

GEOTECH CONSULTANTS, INC.

13256 N.E. 20th St. (Northup Way), Suite 16
Bellevue, WA 98005
(206) 747-5618
FAX 747-8561

Rasmussen Company, Inc.
8727 - 5th Avenue South
P.O. Box 81206
Seattle, Washington 98108

Attention: Dale Starr, General Manager

Subject: **Soils Assessment**
Underground Storage Tank Closure Report
415 South Cloverdale Street
Seattle, Washington

Dear Mr. Starr:

Geotech Consultants, Inc. has completed field observation, soil sampling, and laboratory analysis in an effort to formally complete a site assessment associated with the removal of two underground storage tanks (USTs) from the subject property. On October 14, 1993, two 5,000-gallon capacity USTs were removed from the property. One tank contained unleaded gasoline and the other held diesel. Documentation for the pump, rinse, inert, and removal activities completed in October is included in Appendix A. This report presents the soils assessment portion for the closure of the two tanks.

PREVIOUS CLOSURE ACTIVITIES

Agency Notification and Permits

The Seattle Fire Department was notified prior to the removal of the two USTs from the subject property. An Application For Permit - Temporary UST Removal/Abandonment Permit, dated October 14, 1993, is included in Appendix A. Inspector Iki Brown was in charge of the permit.

USTs Removal

On October 14, 1993, prior to removal, the USTs were conditioned in a manner consistent with guidelines offered in API Recommended Practice 1604 - Removal and Disposal of Underground Petroleum Storage Tanks. The tanks were pumped and rinsed by West Pac Environmental. A receipt for this work is provided in Appendix A. The contents and rinse

12/9/94
SR
NW

DEPARTMENT OF ECOLOGY	
NWRO/TCP TANKS UNIT	
INTERIM CLEANUP REPORT	
SITE CHARACTERIZATION	
FINAL CLEANUP REPORT	
OTHER _____	
AFFECTED MEDIA:	SOIL
OTHER _____	GW
INSPECTOR (INIT.)	DATE 11-16-94

note 300 cys of PCS was successfully over excavated - JS

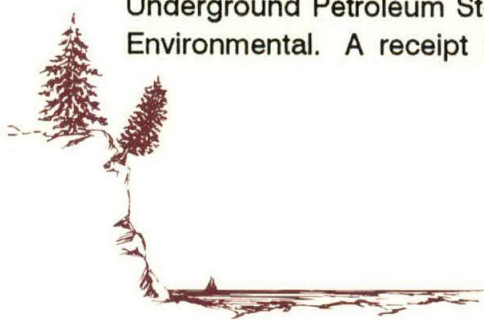
U0005184
000771
May 13, 1994

JN 94065E

RECEIVED

AUG 29 1994

DEPT. OF ECOLOGY



water were taken off the site for proper disposal. The pump and rinse certificate has been appended, as well. The tank was then inerted by adding dry ice. Its removal was authorized by Fire Inspector Brown of the Seattle Fire Department.

The tanks and piping were removed on October 14, 1993, with a rubber-tired backhoe operated by Gary Merlino. Soil assessment was not completed at the time of removal in October of 1993.

SCOPE OF WORK

The scope of work for this project included:

- Assessment of the condition of soils proximal to the locations of the former USTs, and
- Laboratory analysis of soil samples obtained from the excavation.

METHODOLOGY

Soil Sampling

The two tanks were situated side by side in one excavation located immediately north of the maintenance and storage building (see Plate 2). In accordance with WDOE guidance documents 90-52 and 91-30 (Guidance for Site Checks and Site Assessments for USTs, and Guidance for Remediation of Releases from USTs), discrete "grab" samples were obtained from the sides and bottom of the excavation.

Samples were collected using clean hand tools and placed in sterilized glass jars with teflon-sealed lids furnished by the project laboratory. Stored in an iced chest at the site, the samples were taken to the lab in this condition in an effort to preserve sample integrity by minimizing excessive dissipation of volatile fraction hydrocarbons. Each jar was clearly labeled as to sampling location, time of sampling, sampling person, and project number. EPA-recommended protocol for sample management, including maintenance of chain-of-custody documentation, was observed during the course of the project.

Laboratory Analysis

Laboratory analysis was completed by WTPH-HCID a Washington State hydrocarbon identification scan analysis for gas, diesel, and oil.

Qualitative Analysis

HCID: The Washington Total Petroleum Hydrocarbons - Hydrocarbon Identification (WTPH-HCID) test is an analysis that will identify the type of hydrocarbons, if any, that are present in the sample. Detection limits are 20 parts per million (ppm) for gasoline, 50 ppm for diesel, and 100 ppm for heavy oil. Actual quantities of identified products require additional analysis.

Where necessary, the appropriate quantitative analysis was chosen.

Quantitative Analysis

Gasoline: Gas chromatography (GC) in accordance with EPA Methods 8015 for total petroleum hydrocarbons in the gasoline range, and EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). EPA Method 8020 is essentially WTPH-Gas with BTEX. Lower detection limits for this method are on the order of 50 parts per billion (ppb) in soil, and 1 ppb in groundwater.

Diesel: Analysis will be accomplished by WTPH-Diesel, a state method resembling EPA Method 8015 modified for diesel.

Oil: Infrared spectrophotometry (IR) in accordance with EPA Method 418.1. The lower detection limit for this method is approximately 5 ppm in soil.

FINDINGS

Site Description

Located at 415 South Cloverdale Street in south Seattle, the subject property is the site of the Rasmussen Company, Inc. Rasmussen sells wire, rope, marine equipment, and rigging. The site lies in a predominantly commercial and industrial area. Cloverdale Street borders the north of the site, opposite which lies the Yanmar Diesel Sales, Service, and Parts Center. The Cloverdale Business Park is immediately west of the site, and residential houses are east of the site.

The two USTs were located immediately north of the equipment repair shop on the property. Plate 2 illustrates the layout of the tanks in relation to the building and dispensing islands. Reportedly, the tanks were covered with a concrete pad prior to their removal. The surface at the location of the tanks was silty sand and gravel backfill at the time of our site work.

Observations During Test Pit Excavation

On February 18, 1994, an environmental engineer from our firm visited the site to explore the areas proximal to the tanks by excavating two test pits. The test pits were placed as shown on Plate 2, directly at the previous location of the tanks and pump islands. The test pits encountered brown and gray silty sand and gravel with concrete fragments (backfill material) to approximately 8.5 feet in depth. Native silt and sand was encountered at 8.5 feet. Soil samples were collected from the two walls and the floor in each of the two test pits.

Laboratory analysis of the six samples by WTPH-HCID revealed that petroleum hydrocarbons were present in all of the samples. Subsequent analysis on two of the samples revealed 240 parts per million (ppm) and 580 ppm total petroleum hydrocarbons (TPH) present in the backfill soils.

Contaminated Soils Removal

On April 14, 1994, we returned to the site to observe the excavation and removal of the previously characterized contaminated soils. Approximately 300 cubic yards of contaminated soil was excavated from the previous tankhold area. The contaminated soils were exported from the site for treatment. The 9.5-foot-deep excavation measured approximately 30 feet by 30 feet and terminated in native silt and sand soils. In accordance with WDOE publication 90-52, three confirmation soil samples were collected from the three sides of the excavation, and three additional samples were collected from the floor of the excavation.

No groundwater seepage was noted to the depth of the excavation at 9.5 feet.

Laboratory Analysis

The results of the laboratory analysis of the soil characterization samples collected from the initial test pit exploration and the confirmation soil samples collected from the subsequent cleanup excavation are summarized in Table A. The laboratory reports documenting analysis have also been attached to this report as Appendix B. Analysis was completed by hydrocarbon scan initially, with quantification analysis where appropriate. The project laboratory was OnSite Environmental, Inc., located at 14924 Northeast 31st Circle in Redmond, Washington.

TABLE A - LABORATORY RESULTS

<u>Sample #</u>	<u>Location</u>	<u>Soil Analysis</u>	<u>Results</u>
Characterization Samples - 2/18/94			
94065-E1-BOT	Test Pit 1 - floor	WTPH-HCID	diesel, oil-range detected
	8.5 feet	WTPH-Diesel	250 ppm diesel
94065-E1-SEWALL	Test Pit 1 - SE wall 6 feet	WTPH-HCID	gas, diesel, oil-range detected
94065-E1-NWWALL	Test Pit 1 - NW wall 6 feet	WTPH-HCID	diesel, oil-range detected
94065-E2-BOT	Test Pit 2 - floor 8.5 feet	WTPH-HCID WTPH-Diesel	diesel, oil-range detected 580 ppm diesel
94065-E2-SEWALL	Test Pit 2 - SE wall 6 feet	WTPH-HCID	diesel, oil-range detected
94065-E2-NWWALL	Test Pit 2 - NW wall 6 feet	WTPH-HCID	diesel, oil-range detected
Confirmation Samples - 4/14/94			
101 SWBOTTOM	SW floor - 9.5 feet	WTPH-HCID	ND gas, diesel, oil
102 CTRBOTTOM	center floor - 9.5 feet	WTPH-HCID EPA 418.1	diesel, oil-range 190 ppm TPH
103 NORTHSIDE	N wall - 8 feet	WTPH-HCID	ND gas, diesel, oil
104 SOUTHSIDE	S wall - 8 feet	WTPH-HCID	ND gas, diesel, oil
105 EASTSIDE	E wall - 8 feet	WTPH-HCID	ND gas, diesel, oil
106 NEBOTTOM	NE floor - 9.5 feet	WTPH-HCID	ND gas, diesel, oil

Notes:

- (1) ppm denotes concentrations in parts per million.
- (2) ND denotes none detected.
- (3) Cleanup guidelines as published in the Model Toxics Control Act (MTCA, Chapter 173-340 WAC) are 100 ppm for gas, and 200 ppm for diesel and oil.
- (4) Detection limits for WTPH-HCID are 20 ppm for gas, 50 ppm for diesel, and 100 ppm for oil.

CONCLUSIONS

Following the removal of approximately 300 cubic yards of contaminated soil from the excavation, and based upon the results of the laboratory analysis as presented in Table A along with observations made during the field work, it appears that no residual petroleum hydrocarbon concentrations exceeding regulatory cleanup guidelines remain in the excavation for the former tanks. Having satisfied all of the requirements for lawful removal of these underground storage tanks, no further characterization of this site closure activity is needed.

LIMITATIONS

This letter has been prepared for specific application to this project in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in your request. This letter is for the exclusive use of Dale Starr of the Rasmussen Company and their representatives. No other warranty is expressed or implied. If new information is developed in future site work which may include excavations, borings, and studies, Geotech Consultants, Inc. should be allowed to re-evaluate the conclusions of this report and to provide amendments as required.

The following documents are attached and complete this report:

Plate 1	Vicinity Map
Plate 2	Site Plan
Appendix A	Tank Cleaning Documentation and Permits
Appendix B	Laboratory Results

Rasmussen Company, Inc.
May 13, 1994

JN 94065E
Page 7

If you have any questions, or if we may be of further service, please do not hesitate to contact us.

Respectfully Submitted,

GEOTECH CONSULTANTS, INC.

Sean P. O'Brien

Sean P. O'Brien
Environmental Engineer

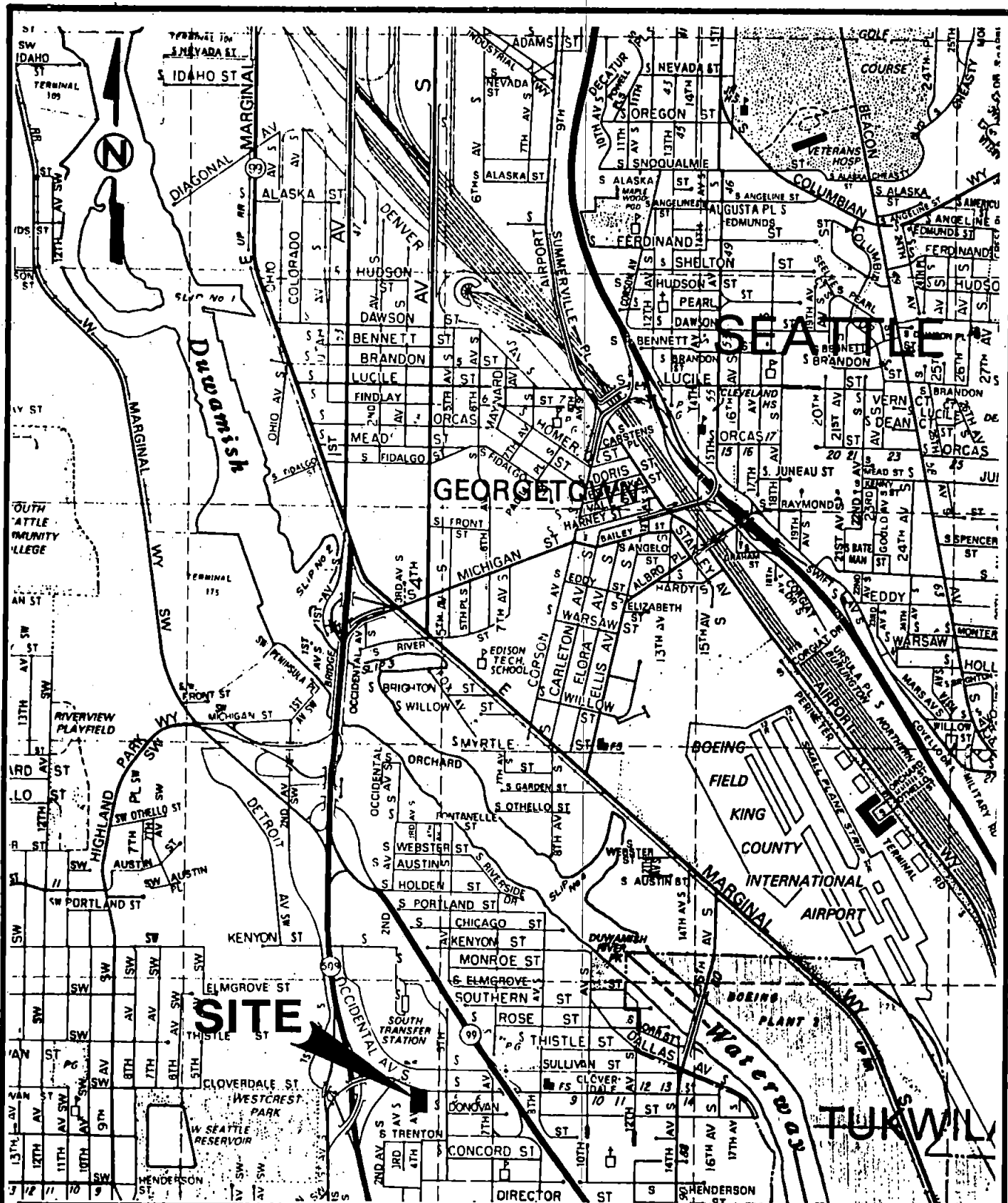
Registered UST Site Assessor
WDOE-Licensed UST Supervisor



James R. Finley, Jr., P.E.
Principal

SPO/JRF:dew

Enclosures



**GEOTECH
CONSULTANTS**

VICINITY MAP

**415 S CLOVERDALE ST.
SEATTLE, WA**

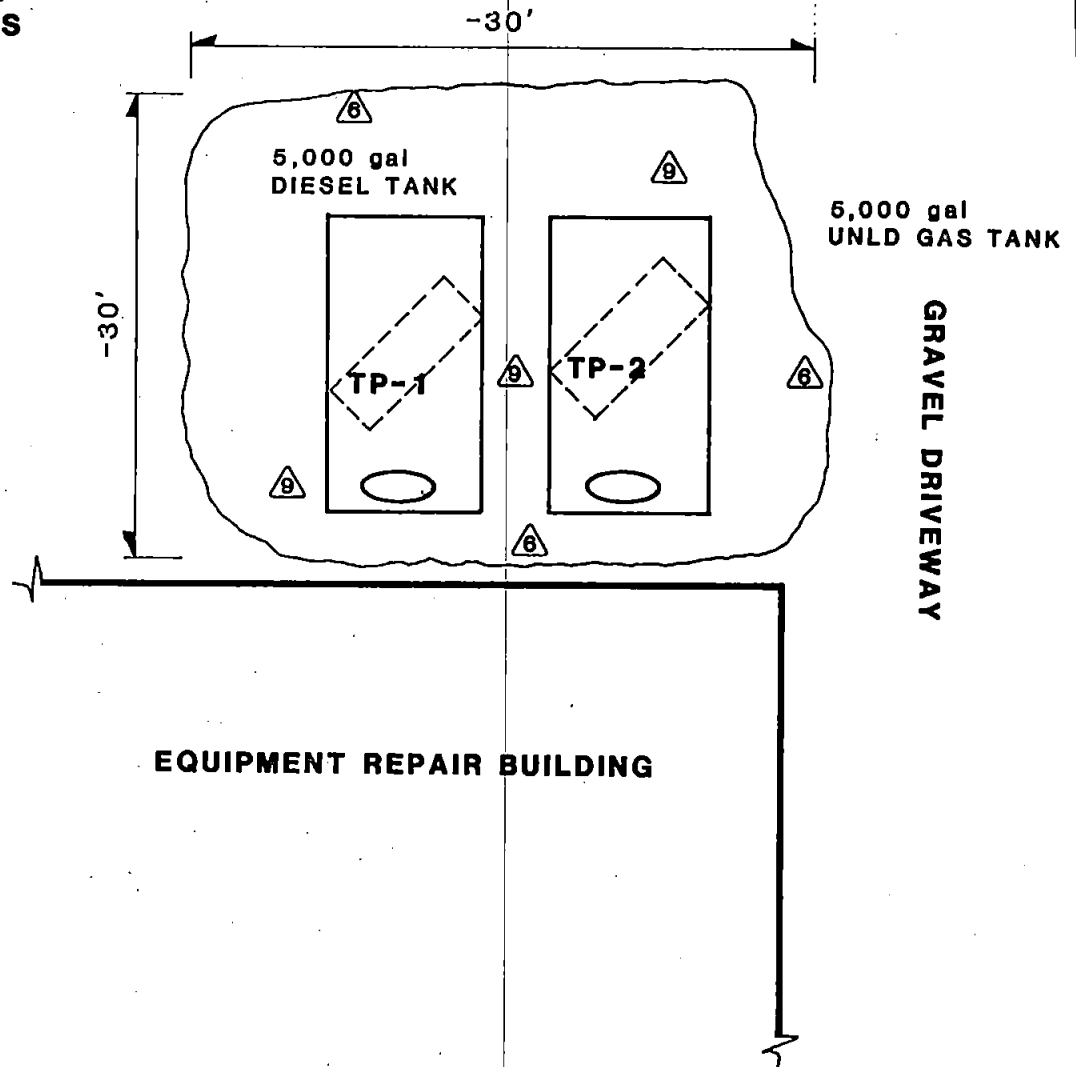
Job No.:
94065E

Date:
MAY 1994




Plate:
1



**STORAGE AREA
LARGE PULLEYS**



LEGEND:

-  SAMPLE LOCATION WITH APPROXIMATE DEPTH NOTED INSIDE
-  TEST PIT LOCATION BY GEOTECH, 2-18-94
-  PREVIOUS LOCATION OF DISTRIBUTION ISLANDS



**GEOTECH
CONSULTANTS**

**SITE EXPLORATION PLAN
415 S CLOVERDALE ST.
SEATTLE, WA**

Job No.:
94065E

Date:
MAY 1994

NTS

Plate:
2

APPENDIX A

Tank Cleaning Documentation and Permits

Your
Seattle
Fire Department

APPLICATION FOR PERMIT

PERMIT FEE: \$98.00

30 DAY 400



Permit Code No.: 799 Title: TEMPORARY UNDERGROUND TANK REMOVAL/ABANDONMENT PERMIT
Fee: \$98.00 (No Renewal) Code Reference: SFC 79.116
Check # 9383 Date Received 10/14/93 Date Issued 10/14/93
Receipt # 170032 or Data Entry # _____ Permit Expiration Date: 10/14/93
Firm Name: Resurrection Equ. Company Phone: 763-7700
Firm Address: 8727 5th Ave. S. City SLA State WA Zip 98108
Job Site: SAME
Person In Charge: IKI Brown Phone: 762-9125
Number of Tank(s): 2 Tank Size(s): 5000 gal
Product(s) Previously Contained: D. Fuel Hot Work: ☐ Yes ☒ No

REMITTANCE FOR PERMIT FEE AS SHOWN ABOVE MUST BE RETURNED WITH THIS APPLICATION TO:

SEATTLE FIRE DEPARTMENT HEADQUARTERS
HAZARDOUS MATERIAL PERMITS
301 Second Avenue South
Seattle, WA 98104-2618

Make Checks Payable To: **SEATTLE CITY TREASURER**

PERMIT CONDITIONS:

1. TANKS MAY BE REMOVED ONLY AFTER FIRE DEPARTMENT INSPECTION.
2. Two (2) 40 BC portable fire extinguishers are to be on site within 50' of the operation.
3. Rope or ribbon barricades must be provided circling 10' from the operation or be enclosed in a fenced yard.
4. "No Smoking" signs must be posted in readily visible locations.
5. No hot works allowed unless the tanks are certified gas free. A separate Fire Department permit (Code 491) is required for cutting and welding operations.

PROCEDURES:

1. Call 386-1450, 24 hours prior to removal to arrange for an appointment. Appointments must be confirmed by an Inspector.
2. Permits may cover multiple tanks located at a single inspection area. If additional tanks are to be removed or abandoned at later dates, separate permits shall be obtained.
3. Additional fees will be charged if inspectors are required to work other than normal business hours. (Normal business hours are 7:30 a.m. to 4:30 p.m.)

4. To ensure tanks are completely free of all flammable or combustible liquids, a receipt or certificate must be on site indicating the tanks has been pumped and rinsed with an approved material. Product and rinse water must be disposed of in an approved manner.
5. If tanks are being removed, the tanks' atmosphere must be inerted using one of the following approved methods:
 - a. Solid dry ice
 - b. Compressed gas cylinders releasing CO₂ in the vapor phase
 - c. Purging using airSpecific guidelines for the use of each method is provided in the Seattle Fire Department Inspection Guideline No. 79.6011.
6. Tanks being abandoned must be filled with a lean concrete mixture. Tanks previously containing Class I liquids must be inerted prior to filling with lean concrete.
7. A Fire Marshal's Office Inspector will test the tanks' atmosphere using a gas detector.

A minimum reading of 60% CO₂ must be obtained prior to tank removal if CO₂ is used to inert the tank.

A maximum reading of 10% LEL must be achieved prior to removal of the tank if the air purging method of inertion is used.
8. CO₂ fire extinguishers and discharge of liquid CO₂ from compressed gas cylinders is prohibited.
9. Tanks with baffles to prevent movement of liquid (or tanks without baffles larger than 10,000 gallons) must be certified gas free by a Marine Chemist or a Petroleum Industry Safety Engineer regularly engaged in that business prior to removal.
10. Tanks being removed must be removed from the ground and relocated to a remote, approved facility on the same day that the permit is issued.
11. After the tanks are removed, if the tank has not already been cleaned, the openings should be sealed so the CO₂ gas will remain in the tank during transit. In addition, tanks large enough to allow a person to enter it to do repair work should be marked on one side with spray paint "NO AIR - INERT GAS."

Special Permit Conditions:

OK TO REMOVE 1- ⁵ FOK GAS & 1- ⁵ FOK DIESEL

UST

PUMP & RINSE ~~BY~~ BY WEST PAC ENVIRON.

BOTH UST'S TESTED 0% O₂ BY MSA Z61 MERR

SEATTLE FIRE DEPARTMENT

Expiration Date:

10/14/93

By

SPOL/1293

Inspector



**West Pac
Environmental,
Inc.**

32-35182

PUMP AND RINSE CERTIFICATION

DATE: 10-12-93

TO WHOM IT MAY CONCERN

This letter is to certify that tank(s), size(s)

1 - ⁵⁰⁰⁰10,000 GASEOLINE TANK
1 - ⁴⁰⁰⁰10,000 Diesel TANK

have been pumped and rinsed for removal.

Work was performed at:

415 Cloverdale Street
Seattle, Wash.

For:

Rasmussen Wire Rope & Rigging
P.O. Box 81266 Seattle, WA. 98108

Please note that this letter does **not** certify that the above tank(s) have been cleaned for disposal or that it (they) should be considered gas-free.

Sincerely,

West Pac Environmental, Inc.

Underground Tank Division
762-1190



**West Pac
Environmental,
Inc.**

54 SOUTH DAWSON STREET
SEATTLE, WA 98134
(206) 763-2700 • (206) 762-1190

WORK ORDER

32-35182

Rasmussen Wire Rope & Rigging Co. # Dale
CUSTOMER / PURCHASER

P.O. Box 81206
ADDRESS

Seattle, WA 98108
ADDRESS

206, 762-3700
TELEPHONE NUMBER

CUSTOMER CONTACT PERSON

Dale Starr

Rasmussen Wire Rope & Rigging

(herein "Customer" / "Purchaser") hereby authorizes and employs

WEST PAC ENVIRONMENTAL, INC. (herein WPEI), at its current, customary rates and terms, to provide labor, material and equipment to

pump & rinse 1-gal tank in Eldred
sample for analysis, pump & rinse 1-gal
tank and dispose of product

in the vicinity of
A15 Cloverdale St Seattle, Wash.
to the satisfaction of federal, state, and local agencies.

The undersigned certifies that he is authorized to act on behalf of Purchaser, and Purchaser guarantees by his signature to compensate WPEI in full for all costs incurred in the performance of work described above, and in accordance with the following conditions:

- 1) Accounts due and payable upon presentation of invoice.
- 2) In the event suit is filed to enforce the provisions of this Work Order, or any payment due hereunder, it is agreed that the prevailing party shall be entitled to an award of court costs and reasonable attorneys' fees on any judgement and that venue shall be in the judicial district in which WPEI resides.
- 3) All past due accounts shall bear interest at the rate of 15% per month.
- 4) NO VERBAL ESTIMATES ARE VALID OR ENFORCEABLE. ONLY AN AUTHORIZED REPRESENTATIVE OF WPEI IS AUTHORIZED TO ISSUE WRITTEN ESTIMATES FOR THE COST OF A JOB. THIS WORK ORDER FORM IS VALID FOR ALL WORK UNDER \$10,000 IN VALUE.

Dated: 10-12-93

Geri Oster
WEST PAC ENVIRONMENTAL, INC.

WITNESS

Man [Signature]
CUSTOMER / PURCHASER
BY

FROM

PERSONAL GUARANTEE
OF OFFICER

White-Original

Yellow-Customer Copy

Generator U.S. EPA ID E X E M P T		Sample Number 931013.2H	
Generator Name and Facility Address RAS101 Rasmussen Wire Rope and Riggins P.O. Box 81206 8727 5th S. Seattle, WA 98108		Billing Address WES250 West Pac Environmental Inc. 54 South Dawson Seattle, WA 98134	
SIC CODE: 3496			
Technical Contact Dale Star	Title	Phone (206) 762-3700	
Business Contact	Title	Phone	

WASTE PRODUCT DESCRIPTION & CHARACTERISTICS

Waste Product Name Waste oil and water USED			
Process Generating Waste Rinsing of waste oil tank			
Physical State At 70°F. <input type="checkbox"/> Solid <input type="checkbox"/> Sludge <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Powder <input type="checkbox"/> Compressed Gas	Free Liquids at 70°F. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Volume 100 %	BP < 95°F <input type="checkbox"/> < 70°F. <input type="checkbox"/> 70°-99°F. <input type="checkbox"/> 100°-139°F.	Flash Point <input type="checkbox"/> 140°-200°F. <input checked="" type="checkbox"/> > 200°F. <input type="checkbox"/> No Flash
pH <input type="checkbox"/> < 2 <input type="checkbox"/> 10.1-12.4 <input type="checkbox"/> > 2-4 <input type="checkbox"/> ≥ 12.5 <input checked="" type="checkbox"/> 4.1-10 <input checked="" type="checkbox"/> Exact 7.0	Solids <input type="checkbox"/> By Volume Total _____ % Dissolved _____ % Suspended _____ %	Specific Gravity 1.00 Density: <input type="checkbox"/> Liquid lbs./gal. <input type="checkbox"/> Solid lbs./ft. ³	Odor <input type="checkbox"/> None <input type="checkbox"/> Strong <input type="checkbox"/> Mild Describe _____
Layers <input type="checkbox"/> Multilayered <input checked="" type="checkbox"/> Bi-Layered <input type="checkbox"/> Homogenous		Color Brown opaque	

METALS <input checked="" type="checkbox"/> Toxicity Characteristic Leaching Procedure (TCLP) Arsenic (As) ... <0.1 Barium (Ba) ... 0.1 Cadmium (Cd) ... <0.1 Chromium (Cr) ... <0.1 Copper (Cu) ... 0.3 Lead (Pb) ... 3.7 Mercury (Hg) ... <0.2 Nickel (Ni) ... 0.2 Selenium (Se) ... <0.1 Silver (Ag) ... <0.1 Zinc (Zn) ... 8.4 Nondetectable _____		WASTE PRODUCT CHEMICAL COMPOSITION (Account For 100% of Total) Other (Specify): H ₂ O 95 % Oil 5 % HCl _____ % H ₂ SO ₄ _____ % HNO ₃ _____ % NaOH _____ % Phenols _____ % Benzene _____ %	
REACTIVES AND OTHER WASTES (PPM) Amines ... NT Cyanides ... NEG Sulfides ... NEG PCB's ... <1 HexChrome ... NEG HOC ... <100			

SHIPPING & HANDLING INFORMATION Proper Shipping Name: Waste oil and water USED oil (non-hazardous) DOT Hazard Class: _____ I.D. #: _____ PG RQ ERG _____ Poison <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Inhalation Hazard <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dangerous When Wet <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No DOT Shipping Container: Drum <input checked="" type="checkbox"/> Volume _____ Bulk <input type="checkbox"/> Volume _____ Other <input type="checkbox"/> Type _____ Volume 55gal. Projected: _____ Gals/lbs per <input type="checkbox"/> mo <input type="checkbox"/> yr. Additional Labels Required: _____		HAZARDOUS PROPERTIES U.S. EPA Hazardous Codes _____ Washington State Codes _____ State Designation DW <input type="checkbox"/> EHW <input type="checkbox"/> <input type="checkbox"/> Biological Characteristics Is Waste Product: <input type="checkbox"/> Ignitable <input type="checkbox"/> Corrosive <input type="checkbox"/> Reactive <input checked="" type="checkbox"/> None of Above <input type="checkbox"/> Other <input checked="" type="checkbox"/> EXEMPT, <input type="checkbox"/> TSCA, <input type="checkbox"/> CERCLA, <input type="checkbox"/> HOUSEHOLD, <input type="checkbox"/> DEBRIS, <input type="checkbox"/> SOL <input type="checkbox"/> OSHA/WISHA CARCINOGEN <input type="checkbox"/> WASTE WATER <input checked="" type="checkbox"/> NON WASTE WATER <input type="checkbox"/> Subject to Land Disposal Restrictions (if marked fill out notification) <input type="checkbox"/> Subject to NESHAPS (benzene) Subpart FF (if yes, cannot accept) Special Handling Requirements: 32-35182 bq O.P.A.	
--	--	---	--

GENERATOR CERTIFICATION STATEMENT I hereby certify, as an authorized representative of the Generator named above, that NWES has been fully informed of all information known about this waste, including but not limited to, the waste's generation process, composition, and physical characteristics, necessary to identify proper treatment and disposal of waste. I further certify that all information in this and the attached documents is true and accurate.			
Signature [Signature]		Title [Signature]	
Date 11-1-93			
NWES INC. USE ONLY			
Technical Review Mike Clark	Chemical Nature <input checked="" type="checkbox"/> Oil	Date Reviewed 11/1/93	Regulatory Review Wendee R. Cook
Status <input checked="" type="checkbox"/> Approved/Permitted <input type="checkbox"/> Denied <input type="checkbox"/> Pending			
SOIC, SO2T, T44T			
GENERATOR			

APPENDIX B

Laboratory Results



April 27, 1994
Lab Traveler #:04-050

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on April 15, 1994 from Project 94065E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in cursive script, reading "Judith T. Colina".

Judith T. Colina
Project Chemist

Enclosures

RECEIVED APR 29 1994

Date of Report: April 27, 1994
Samples Submitted: April 15, 1994
Lab Traveler: 04-050
Project: 94065E

WTPH 418.1

Date Extracted: 4-26-94
Date Analyzed: 4-26-94

Matrix: Soil
Units: mg/Kg (ppm)

Client ID	Dilution Factor	Total Petroleum Hydrocarbons
102 Center Bottom	5	190

Date of Report: April 27, 1994
Samples Submitted: April 15, 1994
Lab Traveler: 04-050
Project: 94065E

WTPH 418.1
QUALITY ASSURANCE

Date Extracted: 4-26-94
Date Analyzed: 4-26-94

Matrix: Soil
Units: mg/Kg (ppm)

	Dilution Factor	Total Petroleum Hydrocarbons
Method Blank	5	<25
Sample: 04-069-9	5	37
Duplicate	5	45
RPD		21%

Date of Report: April 27, 1994
Samples Submitted: April 15, 1994
Lab Traveler: 04-050
Project: 94065E

Date Analyzed: 4-26-94

RESULTS OF DRY WEIGHT

Client ID

% Moisture

102 Center Bottom

16

PM



OnSite Environmental Inc.

14924 NE 31st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

WTPH-HCID
WTPH-G/BTEX
WTPH-G
WTPH-D
WTPH-418.1
DRY WEIGHT

REQUESTED
TURNAROUND?

TRAVELER #

04-050

[illegible]

Time_____ Firm_____ Time_____



February 24, 1994
Lab Traveler #:02-060

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on February 18, 1994 from Project 94065E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karl Hornyik', is written over the printed name.

KARL HORNYIK
Judith T. Colina
Project Chemist

Enclosures

Date of Report: February 24, 1994
 Samples Submitted: February 18, 1994
 Lab Traveler: 02-060
 Project: 94065E

WTPH-HCID

Date Extracted: February 18, 1994
 Date Analyzed: February 18, 1994
 Matrix: Soil

Client ID	GC Characterization	o-terphenyl Surrogate Recovery
94065-E1-BOT	Diesel range hydrocarbons Oil range hydrocarbons	107%
94065-E1-SEWALL	Gasoline range hydrocarbons Diesel range hydrocarbons Oil range hydrocarbons	111%
94065-E1-NWWALL	Diesel range hydrocarbons Oil range hydrocarbons	108%
94065-E2-BOT	Diesel range hydrocarbons Oil range hydrocarbons	111%
94065-E2-SEWALL	Diesel range hydrocarbons Oil range hydrocarbons	109%
94065-E2-NWWALL	Diesel range hydrocarbons Oil range hydrocarbons	111%

Quality Assurance

Method Blank	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	112%
--------------	---	------

Date of Report: February 24, 1994
Samples Submitted: February 18, 1994
Lab Traveler: 02-060
Project: 94065E

WTPH-D

Date Extracted: February 23, 1994
Date Analyzed: February 23, 1994

Matrix: Soil
Units: mg/Kg (ppm)

Client ID	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
94065-E1-BOT	1	250L	89%
94065-E2-BOT	1	580L	86%

L-Quantitated from C12-C30 as diesel fuel #2.

Date of Report: February 24, 1994
 Samples Submitted: February 18, 1994
 Lab Traveler: 02-060
 Project: 94065E

WTPH-D QUALITY ASSURANCE

Date Extracted: February 23, 1994
 Date Analyzed: February 23, 1994

Matrix: Soil
 Units: mg/Kg (ppm)

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	1	<25	96%
Sample: 02-066-7	1	<25	70%
Duplicate	1	<25	77%
RPD		0%	


	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Spiked @ 100 ppm			
Spike Blank	1	78.7	101%
Percent Recovery		79%	
Spike Blank Duplicate	1	84.1	108%
Percent Recovery		84%	
RPD		6.6%	

Date of Report: February 24, 1994
Samples Submitted: February 18, 1994
Lab Traveler: 02-060
Project: 94065E

Date Analyzed: February 23, 1994

RESULTS OF DRY WEIGHT

Client ID	% Moisture
94065-E1-BOT	18
94065-E2-BOT	16



**OnSite
Environmental Inc.**

14524 NE 31st CIRCLE, REDMOND, WA 98072
PHONE (206) 823-3881 FAX (206) 825-1603

1/14/23 AM

02-060

WTPH-HCID
WTPH-G/BTEX
WTPH-G
WTPH-D <i>EXTENDED</i>
WTPH-418.1
DRY WEIGHT

Submitted Sean P. O'Brien
Firm Geotech
Submitted _____

Date 2/18/94

Time 2:45 pm

Date _____



April 19, 1994
Lab Traveler #:04-050

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on April 15, 1994 from Project 94065E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert J. Wallace".

Robert J. Wallace
Laboratory Manager

Enclosures

RECEIVED APR 21 1994

Date of Report: April 19, 1994
Samples Submitted: April 15, 1994
Lab Traveler: 04-050
Project: 94065E

WTPH-HCID

Date Extracted: 4-15-94
Date Analyzed: 4-15-94

Matrix: Soil

Client ID	GC Characterization	o-terphenyl Surrogate Recovery
101 SW Bottom	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	106%
102 Center Bottom	Diesel range hydrocarbons Oil range hydrocarbons ^{D1}	129%
103 North Side	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	95%
104 South Side	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	135%
105 East Side	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	103%

D1-Predominantly heavy oil range hydrocarbons present in the sample.

Date of Report: April 19, 1994
Samples Submitted: April 15, 1994
Lab Traveler: 04-050
Project: 94065E

WTPH-HCID

Date Extracted: 4-15-94
Date Analyzed: 4-15-94

Matrix: Soil

Client ID	GC Characterization	o-terphenyl Surrogate Recovery
106 NE Bottom	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	106%

Quality Assurance

Method Blank	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	120%
--------------	---	------

COMPANY Geotech Consultants, Inc.PROJECT # 94065EPROJECT NAME RasmussenMANAGER SEANPM (Signature)**OnSite
Environmental Inc.**14924 NE 31st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1					DRY WEIGHT
-----------	-------------	--------	--------	------------	--	--	--	--	------------

REQUESTED
TURNAROUND?

TRAVELER #

04-050

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	Analysis Required										Comments
1	101 SW Bottom	4-14-94	PM	Soil	1	X										10 foot depth
2	102 Center Bottom	"	"	"	1	X										10 foot depth
3	103 North Side	"	"	"	1	X										8-9 foot depth
4	104 South Side	"	"	"	1	X										6 foot depth
5	105 East Side	"	"	"	1	X										7 foot depth
6	106 NE Bottom	"	"	"	1	X										9 foot depth

Submitted Ted ColeDate 4-15-94 Received by Bob Wells Date 4/15/94Firm Geotech Consultants, Inc.Time 1:05 Firm OSE Time 1:05 p.

Submitted _____

Date _____ Received by _____ Date _____

Firm _____

Time _____ Firm _____ Time _____