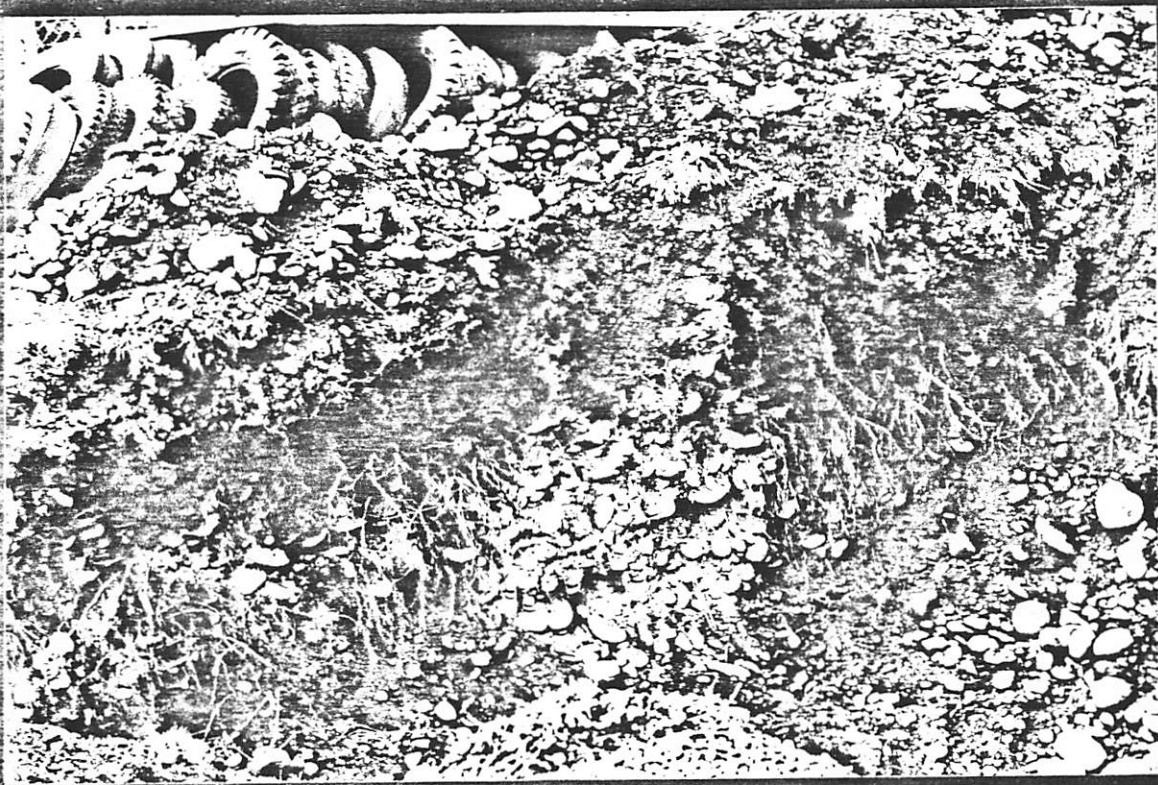
Top View of Removed Tank



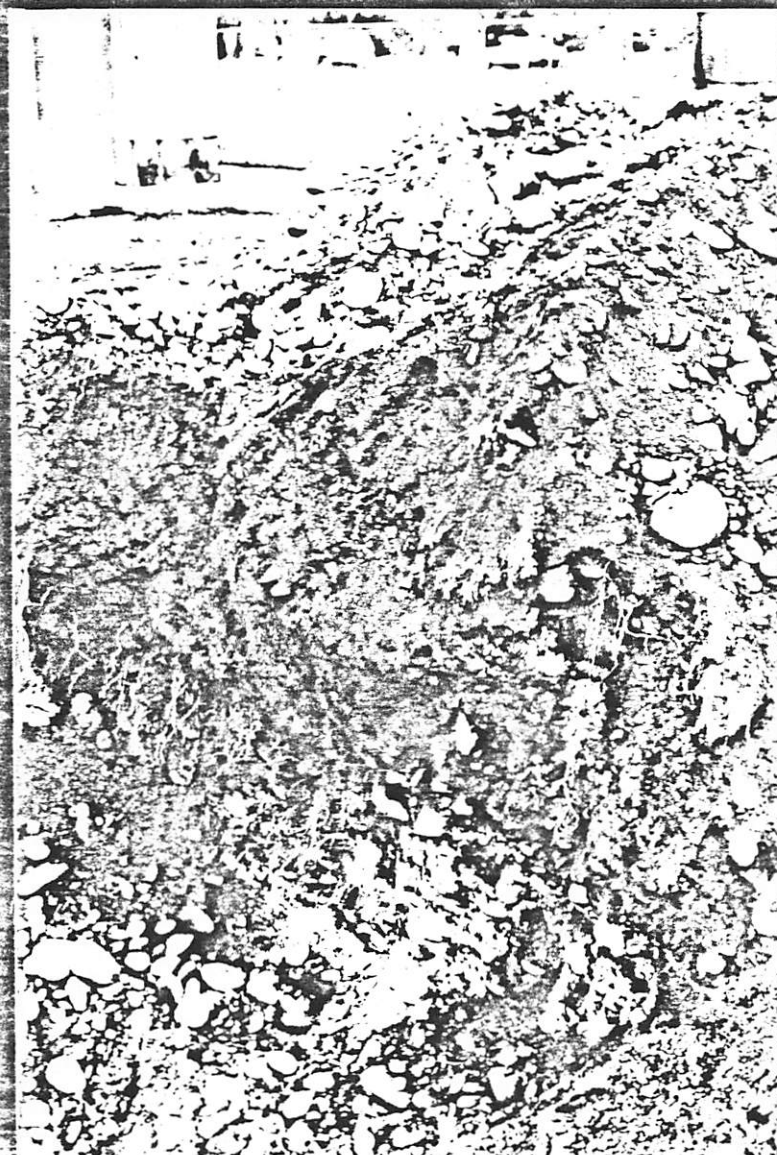
Bottom View of Removed Tank



View of Excavation Pit, Looking West



↑ View of South Wall of Pit,
Showing Oil Contamination
in Upper 2 Feet of Soil



← View of North Wall of Pit,
Showing Oil Contamination
in Upper 2 Feet of Soil

View Looking North,
Showing Soil Under
Pump Area →



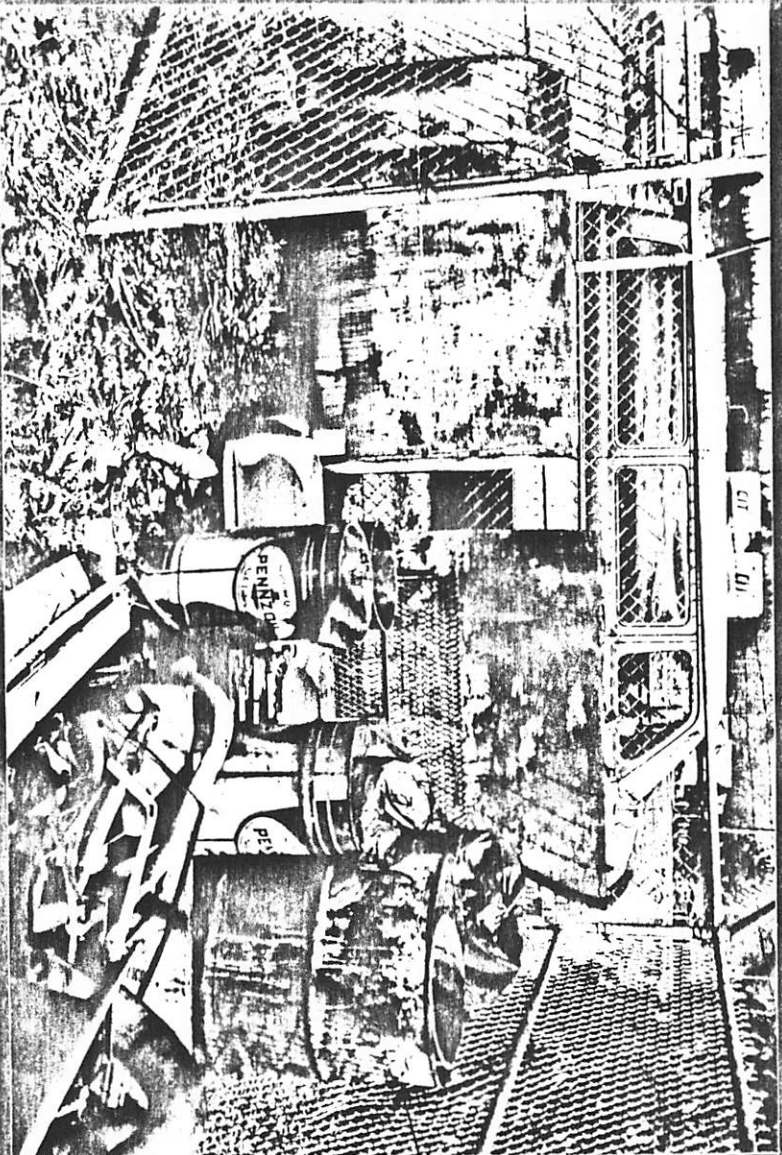
↓ View of Oil Contamination
Near Shop Door



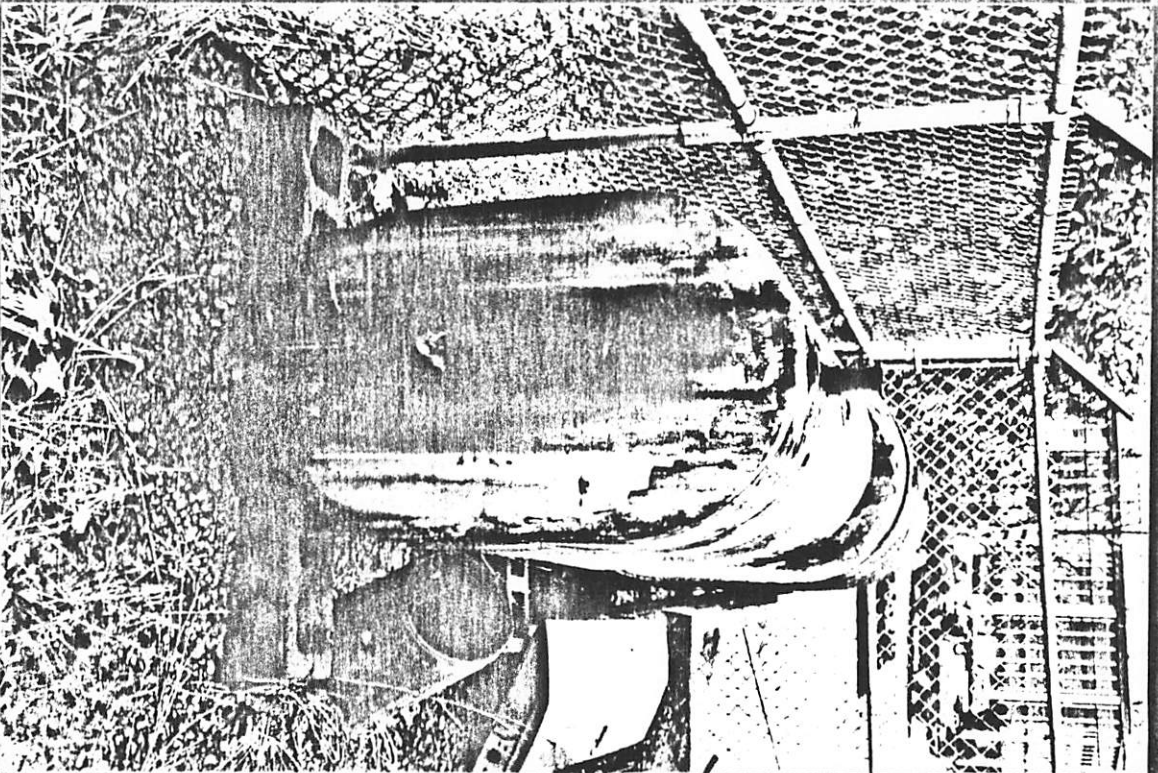
View of Oil Contamination
Flowing onto Adjacent Property,
Source Near Shop Door →



View of Small Excavation
Pit, in Oil Contamination
Near Shop Door ←



View of Used Oil Tanks
and Garbage



View of Oil Contamination
Near Used Oil Tanks



View of Used Auto Batteries



Overview of Refuse Along South Perimeter Fence