

**DBM INVESTIGATIVE ENGINEERS**  
**FORENSIC ENGINEERING AND SURVEYING**  
**GEOTECHNICAL AND SEISMIC ANALYSIS**  
**DBM CONSULTING AND CIVIL ENGINEERING**

May 7, 2004

Mr. Jeff Miller  
 Pacific Gem Properties  
 22804 90th Way South  
 Kent, WA 98031

RE: Oil Tank Removal at Sunset View Apartments; DBM Job No. 02023ie

Dear Jeff:

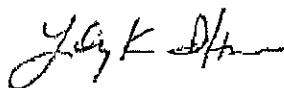
As per your request, DBM has reviewed the underground heating oil tank removal documents, obtained from the City of Renton Fire Department, for Sunset View Apartments. A permit for removal of the underground storage tank (UST) was issued by the City of Renton on or about July 11, 2002 (permit no. F020141).

Based on the soil samples taken by Glacier Environmental, indicating a diesel release and contamination, the UST was formally decommissioned by Sound Environmental Strategies (SES). Decommissioning of the tank involved removal of 460 gallons of water and diesel, which was taken to a local disposal and treatment facility. Upon removal of the tank, SES discovered a hole approximately 1/2" to 3/4", on the bottom of the UST. The hole prompted a series of soil samples to determine the extent of soil contamination. SES found less than 10 tons of contaminated soil which, under the Model Toxic Control Act Cleanup Regulations and the Ecology Minor Leak Policy, qualifies as a minor leak. Under the Ecology Minor Leak Policy, minor leaks do not have to be reported to the Department of Ecology. As a result, SES recommended no further action be performed.

For your records, we have attached the City of Renton's permit no. F020141 for the UST tank removal, and SES's report titled UST Decommissioning Project dated 08-02-02.

Should you have any questions, please feel free to contact me (253-887-0924, extension 113), or via e-mail (lily.iftner@dbmenengineers.com).

Respectfully,



Lily K. Iftner, P.E.  
 Investigative Engineer

JK:abl  
 Attachments

Permit No. F020141 (07-11-02)  
 Sound Environmental Strategies' UST Decommissioning Report (08-02-02)

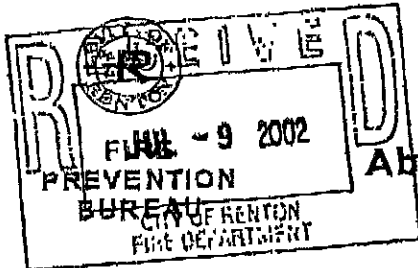
J:\Job Files\02023ie\Correspondence All\05-07-04 Letter to Jeff Miller RE: Oil Tank Removal (02023ie).doc

502 16TH STREET NORTHEAST • SUITE 312 • AUBURN, WASHINGTON • 98002  
 AUBURN (253) 887-0924 • FAX (253) 887-0925  
 WWW.DBMENGINERS.COM • DBM@DBMENGINERS.COM

**CITY OF RENTON****Permit Conditions****Permit Number: F020141****Item**

- 1: A. TANKS SHALL BE REMOVED WITHIN 30 DAYS FROM THE DATE OF APPLICATION.
- B. THE TANKS AND PROCESS PIPING SHALL BE DRAINED AND CLEANED FREE OF PRODUCT. CERTIFICATION IS REQUIRED FROM THE ORGANIZATION THAT PROVIDES SUCH SERVICES.
- C. TANKS CANNOT BE REMOVED FROM THE GROUND UNTIL FIRE DEPARTMENT INSPECTION AND MARINE CHEMIST CERTIFICATION.
- D. TANK AND PIPING SHALL BE INERTED WITH CO<sub>2</sub>.
- E. TANKS ARE TO BE REMOVED FROM THE SITE WITHIN 24 HOURS OF GROUND REMOVAL.
- 2: ROPE OR RIBBON BARRICADES MUST BE PROVIDED, CIRCLING 10 FEET FROM THE OPERATION OR ENCLOSED IN A FENCED YARD. "NO SMOKING" SIGNS MUST BE POSTED IN READILY VISABLE LOCATIONS.  
TWO (2) 20-BC PORTABLE FIRE EXTINGUISHERS ARE TO BE ON SITE WITHIN 50 FEET OF THE OPERATION.
- 3: GROUND CONTAMINATION IS TO BE REPORTED IMMEDIATELY TO THE FIRE MARSHAL'S OFFICE AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.
- 4: Results of soil sample analysis taken from the excavation shall be made available to the Renton Fire Prevention Bureau within a period of time consistent with industry standards to perform such work.
- 5: PROVIDE DOCUMENTATION THAT PROPER DISPOSAL OF TANK HAS BEEN COMPLETED.
- 6: FINAL INSPECTION  
CALL FOR A FINAL INSPECTION TO CLOSE OUT THE CONDITIONS OF THE PERMIT AT THE COMPLETION OF THE PROJECT. A MINIMUM 24 HOUR ADVANCE NOTICE PRIOR TO INSPECTION IS REQUESTED.

conditions 1/01 bh



City of Renton  
1055 South Grady Way  
Renton, WA 98055  
425-430-7000

Project# \_\_\_\_\_  
Permit # 22014  
Official Use Only

**Above Ground/Under Ground  
Tank Removal**

**ALL REQUESTED ITEMS MUST BE PROVIDED IN ORDER TO PROCESS THIS APPLICATION**

Building Permit #(s): NA Number of Tenants/Buildings: 300  
Property Address (Include Bldg.#/Suite/Column/etc.): 2101 SW SUNSET VIEW BLVD.  
Description of Work to be Performed: HEATING OIL UST REMOVAL  
Value of Construction: \$ 2,500.00 Boeing Job# (If applicable): \_\_\_\_\_

Property Owner: SUNSET VIEW APT. Phone: 425 226 5158  
Street Address: 2101 SW SUNSET VIEW City/State: RENTON, WA Zip: 98055

Contractor: SOUND ENVIRONMENTAL STRATEGIES CORPORATION Contact Person: STEVE SPENCER Phone: 253 921 7059  
Street Address: 12357 LAKE CITY WAY SUITE 102 City/State: SEATTLE, WA Zip: 98125  
State Contractor's License #: SOUNDES995DE Renton Business License# (Required) 25193  
Tenant Name (If applicable): SUNSET VIEW APTS Suite/Room # \_\_\_\_\_

**CONTRACTOR INFORMATION:**

- Materials Safety Data Sheets (MSDS) are required to be submitted at the time of application.
- Underground storage tank service provider's license# 061753-26 7/18/03
- Submit to this office a copy of the permanent tank closure/decommissioning report at the time of application.

I certify that the information on this application furnished by me is true and correct and that the applicable requirements of the City of Renton will be met. I understand that this application is valid for six months from the application date. If a permit is not issued during this time period, this application will become void. This application does not constitute a permit to work. Work is not to commence until the permit is posted on premises where work is to be performed. Certification is hereby rendered that no work is to be done except as described, and that all work shall conform to the applicable codes.

Applicant Signature: [Signature] Date: 7-8-02

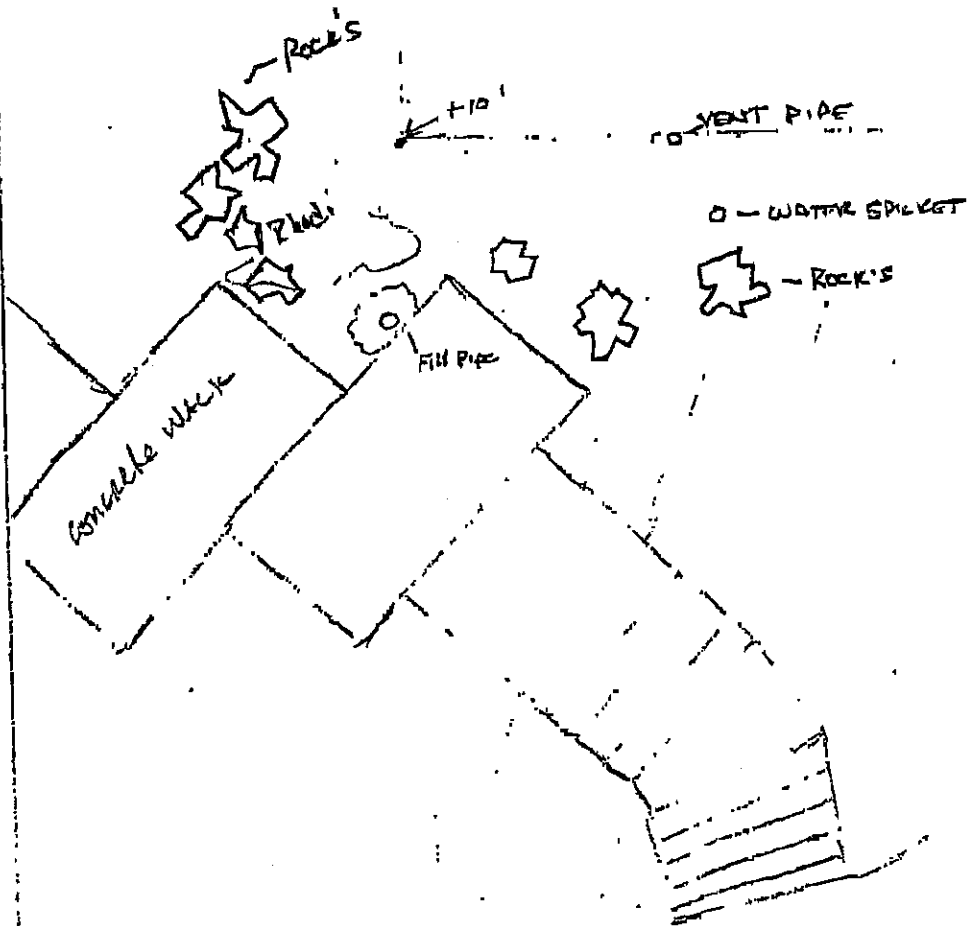
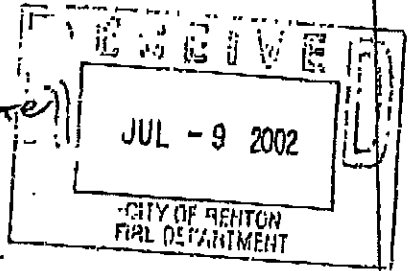
**DO NOT WRITE IN THIS BOX - OFFICIAL USE ONLY**

Plan Check Fee: \$ 50.00 Receipt#: R0203870 Date: 7-9-02  
Permit Fee: \$ 50.00 Receipt#: R0204027 Date: 7-16-02  
Plans Approved (Initial-Date): EWL 7/11/2002 Contractor Contacted: [Signature] Date/Time: 1:45  
Plans Not Approved (Initial): \_\_\_\_\_ Date: \_\_\_\_\_

No. 5505  
Engineer's Computation Pad



- Pea Gravel
- PUMP TRUCK
- EXCAVATOR RATE
- Labor RATE
- TRUCKING RATE
- Utility locate

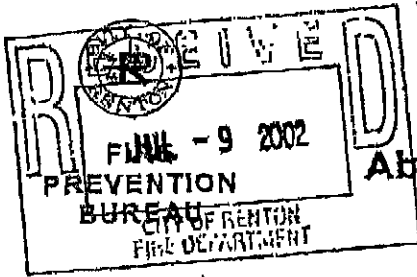




**CITY OF RENTON****Permit Conditions****Permit Number: F020141****Item**

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CALL FOR A FINAL INSPECTION TO CLOSE OUT THE CONDITIONS OF THE PERMIT AT THE COMPLETION OF THE PROJECT. A MINIMUM 24 HOUR ADVANCE NOTICE PRIOR TO INSPECTION IS REQUESTED.

conditions 1/01bh



City of Renton  
1055 South Grady Way  
Renton, WA 98055  
425-430-7000

Project# \_\_\_\_\_  
Permit # 23214  
Official Use Only

**AboveGround/UnderGround  
Tank Removal**

**ALL REQUESTED ITEMS MUST BE PROVIDED IN ORDER TO PROCESS THIS APPLICATION**

Building Permit #(s): NA Number of Tenants/Builings: 300  
 Property Address (Include Bldg.#/Suite/Column/etc.): 2101 SW SUNSET VIEW BLVD.  
 Description of Work to be Performed: HEATING OIL UST REMOVAL  
 Value of Construction: \$ 2,500.00 Boeing Job# (if applicable): \_\_\_\_\_

Property Owner: SUNSET VIEW APT. Phone: 425 226 5158  
 Street Address: 2101 SW SUNSET VIEW City/State: RENTON, WA Zip: 98055

Contractor: SOUND ENVIRONMENTAL STRATEGIES CORPORATION Contact Person: STEVE SPENCER Phone: 253 921 7059  
 Street Address: 12351 LAKE CITY WAY SUITE 102 City/State: SEATTLE, WA Zip: 98125  
 State Contractor's License #: SOUNDES995DE Renton Business License# (Required) 25143  
 Tenant Name (if applicable): SUNSET VIEW APTS Suite/Room # \_\_\_\_\_

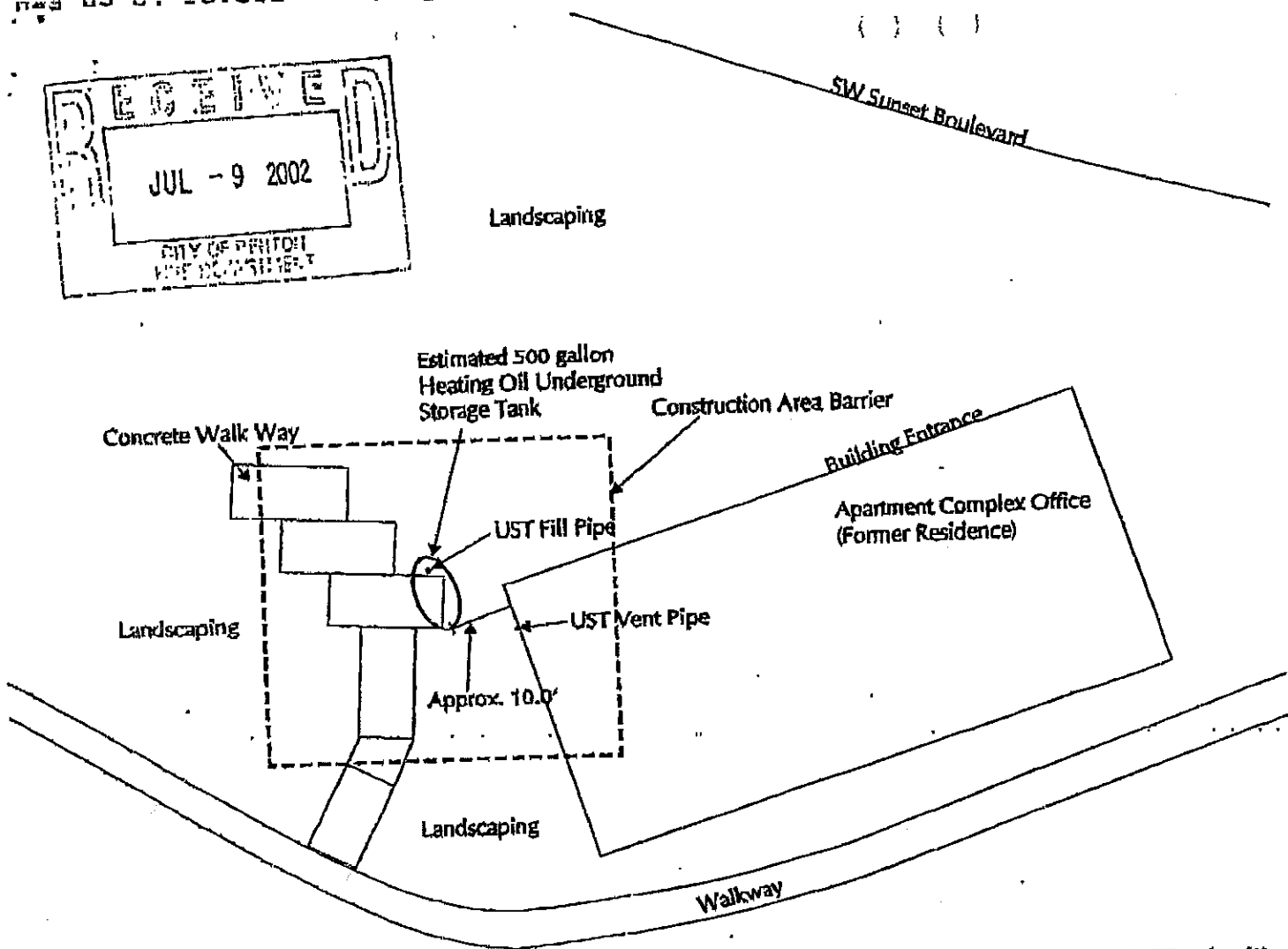
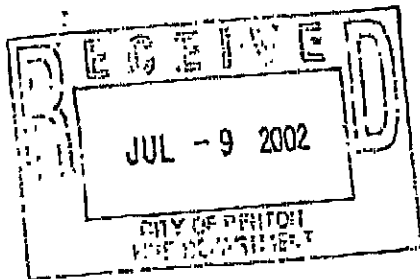
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Applicant Signature: [Signature] Date: 7-8-02

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Plan Check Fee: \$ 50.00 Receipt#: R0203870 Date: 7-8-02  
 Permit Fee: \$ 50.00 Receipt#: R0209077 Date: 7-15-02  
 Plans Approved (Initial-Date): ENC 7/11/2002 Contractor Contacted: [Signature] Date/Time: 1:45  
 Plans Not Approved (Initial): \_\_\_\_\_ Date: \_\_\_\_\_



Not To Scale



Sunset View Apartments UST Assessment  
2101 SW Sunset Blvd.  
Renton, Washington

SES Project No.: 337-1  
Date: 07-08-02  
Drawn By: SSpencer  
Chk By: BHyde  
File ID: 337-1 Location Map





UST Decommissioning Project  
Sunset View Apartments  
2101 Sunset Blvd.  
Renton, Washington

August 2, 2002

0720231C

**Prepared for:**

Pinnacle Realty Management Company  
2801 Alaskan Way, Suite 200  
Seattle, Washington 98121

**Prepared by:**

Sound Environmental Strategies, Corporation  
12351 Lake City Way, Suite 102  
Seattle, Washington 98125



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ii *Sound Environmental Strategies Corporation*

## 1.0 INTRODUCTION

### 1.1 DOCUMENT PURPOSE

Sound Environmental Strategies Corporation (SES) has prepared this underground storage tank (UST) decommissioning and assessment report conducted on behalf of Pinnacle Real Estate Management Company, property manager for property located at 2101 SW Sunset Blvd, Renton, Washington Sunset Blvd, Renton, Tacoma, Washington (Site). The unregulated Tank closure and site assessment activities are documented in this report. These activities were completed using guidance provided in the following documents published by the Washington State Department of Ecology (Ecology):

- Guidance for Site Checks and Site Assessments for Underground Storage Tanks (Ecology, February 1991);
- Guidance for Remediation of Releases from Underground Storage Tanks (Ecology, July, 1991); and,
- The Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC (Ecology, February 2001).

This report documents the 1 – 750 gallon heating oil UST decommissioning and site observations conducted by SES. This report is divided into three main sections supported by tables, figures and photographs.

### 1.2 SITE LOCATION AND DESCRIPTION

The subject property, the Sunset View Apartments located at 2101 SW Sunset Blvd., is located in a residential area of Renton, Washington northwest of the Renton downtown area. The 14.87-acre site has been and is currently used as a 200-unit apartment complex since 1970. Prior to the construction of the apartments, the building adjacent to the UST was used as a residence. The UST was originally a source of heating fuel for the residence and has not been utilized since the apartments were constructed. The building is currently used as the apartment complex leasing office and activities community center. The UST was located well within the property interior and a considerable distance from property boundaries. It was situated near the north end of the property approximately 150 feet from the northern property boundary, 500 feet from the east and west property boundary, and over 350 feet from the southern (downgradient) property boundary (Figure 2).

### 1.3 TOPOGRAPHY

The Site (Figure 1) is located approximately 250 feet above mean sea level atop a steep south facing ridge overlooking the Black River and Green River Valleys along Martin Luther King Way.

### 1.4 SURFACE HYDROLOGY

No surface water features are located within the immediate vicinity of the Site. The Black River is the nearest surface water feature and is located approximately one half mile south of the site.

## 1.5 GEOLOGY AND GROUNDWATER HYDROLOGY

The Site lies within the Puget Sound Lowland, a north-trending topographic and structural trough between the Cascade Range to the east and the Olympic Mountains to the west. The trough formed a natural passageway for a succession of glacial advances from British Columbia during the Pleistocene Period. As a consequence, the soils in the Lowland have developed from glacial drift and associated lacustrine, marine, and alluvial deposits that were compressed by the great weight of the glacier ice. Glacial debris is approximately 3000 feet deep beneath the Seattle metropolitan area.

The Site is located on the steep flank of a glacial highland. The presence or absence of shallow groundwater, so common throughout the Puget Sound Lowland, is difficult to predict on such highlands. The highlands represent competent lithologies that were not easily eroded in a relative sense during the last period of glaciation and frequently do not host shallow, perched saturated zones for the same reason. Therefore, the depth to groundwater at the site is not known. It was not present in the top 12 feet below ground surface within the subsurface explorations. In general, regional surface topography may be indicative of the direction of local groundwater flow. The topography in the Site vicinity suggests that groundwater likely flows south.

## 2.0 PRE-EXCAVATION ACTIVITIES

### 2.1 ANTICIPATED SITE CONDITIONS

The area where the UST is located is five feet west of the building (Figure 2). The UST was partially located under a concrete slab walkway running parallel with the adjacent building north to south. This location is over 350 feet from the downgradient property boundary. The presence of utilities, landscaping, and structures complicated the logistical planning of the UST decommissioning. The size of the UST was not known but was assumed to be 300 to 500 gallons in size. A soil sample had been obtained from the UST vicinity by Glacier Environmental that indicated a diesel release had occurred.

### 2.2 HEALTH AND SAFETY

A site-specific Health and Safety Plan was prepared in accordance with Chapter 296-62 of the Washington Administrative Code (WAC) and 29 CFR 1910.120 (Code of Federal Regulations). The HASP identified potential physical and chemical hazards and specified personal protection and safety monitoring requirements. Site health and safety meetings were conducted during fieldwork at the beginning of each workday to review aspects of the HASP, and to provide an opportunity for SES site workers and contractor personnel to discuss health and safety issues or concerns. On-site SES personnel associated with the field activities were required to be familiar with and comply with provisions put forth in the HASP. Subcontractors on-site were required to have their own HASP that identified potential physical and chemical hazards associated with their own work activities.

During intrusive field activities, the on-site SES site manager performed air monitoring using an organic vapor monitor (Mini Ray 5 Gas Analyzer [PID]). The PID was properly calibrated to 100 parts per million (ppm) isobutylene daily. Organic vapors and particulates were not recorded above normal background levels, as described in the HASP, during remedial activities at the Site. No other incidences, releases, or worker injuries were recorded during the project.

### 2.3 UTILITY LOCATION

Prior to implementing UST decommissioning activities at the Site the public underground utilities alert network was notified of intrusive activities. The service contacted appropriate agencies or companies with underground utilities in the area. These agencies then marked the location of their utilities along the right-of-ways and easements of the property.

Additional utilities not identified in the initial utility locate were identified during the excavation and removal of the UST (Figure 2). The utilities identified during the excavation activities included a 1.5-inch water service line to the building. This water line was installed directly above the UST (Photograph 3). Additionally, a stormwater line was identified along the northeastern boundary of the UST and excavation running north to south and tied into the buildings storm drain system discharging to the south. A 3.0-inch steel power conduit was identified 3 feet south of the UST along the southern UST excavation boundary (Photograph 12). Further excavation to the south was stopped due to the power conduit location. According to building plans reviewed by SES, a deep sewer of unknown diameter and total depth is located in the on the east side of the building in the general vicinity of the UST excavation location.

### 3.0 UST CLOSURE

An inspection of the UST prior to decommissioning identified 36 inches of diesel and water within the UST. SES utilized a vacuum pump truck to remove all liquid from the UST. The liquid was disposed of at a local disposal and treatment facility. A total of 460 gallons of water and diesel were removed and disposed. Once emptied, the USTs were triple rinsed with water and inerted with carbon dioxide (dry ice). An oxygen detector was used to monitor the oxygen content until oxygen levels were reduced to 10% and removal could continue.

The UST was excavated using a Bobcat 331 excavator. Concrete above and to the west of the UST was broken and removed. Over-excavation to the north of the UST was required to enable its removal due to extensive water, storm and electrical subsurface utilities running through the excavation area.

Following the removal of the UST from the excavation, the UST was inspected. A one half to three quarter-inch hole was observed on the south end bottom of the UST under the heating oil return line. According to the property owner representative, the UST was installed when the building was constructed. The UST was of singled-walled steel construction. The UST measured one hundred fifteen inches (9.5') in length by forty-four inches (3.5') in diameter. Transport and disposal of the UST was subcontracted to Environmental Tank Service.

During the excavation of the UST, several field-screening techniques were utilized to identify the extent of any release. These techniques included:

- Olfactory Observations
- Visual Observations
- Field Analytical Observations
  - Photoionization Detector (PID)
  - Sheen Test
  - Shaker Test

Visual indications of hydrocarbon contamination were observed in the southern end of the excavation area. No evidence for the presence of ground water was observed to the maximum extent of excavation (depth of 10 feet below ground surface) during the UST decommissioning event.

## 4.0 EXCAVATION AND SOIL SAMPLING ACTIVITIES

Following UST decommissioning and field screening activities, confirmation soil sampling was completed by collecting soils samples from the bottom of the UST excavation using the excavator (Figure 2). Hand auger sampling was completed on both the northern and southern ends of the excavation following the removal of the UST. Both locations were augered to four feet below the bottom of the UST excavation floor approximately ten feet below ground surface.

No obvious indication of petroleum contaminated soil was observed from soil samples collected from five to nine feet below ground surface in the northern sampling location (Figure 2). The southern auger location had obvious indications of petroleum contaminated soil extending from the base of the excavation (beneath the area where the UST hole was located) to a depth of approximately eight feet below ground surface. This impacted soil had hydrocarbon odors and was gray to dark gray in color. The soil texture consisted of fine to medium grained sand with some silt. A distinct color change from gray to gray brown occurred from 8 to 10 feet below ground surface. This color change coincided with a markedly decreased hydrocarbon odor in the soil. No textural change in the soil was associated with the color change or the decrease in hydrocarbon odors.

Soil samples were collected from the northern and southern portion of the UST excavation (Figure 2). Soil Sample S-1 was taken from the southern portion of the UST excavation immediately below the hole in the UST at a depth of 10 feet below ground surface. The diesel concentration in S-1 was 24,400 mg/kg. The depth of sampling was limited to the total reach of the excavator. The sample from the northern portion of the UST excavation, collected below the north end of the UST at 10 feet bgs (S-2), contained diesel at a concentration of 728 mg/kg. Therefore, only the southern area of the UST excavation exceeded MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses (2,000 mg/kg for diesel). This contamination was limited in vertical extent based on field observations. These field observations included a reduction in discoloration and odors with depth.

To further characterize the extent of the diesel contamination, two hand auger soil borings were completed (Figure 2). Boring B-1 was adjacent to the downgradient edge of the UST excavation. A soil sample was obtained below the depth of sample S-1 to assess the vertical extent of the contamination. A soil sample from 12 feet below ground surface (less than five feet downgradient of S-1 and two feet deeper) had only 5.7 mg/kg diesel, well below the 2,000 mg/kg MTCA Method A Soil Cleanup Level for diesel. Another boring was completed, B-2, ten feet further downgradient. Four soil samples were obtained from this boring at depths of 6, 8, 10 and 11.5 feet bgs. No diesel above 5 mg/kg was present in any of the four Boring B-2 soil samples.

Due to the utilities present, structures, landscaping, lack of shallow groundwater in the vicinity and limited extent of the diesel contamination in soil, overexcavation of the petroleum contaminated soil was not conducted. Based on field observations and the laboratory analytical results, the diesel contamination appears limited in horizontal and vertical extent. The UST leak appears "operational". That is, periodic releases occurred during historical filling events but that upon settling of sludges in the tank, the leak was sealed. The evidence for this includes the approximately 470 gallons of diesel and water that remained in the tank despite the hole.



Excavated soil (overburden) removed during the excavation process was backfilled into the UST excavations following sampling activities. Backfill was also imported from Five Sand and Gravel and placed in the UST excavation and compacted to surface grade.

## 5.0 SUMMARY

The extent of the release is not precisely known. However, field observations, soil sampling results and the topography of the site suggest less than 10 tons of contaminated soil exceeding the MTCA Soil Cleanup Levels for Unrestricted Land Uses for diesel of 2,000 mg/kg is present near the former UST location. This site likely qualifies for Ecology's Minor Leak Policy (described in Ecology publication R-TC-92-117, Appendix B). This residential heating oil release policy states that minor leaks do not have to be reported to the Department of Ecology. Minor leaks are defined as those that affect only the soil near the tank. The factors that support the applicability of the Minor Release Policy include:

- The lack of groundwater impacts;
- Limited extent of known impacts;
- The isolation of the contamination well within the property boundaries with no threat for off site migration;
- The lack of separate phase product;
- Lack of threat of direct contact to residents.

Excavation of the small amount of petroleum contaminated soil would be a logistically complicated operation. It would affect adjacent utilities, landscaping and structures. Therefore, no further action is recommended at this time. If redevelopment activities take place in the vicinity of the former UST location in the future, the soil contamination can be addressed at that time.



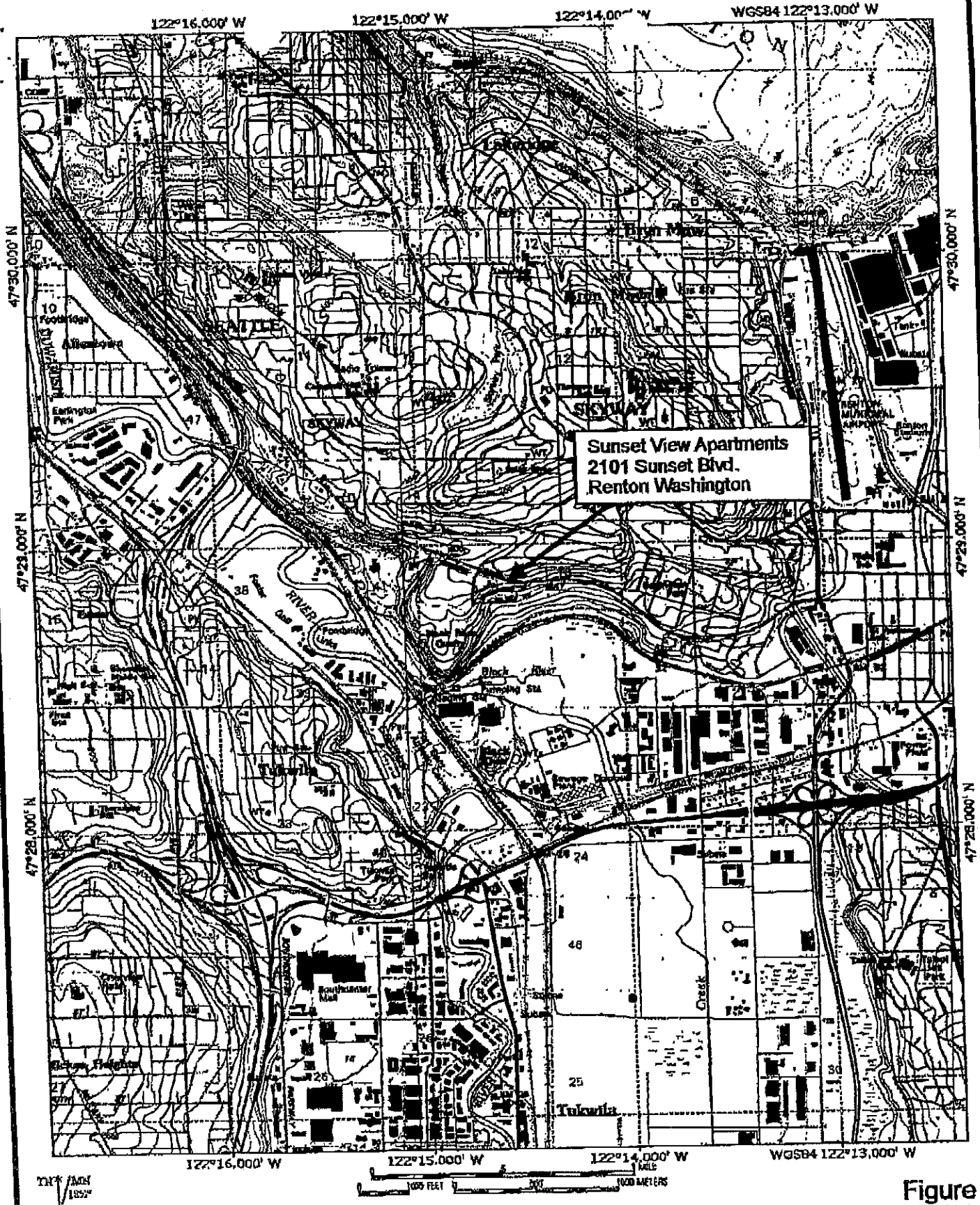


Figure 1

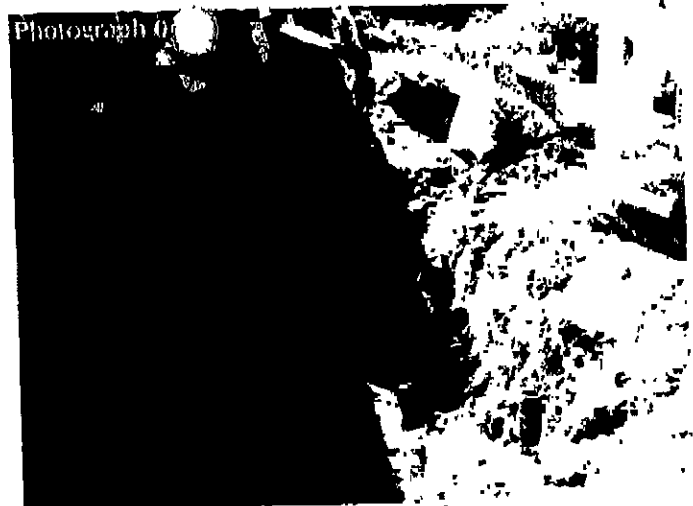


UST Decommissioning Project  
 Site Location & Topographic Map  
 2101 Sunset Blvd.  
 Renton, Washington

SES Project No.: 337-1  
 Date: 07-24-02  
 Drawn By: SSpencer  
 Chk By: BQHyde  
 File ID: 337-1 Location Map



Removal of UST contents and UST cleaning.



Excavation of UST - View to the south.



Continued excavation of the UST



Continued excavation of the UST



UST prior to removal from excavation - view to the south.

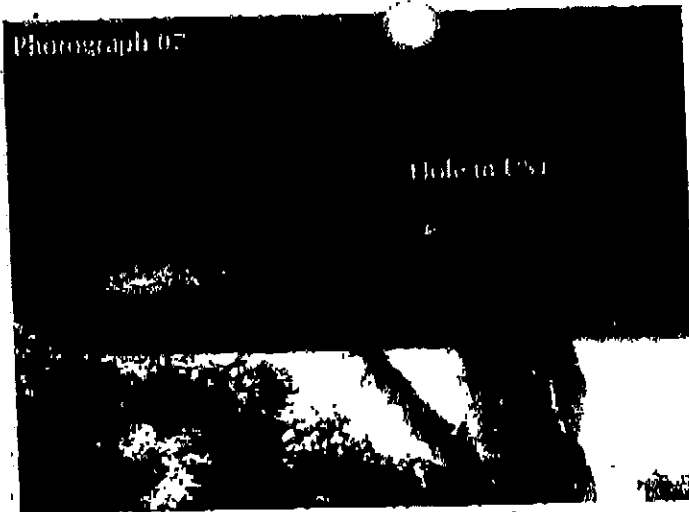


UST following removal from the excavation

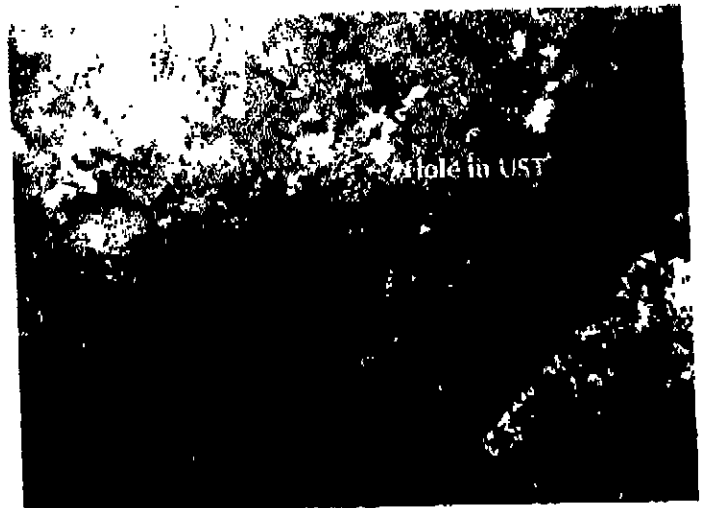


UST Decommissioning & Assessment  
Project Photographs  
2101 Sunset Blvd.  
Renton, Washington

SES Project No.: 337-1  
Date: July 19, 2002  
Drawn By: SSpencer  
Chk By: BQHyde  
File ID: 337-1 Project Photos



Hole observed in bottom of UST south end.



Hole observed in UST



Excavation of north sample location - view to the north.



Excavation of north sample location



Excavation of south sample location - view to the north.



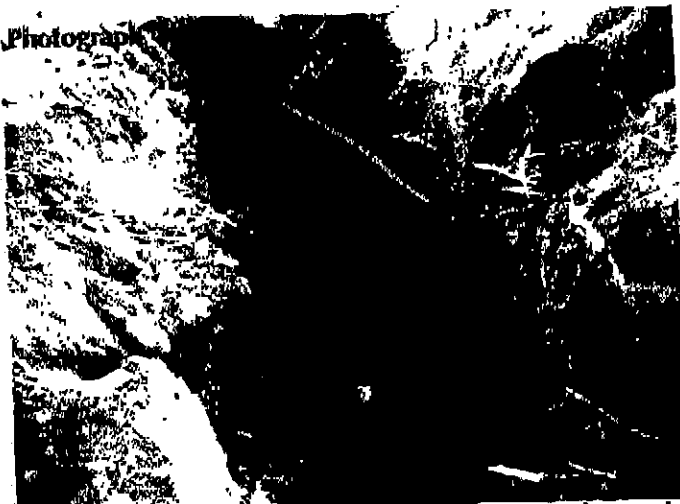
Excavation of north sample location



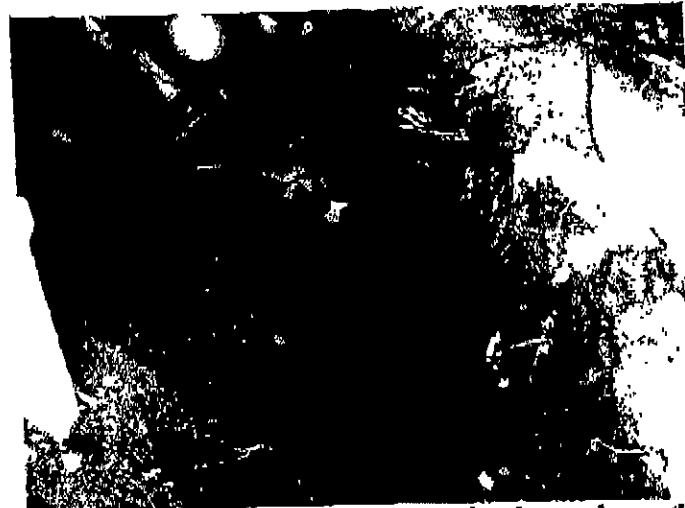
UST Decommissioning & Assessment  
 Project Photographs  
 2101 Sunset Blvd.  
 Renton, Washington

SES Project No.: 337-1  
 Date: July 19, 2002  
 Drawn By: SSpencer  
 Chk By: BQHyde  
 File ID: 337-1 Project Photos

Photograph 14

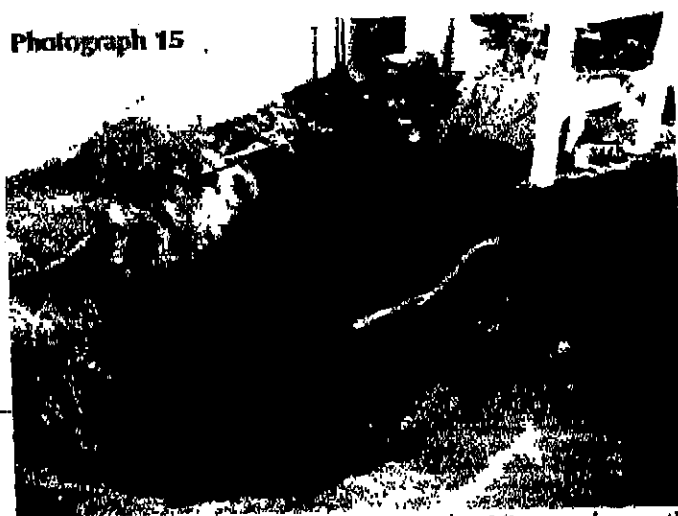


Excavation area following UST removal - View to the south.



Excavation area following UST removal - View to the north.

Photograph 15



Re-connection of domestic water supply - View to the south



Excavation area during site restoration - View to the south

Photograph 17



Wall south of UST location - View to the north



Wall area showing drain outfall



UST Decommissioning & Assessment  
Project Photographs  
2101 Sunset Blvd.  
Renton, Washington

SES Project No.: 337-1  
Date: July 19, 2002  
Drawn By: SSpencer  
Chk By: BQHyde  
File ID: 337-1 Project Photos



# SPECTRA Laboratories

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850


07/26/2002

Sound Environmental Strategies  
12351 Lakecity-Way NE  
Suite 102  
Seattle, WA 98125  
Attn: Steve Spencer

Project: 337-1  
Sample Matrix: Soil<sup>3</sup>  
Date Sampled: 07/17/2002  
Date Received: 07/18/2002  
Spectra Project: 2002070194

<u>Spectra #</u>	<u>Client ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>
1	S1-S.EX-71702	Diesel	24400	mg/Kg	NWTPH-D
1	S1-S.EX-71702	Oil	<100	mg/Kg	NWTPH-D
2	S2-N.EX-71702	Diesel	728	mg/Kg	NWTPH-D
2	S2-N.EX-71702	Oil	<100	mg/Kg	NWTPH-D

SPECTRA LABORATORIES



Steve Hibbs, Laboratory Manager

27/gma

Page 1 of 1







# SPECTRA Laboratories

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850

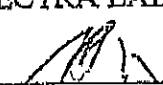
08/01/2002

Sound Environmental Strategies  
12351 Lakecity Way NE  
Suite 102  
Seattle, WA 98125  
Attn: Steve Spencer

Project: Sunset View  
Sample Matrix: Soil  
Date Sampled: 07/29/2002  
Date Received: 07/29/2002  
Spectra Project: 2002070303

<u>Spectra #</u>	<u>Client ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>
1	B1-12'	Diesel	5.7	mg/Kg	NWTPH-D
2	B2-6'	Diesel	<5.0	mg/Kg	NWTPH-D
3	B2-8'	Diesel	<5.0	mg/Kg	NWTPH-D
4	B2-10'	Diesel	<5.0	mg/Kg	NWTPH-D
5	B2-11'	Diesel	<5.0	mg/Kg	NWTPH-D

SPECTRA LABORATORIES



Steve Hibbs, Laboratory Manager

27/gms

Page 1 of 1





# Residential Heating Oil Tanks

This fact sheet contains information for people who have residential heating oil tanks on their property. Residential heating oil tanks can be either underground or above ground and are used to store oil to heat the residence on the property.

*If you are no longer using heating oil to heat your home:*

Many Washington State residents have switched from oil to natural gas or electricity as a means of heating their homes. Sometimes when this happens the home owner does not know how to properly deal with the "unused" heating oil tank. Neglecting to take care of an unused tank can cause serious problems for the home owner. For instance:

- ❖ Tanks can develop holes and release heating oil into the soil. The released oil can contaminate groundwater, surface water, storm sewers, and cause vapor problems in nearby buildings. Under the state Model Toxics Control Act, the tank owner may be held liable for damage caused by a leaking tank.

***Neither the federal government nor Washington State regulates the use or operation of residential heating oil tanks. However, some local governments have requirements or guidelines for closing and removing these tanks. Before you remove your tank, talk to your local Fire Marshal and city or county building department. Ask about permits, inspections, or other requirements that may apply to residential heating oil tank closure or removal. Regulations and policies vary from place to place and may change from time to time.***

- ❖ Corrosion can cause underground tanks to deteriorate, making cave-ins a possibility. The home owner could be held liable for injuries caused by a cave-in.
- ❖ Before finalizing the sale of a house, lending institutions and home buyers may want sellers to remove or "close" unused heating oil tanks. To "close" a heating oil tank, the home owner has the tank cleaned out and filled.

The tank is then left buried in the ground.

\* \* \* \* \*

The rest of this report contains some commonly asked questions about residential heating oil tanks and Ecology's answers to those questions.

***What should I do if I have an unused heating oil tank on my property?***

**1. Find out what's in the tank.**

Most underground residential tanks are easy to find. If you have trouble locating your tank, try following the fuel lines from the house, locating the tank vent pipes, or use a hand probe or metal detector.

To find out if there's still oil in the tank:

- ❖ Remove the filler cap.
- ❖ Insert a long stick into the tank until it touches bottom.
- ❖ Remove stick -- If there is oil in the tank you will be able to see it on the stick.

Sometimes a tank will contain oil and water, or primarily water (the water will settle to the bottom; the oil will float on top). You can check for water by putting a small amount of

water-reactive paste on the end of the stick and inserting the stick into the tank. If there is water in the tank, the paste will turn color. The paste can be purchased from most heating oil companies.



**2. Have all unused heating oil removed from your tank.**

Ecology strongly recommends that you have all unused heating oil removed from your tank. Removing the unused oil is the easiest, least costly, and single-most important action you can take to prevent contamination of soil and groundwater.

After the heating oil has been pumped out of your tank, you should think about having your tank removed or "closed in place."

**If you have an unused heating oil tank, do not re-fill it unless it has been checked by your heating oil company, and never put household waste like paint, antifreeze, or used motor oil into an unused residential heating oil tank.**

**Have your tank removed.** Ecology recommends that you have the tank removed because:

- ❖ If the tank has leaked, it will be easier to find and clean up any contaminated soil.



- ❖ Often, home buyers and lending institutions require assurance that the property is not contaminated before agreeing to complete property transactions. The best way to provide that assurance is to remove the tank and sample the soil in the pit.

Tank removal allows visual inspection of the area under the tank and more accurate soil sampling. Remember to keep reports of tank removal and soil samples for your records.

Below are some of the activities your contractor will probably do when removing your tank.

- ❖ Pump all remaining oil from your tank
- ❖ Clean out any sludge in the bottom of the tank
- ❖ Excavate down to top of tank
- ❖ Remove or cap all lines
- ❖ Remove potentially explosive vapors from the tank
- ❖ Remove the tank from the ground
- ❖ Properly dispose of the tank

**Have your tank "closed in place."**

This is a popular option for residential tanks — especially if removal isn't possible. But before choosing this alternative, consider the future of your property.

Potential buyers or lenders may require you to remove the tank, and a filled tank is harder to remove (unless it has been filled with foam).

Below are some activities your contractor will probably do when closing your tank in place.

- ❖ Pump all remaining oil from your tank
- ❖ Clean out any sludge in the bottom of the tank
- ❖ Remove or cap all lines
- ❖ Fill the tank with an inert solid material, such as a weak cement slurry, sand, or foam

- ❖ Plug or cap all openings in the tank
- ❖ Backfill the hole

**How can I find a company or contractor to do my tank work?**

Many companies provide services for residential heating oil tanks. Some companies provide pumping, cleaning, filling, removal and disposal services and some specialize in one or two services.

To find a company to pump and clean your tank, look in the telephone directory yellow pages under "oil-waste" or "recycling." To find a company to fill or remove your tank, look in the yellow pages under "tanks." The Underground Storage Tank law doesn't require you to use a licensed company for tank work. However, Ecology recommends that you hire an experienced person to do the work.



**How much does it cost to have tank work done?**

The cost of tank services will vary depending on the size, location, and accessibility of your tank. Costs can also vary among companies performing the same services. Our best

advice is to get several price quotes on the work you are having done. Ask the contractor for an itemized estimate. Ask what the charges will be and how they will be determined.

Below is some additional information about tank services:

#### Pumping and Cleaning:

Call 1-800-RECYCLE to find your local recycling center.

Filling: The cost of filling the tank depends on the type of fill material your contractor uses.

Removal/Disposal: You may be able to save money by having one company perform several services at one time. Or you may be able to negotiate a price break if several residences in the same neighborhood have services performed at the same time.

Companies that clean tanks and/or recycle waste oil always have to consider the possibility that there may be hazardous substances in the waste oil or sludge. They must include testing and handling costs when filling or removing a tank, and that in turn affects your cost.

**May I do the work myself?**

While there is no law prohibiting you from doing the work, Ecology doesn't recommend doing tank work yourself because of the potential safety risks. You should hire an experienced contractor to do the work.

If you are currently using heating oil to heat your home:

Many Washington State residents are still using heating oil to heat their homes. Unfortunately, most residential heating oil tanks are 30-50 years old, and nearing (or past) the time when they will begin leaking. Here are some tips on how to determine if your tank is leaking:

❖ If your furnace seems to be using more fuel than usual, your heating oil tank may have developed a leak. (Consider other possible factors for variable fuel usage, such as unusually cold weather or furnace malfunction.)

❖ Is there water in your tank? Stick the tank, using water-reactive paste on the stick, to find out. A small amount of water is normal, but several inches may mean water is getting in through a hole in the tank — which means oil could be getting out.

❖ During the summer, when you aren't using the furnace, carefully measure and record the level of fuel in the tank. Make sure the furnace is completely off. You may even want to disable it to be sure it isn't coming on at night. Wait as long as possible, keeping the furnace off (preferably at least two weeks, but the longer you wait, the smaller the leak you will be able to detect), then measure the fuel again. If the level is down, the tank is probably leaking. If the level is up, you should check to see if

water is entering the tank, as described above.

### WARNING

*Working on an underground heating oil tank can be dangerous. Under certain conditions these tanks can explode. Working in the excavation pit, cutting open or handling heavy tanks, and using power equipment also pose risks to the home owner. Never enter an underground storage tank, even if it has been cut open. Ecology recommends that you hire an experienced contractor to perform the work.*

❖ Check with your oil heat dealer about the services or programs offered to residential oil heat customers. Some oil heat dealers have programs that provide warranty against leaks, insurance to cover cleanup costs, and/or regular tank maintenance.

*What should I do if my tank has leaked?*

Knowingly using a leaking tank is negligence. If you discover that your tank is leaking you must take immediate action to stop the leak. The best first action is to have all heating oil pumped from the tank.

Leaks from heating oil tanks are usually discovered when underground tanks are removed, when vapors or heating oil seep into basements, or when heating oil levels drop

faster than they should based on the amount of oil being burned.



In most cases where a tank has leaked, only the soil near the tank is affected. Sometimes, however, the heating oil may also have contaminated groundwater or surface water.

It is the owner's responsibility to:

❖ Evaluate the extent of contamination caused by the leak

❖ Determine if it is a threat to human health and the environment

❖ Clean up any contamination caused by the leak.

*Should I report the leak to Ecology?*

#### Minor Leaks

Minor leaks or spills from residential heating oil tanks **do not** have to be reported to the Department of Ecology. Minor leaks are those that affect only the soil near the tank.

#### More Extensive Leaks

If heating oil has gotten into surface waters, such as creeks, lakes, rivers, or storm sewers, you must report it immediately to the Emergency Management

Division at 1-800-258-5990. If your heating oil has caused any of the following situations, you should report the leak to the appropriate Ecology regional office within 90 days (see Table 1).

❖ The heating oil has reached adjoining properties.

❖ The heating oil has affected a well or groundwater.

❖ The heating oil has caused vapor problems in nearby buildings.

❖ The heating oil has pooled on the surface of the ground.

❖ The heating oil has caused extensive soil contamination.

*The Department of Ecology reserves the right to take future action in unaddressed or unreported situations, should the need arise.*

*Should I clean up contamination caused by my leaking tank?*

Yes, you should clean up contamination caused by a spill or leak of heating oil. Leaks can pollute wells and streams, and the vapors can make you or your children sick.

If you have contamination, you will probably want to hire a cleanup contractor. Prices could vary a lot from one contractor to another, so get two or three bids. When the cleanup is completed, your cleanup contractor should give you a copy of the cleanup report.

**Should I send a copy of the cleanup report to Ecology?**

Cleanup reports of *minor leaks* from residential heating oil tanks do not need to be sent to Ecology. Ecology does not track or report on these cleanups. The home owner should keep the written cleanup report for future reference

by lenders and potential buyers.

Cleanup reports on *more extensive leaks* from residential heating oil tanks should be sent to the appropriate Ecology regional office (see Table 1). Ecology will keep track of and report on these sites.

**TABLE 1.  
Ecology's Regional Offices**

Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	Northwest Region 3180 180th Ave SE Bellevue, WA 98008-5452 (425) 649-7000
Clallam, Clark, Cowitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum	Southwest Region PO Box 47775 Olympia, WA 98504-7775 (360) 407-8311
Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	Central Region 15 W. Yakima Avenue Suite 200 Yakima, WA 98902-3452 (509) 575-2490
Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	Eastern Region N. 4601 Monroe, Suite 100 Spokane, WA 99205-1295 (509) 458-8364

The Department of Ecology is an equal opportunity employer. If you have special accommodation needs, contact the Toxics Cleanup Program at (360) 407-6187 (voice) or (360) 407-6006 (TDD).

173-360-100

## Underground Storage Tank Regulations

filed 2/1/95, effective 3/4/95. Statutory Authority:  
Chapter 90.76 RCW.

**PART I  
PROGRAM SCOPE, ADMINISTRATION, AND  
ENFORCEMENT**

**WAC 173-360-100 Purpose and authority.** (1) The purpose of this chapter is to address the serious threat posed to human health and the environment by leaking underground storage systems containing petroleum and other regulated substances.

(2) The department of ecology is directed by chapter 90.76 RCW to establish an underground storage tank program designed, operated and enforced in a manner that, at a minimum, meets the requirements for delegation of the Federal Underground Storage Tank Program of the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. Section 6901, et seq.). The legislative intent is that state-wide requirements for underground storage tanks adopted by the department be consistent with and no less stringent than the objectives outlined in the federal regulations. Because certain areas of the state possess physical characteristics that make them especially vulnerable to threats from leaking underground storage tanks, local requirements more stringent than the state-wide requirements may apply in these environmentally sensitive areas.

(Note: All codes, standards, rules, or regulations cited in this chapter are available for inspection at the Department of Ecology, P.O. Box 47635, Olympia, WA 98504-7635.)

[Statutory Authority: Chapter 90.76 RCW, 95-04-102, § 173-360-100, filed 2/1/95, effective 3/4/95; 90-24-017, § 173-360-100, filed 11/28/90, effective 12/29/90.]

**WAC 173-360-105 Intergovernmental agreements.** In order to fully implement this chapter, and to protect surface and ground water resources that may cross jurisdictional boundaries, the department and delegated agencies may negotiate and enter into cooperative agreements with Indian tribal governments, adjacent states, and Canadian governmental agencies when agencies are delegated responsibility for carrying out all or a portion of the underground storage tank program contiguous with or affecting lands under tribal, state, or Canadian government jurisdiction. Such cooperative agreements shall not affect the regulatory jurisdiction of any party thereto with regard to any civil or criminal matters otherwise exercised by any party. Intergovernmental agreements shall further the purpose of this chapter, and shall serve to establish a framework for intergovernmental coordination and cooperation, and shall serve to minimize duplication and efficiently utilize program resources to manage underground storage tanks and protect surface and ground water resources.

[Statutory Authority: Chapter 90.76 RCW, 90-24-017, § 173-360-105, filed 11/28/90, effective 12/29/90.]

**WAC 173-360-110 Applicability, exemptions, and deferrals.** (1) The requirements of this chapter apply to all owners and operators of an underground storage tank (UST) system as defined in WAC 173-360-120 except as otherwise provided in subsections (2) and (3) of this section. It is the responsibility of owners and operators to ensure that any

[Ch. 173-360 WAC—p. 2]

UST supervisors they employ are properly certified in accordance with WAC 173-360-600 through 173-360-630.

(2) Exemptions. The following UST systems, including any piping connected thereto, are exempt from the requirements of this chapter:

(a) Any UST system holding hazardous wastes subject to Subtitle C of the Federal Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances.

(b) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under Section 402 or 307(b) of the Clean Water Act.

(c) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.

(d) Any UST system whose capacity is one hundred ten gallons or less.

(e) Any UST system that has never contained more than a de minimis concentration of regulated substances as defined in WAC 173-360-120.

(f) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

(g) Farm or residential UST systems of one thousand one hundred gallons or less capacity used for storing motor fuel for noncommercial purposes (see definition of "farm" and "residential");

(h) UST systems used for storing heating oil for consumptive use on the premises where stored; except that such systems which store in excess of one thousand one hundred gallons are subject to the release reporting requirements of WAC 173-360-372;

(i) Septic tanks;

(j) Any pipeline facility (including gathering lines) regulated under:

(i) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.); or

(ii) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.); or

(iii) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in (i) or (ii) of this subsection;

(k) Surface impoundments, pits, ponds, or lagoons;

(l) Storm water or wastewater collection systems;

(m) Flow-through process tanks;

(n) Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations; or

(o) Storage tanks situated in an underground area (such as a basement, cellar, vault, mineworking drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.


(3) Deferrals. The following UST systems are subject only to the requirements of WAC 173-360-130, 173-360-140, 173-360-160, 173-360-170, 173-360-190, 173-360-200, 173-360-372, 173-360-385 and 173-360-390. Any new deferred UST systems shall also be subject to the performance standards of WAC 173-360-300:

(a) Wastewater treatment tank systems not regulated under section 307(b) or 402 of the Clean Water Act;


(b) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.);

(7/14/98)



 <b>SOUND ENVIRONMENTAL STRATEGIES</b> 12351 Lake City Way NE Seattle, WA 98125 (206) 306-1900	Project Name: <u>Sunset View Apartment</u>	Hand Boring No: <u>B1</u>
	Location: <u>Reagan, WA</u>	Date Began: <u>7/29/02</u>
	Field Personnel: <u>Steve + Rog</u>	Date Completed: <u>7/29/02</u>
	Drilling Contractor: <u>N/A - Hand Auger</u>	Total Depth: <u>12 ft</u>
		Sheet: <u>1</u>

Depth Below Ground Surface	Soil Classification Symbol	Soil Description <small>(USCS Designation, density, moisture, color, soil type and comments)</small>
Feet		
0-6'	SP	Fill, fine Sand, dry, gray, no odors
6-10'	SM	Silty Sand, medium dense, moist, brown, odor exists from 6ft to 9ft bgs., this is consistent with the test pit excavation (inside the tank excavation cavity).
10'-12'	SM	Same silty sand, no odors

 <b>GROUND ENVIRONMENTAL STRATEGIES</b> 12351 Lake City Way NE Seattle, WA 98125 (206) 306-1900	Project Name:	Sunset View Apartments	Hand Boring No:	B2
	Location:	Renton, WA	Date Began:	7/29/02
	Field Personnel:	Steve F. Ross	Date Completed:	7/29/02
	Drilling Contractor:	N/A - Hand Boring	Total Depth:	11'
			Sheet:	1

Depth Below Ground Surface	Soil Classification Symbol	Soil Description
Feet		(USCS Designation, density, moisture, color, soil type and comments)
0' - 11'	SM	Silty Sand, medium dense, moist, brown, no odors. Note: Refusal at 11 ft, an apparent <del>rock</del> large rock exists.