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# LIMITED SUBSURFACE INVESTIGATION REPORT

Sunny's Deli Mart
10545 SE Carr Road
Renton, Washington

Prepared for:

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# 1.0 SUMMARY

Mr. Mason Kim authorized GeoConsulting, Inc. (GeoConsulting) to conduct a limited subsurface investigation at 10545 SE Carr Road, Renton, Washington (Site). An operating gasoline station and convenience store occupy the Site.

The purpose of this investigation was to further define the limits and magnitude of soil and groundwater contamination north and west of the current dispensers and monitoring well MW-2. Findings are intended for use in Site characterization and remedial investigation.

GeoConsulting collected groundwater samples from existing wells for laboratory analysis of gasoline-range organics, benzene, toluene, ethylbenzene, and toluene on May 30, 2017.

On July 19, 2017, ESN Northwest, Inc. (ESN) advanced four soil borings (GCB-1 through GCB B-4) to approximately 15 to 18 feet below the ground surface utilizing a Geoprobe 7800 direct push drill rig that was also capable of hollow stem auger.

GeoConsulting observed silty sand with sub-rounded to rounded gravel in each boring from below the substrate to the maximum depth explored in each boring except GCB-2. Silt was observed in GCB-2 from below the substrate to approximately 12 feet below the ground surface. The silt was underlain by silty sand with gravel.

Groundwater was encountered at approximately 7 to 10 feet below the ground surface in each of the borings. Permanent groundwater monitoring wells MW-5, MW-6, and MW-7 were installed in borings GCB-2, GCB-3, and GCB-4, respectively. In addition, a temporary well screen was installed in boring GCB-1.

On July 21, 2017, GeoConsulting measured the groundwater elevation in each new and pre-existing well prior to purging and sampling the three new wells. Well MW-3 could not be measured due to the presence of an unknown crystalline substance filling the well to above the groundwater table.

The laboratory detected gasoline-range organics at 110 milligrams per kilogram (mg/kg), in soil from boring GCB-3 at 7 feet below the surface. All other soil sample results were below the Washington State Department of Ecology Method A cleanup levels or laboratory practical quantitation limits (PQLs).

The laboratory detected gasoline range organics in groundwater at 7300 micrograms per liter (µg/l) in MW-2, 3100 µg/l in MW-5, and 240,000 µg/l in GCB-1. Diesel-range and oil-range organics were detected at 0.86 and 0.77 milligrams per liter (mg/l) in MW-1, 4.8 and 0.66 mg/l in MW-2, 2.7 mg/l (diesel-range organics) in MW-5, and 0.51 mg/l of diesel-range organics in MW-7. In addition, benzene was detected in MW-3 and GCB-1 at 78 and 150 µg/l, respectively. Ethylbenzene, toluene, and xylenes were also detected above Washington State Department of Ecology Method A cleanup levels in MW-1. All other groundwater sample results are below the laboratory PQLs.

On August 10, 2017, Applied Professional Services, Inc., under contract to GeoConsulting, conducted a ground penetrating radar (GPR) survey of the western portion of the Site. The survey included the entire area west of the building and west of the current dispensers to the western property boundary. No indications of USTs were found in the survey area.

The results of this investigation indicate that gasoline-range organics as well as some BTEX compounds are present in groundwater west and northwest of the current dispensers to at least the property boundary. In addition, diesel- and oil-range organics are present in groundwater across much of the Site except north of the current dispensers. Little is known about the distribution of diesel- and oil-range organics in soil. The broad distribution of diesel- and oil-range organics in groundwater across the Site is inconsistent with the known fuel storage and distribution history of the Site.

To fully characterize the Site, it will be necessary to determine the limit of gasoline contamination in groundwater to the northwest and west and to determine the vertical limits of gasoline contaminants in soil. Also, additional investigation is needed to determine the source and distribution of diesel and oil contamination in soil and groundwater.

Currently, all known contaminant sources are located downgradient from the store building with respect to the inferred groundwater migration direction. Volatile contamination has not been documented near or under the building. However, additional data is needed to rule out vapor intrusion.

GeoConsulting recommends installing five additional soil borings and four additional groundwater monitoring wells. One of the borings should be installed and completed west of 105th Place SE and one in the traffic island where 105th Place NE meets Carr Road SE. One boring should be installed and completed as a groundwater monitoring well along the southern property boundary west of the building and another east of the store building. The final soil boring should be installed in the known area of soil contamination west of the dispensers to sufficient depth to determine the contaminant limit in depth.

# 2.0 INTRODUCTION

Mr. Mason Kim authorized GeoConsulting, Inc. (GeoConsulting) to conduct a limited subsurface investigation at 10545 SE Carr Road, Renton, Washington (Site). An operating gasoline station and convenience store occupy the Site.

# 3.0 PURPOSE

The purpose of this investigation was to further define the limits and magnitude of soil and groundwater contamination north and west of the current dispensers and monitoring well MW-2. Findings are intended for use in Site characterization and remedial investigation.

# 4.0 SCOPE OF SERVICES

GeoConsulting performed the following tasks:

- Site background review, as available;
- Subcontracted public and private utility locating;
- Subcontracted ground penetrating radar (GPR) survey;
- Drilling activities direction, observation, and documentation;
- Subcontracted drilling and groundwater monitoring well installation;
- Collected soil samples from the borings and logged each according to the Unified Soil Classification System;
- Field screened the samples for contaminants;
- Measured the groundwater elevation in each well relative to the existing wells;
- Purged the new wells and the previously existing wells prior to sampling;
- Collected a groundwater sample from each well for analysis;
- Submitted one soil sample from each boring and one groundwater sample from each well to a qualified analytical laboratory for analysis of the following: gasoline-range organics, benzene, toluene, ethylbenzene, and xylenes by Washington State Department of Ecology Method NWTPH-Gx/BTEX, as well as diesel- and oil-range organics by Method NWTPH-Dx; and
- Analyzed and interpreted the results and prepared this comprehensive report of the findings.

# 5.0 SITE DESCRIPTION

The Site comprises 0.45 acres on the southeast corner of SE Carr Road and 105th Place SE in the city of Renton, King County, Washington (King County Parcel No.: 322305-9237; T.2N., R.5W., Sec 32. NW1/4). Appendix A – Figure 1, Site Location Map depicts the Site location.

Sunny's Deli Mart, a neighborhood convenience market with gasoline/diesel sales, occupies the Site. Improvements include a 1,440-square-foot convenience store near the southern property boundary, three gasoline/diesel USTs immediately north of the market building, and four multi-grade product dispensers under a separate steel canopy north of the USTs. Access to the Site is from the north via SE Carr Road and from the west via 105th Place SE. Except for a planter along the northern and western boundaries, the remaining area is paved with asphalt. Appendix A – Figure 2, Site and Exploration Map, depicts the Site features.

Topographically, the Site is situated at 353 feet above sea level with a slight downward slope to the northwest. The neighborhood is commercial.

## 5.1 GEOLOGIC SETTING

The Site is situated in the Puget Sound Lowlands physiographic province, a broad north-south trending trough between the Olympic Mountains to the west and the Cascade Mountains to the east. Elevation in the Lowlands ranges from sea level up to several hundred feet. North-south trending valleys and low, nearly flat-topped highlands cut by streams dominate the topography. The Puget Sound occupies a large part of the western portion of the basin and lakes and streams occur frequently throughout the area.

Surficial geology is dominated by Pleistocene glacial alluvium with Recent alluvium in river floodplains and mouths. Pleistocene sediments are typically well-compacted beds of very dense till interbedded with sands, silts and gravels with occasional lacustrine deposits. Beds of till are often several meters thick containing frequent discontinuous lenses of more permeable material. Perched groundwater frequently occurs in the lenses with larger aquifers occupying sandy strata overlying less permeable till or silt deposits. The first occurrence of groundwater is typically within 50 feet of the surface.

Per the United States Geological Survey (USGS), the Site is underlain Pleistocene-age Vashon till deposits. Vashon till deposits consist of generally clay, silt, sand, and gravel with boulders that is not sorted or stratified.

## 5.2 SITE HISTORY

Geotech Consultants, Inc., in their Phase 1 Environmental Site Assessment report, dated February 2017, reported that the Site was residential in 1913 prior to demolition of the buildings in 1953 and construction of a self-service car wash in 1969. The car wash building may have been converted to a convenience store when two gasoline USTs and two dispenser islands were installed in 1972. This roughly agrees with King County Assessor information indicating the current building was constructed about 1969.

Available Washington State Department of Ecology information indicates that there have been a total of ten gasoline and diesel USTs on Site since 1972. Seven of the ten have been removed and three remain. The substance stored in the seven previously removed USTs is listed as leaded and unleaded gasoline. The installation date for the current USTs is 1990. They are listed as two 10,000-gallon unleaded gasoline tanks and one 12,000-gallon tank with two compartments containing gasoline and diesel fuel. The current USTs are double wall construction made of steel clad with composite. The product lines are double-walled fiberglass and the system is electronically monitored. Although the date for removal of the earlier seven USTs is not listed, removal likely occurred immediately prior to installation of the current USTs in 1990. The Site has apparently operated as a gasoline station and convenience store with the current three USTs since 1990.

## 5.3 PREVIOUS INVESTIGATION

Envitech, LLC. (Envitech) installed a total of 4 soil borings by direct-push near the tanks and dispensers on September 10, 2007. Borings S1 and S2 were installed on the east side of the current dispensers and USTs. Borings S3 and S4 were drilled west of the pump island canopy. The borings were drilled up to 11 feet below ground surface (bgs) with the exception of S4 which was drilled to 12 feet bgs. Envitech reported encountering no groundwater. Benzene and gasoline-range organics were found in sample S3-11 and S4-12, both above the regulatory standard. Benzene was detected at concentrations of 1.1 and 14 micrograms

per liter (ug/L) in sample S3-11 and S4-12, respectively. Gasoline-range organics were also detected at concentrations of 110 ug/L and 670 ug/L in sample S3-11 and S4-12, respectively. Toluene, ethyl benzene, and xylenes were also found in S3-11 and S4-12 but only at concentrations below regulatory agency standards. All other contaminants in Samples S1-11 and S2-11 were below the detection limits. Diesel-range organics were not detected in S4-12. Envitech recommended additional subsurface sampling.

In November of 2007, Robert M. Rodman, B.S.M.E and Donald Balmer L.G., RHG installed nine soil borings to approximately 10 to 12 feet. Two borings were finished as groundwater monitoring wells located at the extreme northwest corner of the property and just west of the current dispensers. The wells were named MW-1 and MW-2, respectively. Groundwater was reportedly observed at 8 to 12 feet below the surface. Twenty soil samples and five groundwater samples collected from the borings as well as two groundwater samples collected from the wells were submitted for laboratory analysis of gasoline-range organics by method NWTPH-Gx as well as benzene, toluene, ethylbenzene, and xylenes by Method 8021B. Analytical results detected benzene in soil ranging from 0.4 milligrams per kilogram (mg/kg) to 42 mg/kg. Detectable gasoline-range organics in soil ranged from 12 mg/kg to 670 mg/kg. Toluene, ethylbenzene, and xylenes were also detected. Detectable benzene in groundwater ranged from 42 ug/l to 3,600 ug/l. Detectable gasoline-range organics in groundwater ranged from 250 ug/l to 26,000 ug/l.

Also in November of 2007, Robert M. Rodman, Environmental Consultant, prepared a remediation work plan for the Site that included two injection points to be utilized to inject microbes and surfactants into the soil and groundwater. One or two more injection points were to be installed as needed. The work plan included three phases as follows: Phase I - pump the wells and monitor recharge rates; Phase II – inject microbes into groundwater every two weeks for two months, then once per month until cleanup levels were met; Phase III – quarterly groundwater monitoring followed by request for no further action. The estimated time to complete the work plan was reported to be 18 months. Two additional wells were apparently installed during this phase of work. However, no documentation of their installation was found. Later reports indicate four on-site wells named MW-1, MW-2, MW-3, and MW-4. However, the well previously named MW-1 is subsequently called MW-3.

Two sample test reports by ESC Lab Sciences dated July 9, 2010 and October 26, 2010 present analytical results of groundwater samples from sample numbers Sunnys Well 1 through Sunnys Well 4. The reports are addressed to Ryan Hardy of L&R Environmental Land Farms for samples collected by Ryan Hardy. The samples were analyzed for gasoline range organics by NWTPH as well as benzene, toluene, ethylbenzene, xylenes, and methyl tert-butyl ether. One sample from MW-2 was also analyzed for lead. The July report indicates that gasoline range organics ranged from below detection limits in MW-4 to 29 mg/l in MW-3 and benzene ranged from below detection limits in MW-1 to 3.9 mg/l in MW-2. Lead was reported in MW-2 at 0.4 mg/l. The October report indicates gasoline range organics from 0.1 mg/l in MW-1 to 22 mg/l in MW-3 and benzene from 0.046 mg/l in MW-4 to 3.5 mg/l in MW-3. No map or narrative was provided with the laboratory data and the names of the four wells differ from previous and subsequent well names. However, it is reasonable to assume that these four wells (Sunnys Well 1 through Sunnys Well 4) refer to the same wells as currently named MW-1 through MW-4 since only four wells were known to have existed on site during this time period.

The State Department of Ecology issued a letter to the Site owner in February 2012. The letter stated the Department of Ecology determination of no further action necessary regarding

LUST ID: 1816 based on information in their files dated up to December 22, 1992. The letter further states that the information in their files indicates no groundwater impact on the Property, based on documentation up through December 22, 1992.

Geotech Consultants, Inc. (Geotech) completed a Phase 1 Environmental Site Assessment at the Site in February of 2017. Geotech reported reviewing reports by Applied Geotechnology, Inc. (AGI) documenting UST removal and installation operations in 1990, excavation of 800 cubic yards of contaminated soil in 1992 and operation of a vapor extraction system in 1992. AGI assessed the soil near the six USTs that were removed in 1990 as well as the new UST excavation also in 1990. Gasoline contamination was documented via laboratory analysis of soil samples from the north, east, and west walls of the new UST excavation at 2,200 parts per million (via one composite sample). AGI field screened a test pit approximately 25 feet northwest of the new tank excavation and reported contamination in the test pit. AGI also reported groundwater with a slight sheen at approximately 11 to 12 feet in the excavations. Of the 800 cubic yards of excavated soil, 650 cubic yards were reportedly treated by aeration on Site and returned to the excavation. The remaining 150 cubic yards were removed from the Site. Geotech reported a discrepancy in the number of tanks reported as removed by AGI and Department of Ecology records. Geotech recommended a geophysical survey to resolve the discrepancy in USTs installed according to Department of Ecology records and those reported removed according to AGI. Also, Geotech recommended additional borings and groundwater sampling and analysis to determine the source of diesel-range contamination. Appendix D – Previous Reports, presents the reports summarized here.

# 6.0 FIELD ACTIVITIES

This investigation was conducted in two phases. The initial phase included sampling groundwater from the existing wells to gather information on the current status of groundwater. The resulting information was used to inform the second phase that focused on determining the inferred groundwater migration direction and further defining the lateral and vertical extent of soil and groundwater contamination, particularly along the western Site margin, along the north side of the Site, and to the southeast - the presumed upgradient direction.

A licensed driller from ESN Northwest, Inc. (under contract to GeoConsulting, Inc.) performed all drilling. A GeoConsulting hydrogeologist directed the driller to the boring and sampling locations, collected the samples, performed the measurements, and documented the activities. GeoConsulting chose boring and well installation locations as follows:

- Boring GCB-1 was located as close as practical to the western Site boundary directly west of MW-2. This location was chosen to determine the western limit of contamination downgradient of the area of most contamination, based on previous investigations.
- Boring GCB-2/MW-5 was located as close as practical to the western Site boundary south of MW-2. This location was also chosen to determine the western limit of contamination downgradient of the area of most contamination.
- Boring GCB-3/MW-6 was located north of the current and former dispensers and USTs. This location was chosen to determine the northern limit of the contaminant plume.

- Boring GCB-4/MW-7 was located near the southeast corner of the Site. This location was chosen as an upgradient location.

All soil cuttings, decontamination water, and purge/development water were placed in 50-gallon drums and left on Site pending analysis.

## 6.1 GROUNDWATER ASSESSMENT – EXISTING WELLS

GeoConsulting collected groundwater samples for laboratory analysis on May 30, 2017. At that time, monitoring wells MW-3 and MW-4 could not be sampled due to the presence of an unknown crystalline substance filling each of these wells to a depth of approximately 2 to 3 feet below the ground surface. Groundwater samples from MW-1 and MW-2 were submitted to OnSite Environmental, Inc. for analysis of gasoline-range organics, benzene, toluene, ethylbenzene, and toluene.

## 6.2 SOIL INVESTIGATION

On July 19, 2017, ESN Northwest, Inc. (ESN) advanced four soil borings (GCB-1 through GCB-4) to approximately 15 to 18 feet below the ground surface utilizing a Geoprobe 7800 direct push drill rig that was also capable of hollow stem auger. In each case, ESN drove a 5-foot long stainless-steel sampler lined with a plastic sampling sleeve in 5-foot intervals utilizing a hydraulically operated hammer. The driller then withdrew the sampler and the GeoConsulting hydrogeologist collected a small amount of the sample for field screening, collected a sample for laboratory analysis, and logged the sample by the Unified Soil Classification System. Laboratory samples for volatile compound analysis were collected per Method 5035. Samples for non-volatile analysis were collected in 4-ounce jars. The hydrogeologist placed all samples in the appropriate laboratory-prepared jars, labeled them, and placed them in a cooler until delivered to the analytical laboratory.

The hydrogeologist observed silty sand with sub-rounded to rounded gravel from below the substrate to the maximum depth explored in each boring except GCB-2. Silt was observed in GCB-2 from below the substrate to approximately 12 feet below the ground surface underlain by silty sand with gravel. Appendix B – *Boring Logs* presents soil boring details.

Groundwater was encountered at approximately 7 to 10 feet below the ground surface in each of the borings, based on soil sample water content.

## 6.3 GROUNDWATER INVESTIGATION

To further define and characterize the Site groundwater with respect to contaminants as well as depth, gradient, and inferred flow direction, GeoConsulting directed the driller to install permanent groundwater monitoring wells MW-5, MW-6, and MW-7 in borings GCB-2, GCB-3, and GCB-4, respectively. In addition, a temporary well screen was installed in boring GCB-1, purged, and sampled before backfilling the boring with bentonite.

### 6.3.1 Well Installation and Development

To install the wells, ESN withdrew the sampler and advanced hollow stem auger to the desired well depth for monitoring well installation. Each new well consisted of a 2-inch diameter Schedule 40 PVC well screen with a blank riser installed inside an approximately 8-inch diameter boring. The annular space around the PVC was backfilled with washed sand to approximately two feet above the screened portion, then bentonite around the riser and finished to the surface with a 9-inch diameter well monument set in concrete. Well construction details are shown on the boring logs in Appendix B.

### 6.3.2 Groundwater Purging and Sampling

On July 21, 2017, GeoConsulting measured the groundwater elevation in each new and pre-existing well prior to purging and sampling the three new wells. Well MW-3 could not be measured due to the presence of an unknown crystalline substance filling the well to above the groundwater table.

### 6.3.3 Well Locations and Elevations

The hydrogeologist used an auto level and stadia rod to measure the elevation of the reference point of each well casing relative to an on-site datum assigned an elevation of 353.00 feet, based on Washington Department of Ecology EIM Groundwater Map Search data. The resulting data was used to calculate the elevation of groundwater in each well relative to the 353.00-foot datum. The well number, the Department of Ecology well number, and the groundwater elevation for each well is shown in the following table:

| **Well No.** | MW-1 | MW-2 | MW-4 | MW-5 | MW-6 | MW-7 |
|---|---|---|---|---|---|---|
| **Dept. of Ecology Well No.** | Unknown | AHP 258 | Unknown | BJR 770 | BJR 769 | BJR 772 |
| **Groundwater Elevation** | 348.05 ft | 345.63 | 348.45 | 345.59 | 341.34 | 348.25 |

### 6.3.4 Calculating Groundwater Migration Direction

GeoConsulting calculated the groundwater migration direction across the Site using well location and groundwater data. The groundwater migration direction is to the west-northwest across the Site.

## 6.4 Ground Penetrating Radar Survey

On August 10, 2017, Applied Professional Services, Inc., under contract to GeoConsulting, conducted a ground penetrating radar (GPR) survey of the western portion of the Site. The survey was conducted to find any previously unknown USTs remaining on the western portion of the Site. The survey included the entire area west of the building and west of the current dispensers to the western property boundary. The Applied Professional Services, Inc. technician reported no GPR indication of USTs in the survey area.

## 6.5 LABORATORY ANALYSIS

GeoConsulting submitted one soil sample from each boring to ESN Northwest, Inc., a Washington State certified analytical laboratory, for analysis of gasoline-range organics, diesel- and oil-range organics, benzene, toluene, ethylbenzene, and xylenes. One groundwater sample from GCB-1 was also submitted to ESN Northwest, Inc. for analysis.

GeoConsulting also submitted groundwater samples from wells MW-1, MW-2, MW-5, MW-6, and MW-7 to OnSite Environmental, Inc., a Washington State certified analytical laboratory, for analysis of one or more of the following: gasoline-range organics, diesel- and lube oil-range organics, as well as benzene, toluene, ethylbenzene, and xylenes. Note that the laboratory report for the May 30, 2017 groundwater samples lists MW-1 and MW-3 as the sample numbers. Sample MW-3 is erroneously named and should be MW-2.

# 7.0 LABORATORY ANALYTICAL RESULTS

All soil and groundwater samples were delivered to the laboratory under chain-of-custody procedures within the required holding times and analyzed within the laboratory's standard turnaround time.

## 7.1 SOIL ANALYTICAL RESULTS

The laboratory detected gasoline-range organics at 110 milligrams per kilogram (mg/kg), in soil from boring GCB-3 at 7 feet below the surface. All other soil sample results are below the Washington State Department of Ecology Method A cleanup levels or laboratory practical quantitation limits (PQLs). *Table 1—Soil Analytical Data Summary* summarizes the soil analytical results.

Table 1
Soil Analytical Data Summary

| Sample ID | Sample Date | Sample Depth (ft.) | GRO (mg/kg) | DRO/Lube Oil RO (mg/kg) | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Xylenes (mg/kg) |
|---|---|---|---|---|---|---|---|---|
| GCB-1-14 | 7/19/17 | 10 | 34 | ND | 0.032 | <0.05 | 0.069 | 34 |
| GCB-2-10 | 7/19/17 | 15 | <10 | ND | <0.02 | <0.05 | <0.05 | <0.15 |
| GCB-3-7 | 7/19/17 | 7 | **110** | ND | <0.02 | <0.05 | <0.05 | <0.15 |
| GCB-4-7 | 7/19/17 | 7 | <10 | ND | <0.02 | <0.05 | <0.05 | <0.15 |
| Method A Cleanup Level | | | 30 mg/kg / 100 mg/kg* | ND | 0.03 | 7 | 6 | 9 |
| Lab Method | | | NWTPH-Gx | NWTPH-Dx extended | 8260 | 8260 | 8260 | 8260 |

NWTPH-Gx = Northwest method for gasoline-range organics.
<0.05 = Indicates concentrations were less than the stated laboratory reporting limit of 0.05 mg/kg.
mg/kg = Milligrams per kilogram (ppm).
ND = The results are below the laboratory detection limits.

## 7.2 GROUNDWATER ANALYTICAL RESULTS

The laboratory detected gasoline range organics at 7300 micrograms per liter (µg/l) in MW-2, 3100 µg/l in MW-5, and 240,000 µg/l in GCB-1. Diesel-range and oil-range organics at 0.86 and 0.77 milligrams per liter (mg/l) in MW-1, 4.8 and 0.66 mg/l in MW-2, 2.7 mg/l (diesel-range organics) in MW-5, and 0.51 mg/l of diesel-range organics in MW-7. In addition, benzene was detected in MW-2 and GCB-1 at 78 and 150 µg/l, respectively. Ethylbenzene, toluene, and xylenes were also detected above Washington State Department of Ecology Method A cleanup levels in MW-1.

All other groundwater sample results are below the laboratory PQLs. *Table 2—Groundwater Analytical Data Summary* summarizes groundwater results.

Table 2
Groundwater Analytical Data Summary

| Sample ID | Date Sampled | GRO (µg/L) | DRO/Lube Oil RO (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-Benzene (µg/L) | Xylenes (µg/L) |
|---|---|---|---|---|---|---|---|
| MW-1 | 5/30/17 | <100 | **0.86/0.77** | 1.0 | <1.0 | <1.0 | <1.0 |
| MW-2 (3) | 5/30/17 | **7300** | **4.8/0.66** | **78** | 7.0 | 25 | 440 |
| MW-5 | 7/21/17 | **3100** | **2.7**/<.042 | **45** | <4.0 | 23 | 9.4 |
| MW-6 | 7/21/17 | <100 | NT | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-7 | 7/21/17 | <100 | **0.51**/<0.50 | <1.0 | <1.0 | <1.0 | <1.0 |
| GCB-1,WATER | 7/21/17 | **240000** | NT | **150** | 12 | 530 | 33 |
| Method A Cleanup Level | | 800 µg/l / 1,000 µg/l* | 0.5 mg/l | 5 µg/l | 1,000 µg/l | 700 µg/l | 1,000 µg/l |
| Laboratory Methods | | NWTPH-Gx | NWTPH-Dx Ext. | 8021B | 8021B | 8021B | 8021B |

NWTPH-Gx = Northwest method for gasoline-range organics.
NWTPH-Dx ext. = Northwest method for diesel and lube oil range organics.
<1.0 = Indicates concentrations were less than the stated laboratory reporting limit of 1.0 ug/L.
*µg/L = Micrograms per liter.*
*Mg/L = Milligrams per liter.*
*NT = This sample was not tested for this compound.*
*800 µg/l / 1,000 µg/l* = The cleanup level is 800 µg/l when benzene is not present and 1,000 µg/l when benzene is present.*
*MW-2 (3) = The sample is erroneously named MW-3 in the laboratory report.*

Appendix C—*Certified Laboratory Reports* contains detailed analytical procedures and results.

## 7.3 COMPARISON TO CLEANUP STANDARDS

Cleanup standards, as put forth in Chapter 173-340, consist of cleanup level concentrations for contaminants of potential concern, point(s) of compliance, and applicable or relevant and appropriate requirements (ARARs). The contaminants of potential concern at the site are gasoline- and diesel-range organics, benzene, toluene, ethylbenzene, and xylenes.

Per Chapter 173-340, the following three methods are available for establishing cleanup levels: (1) Method A cleanup levels are intended for use at sites with relatively few COC and relatively routine cleanups; (2) Method B is the universal cleanup method for Washington state and provides for cleanup levels based on site-specific characteristics; and (3) Method C is used mostly on industrial sites.

Identifying points of compliance and ARARs is not within the scope of this investigation. Therefore, cleanup levels have not been established for the Property. However, Method A is appropriate for comparison purposes. Method A includes tables of common contaminants and their cleanup levels. Tables 720-1 and 740-1 of Chapter 173-340 provide Method A cleanup levels for the contaminants of concern.

The following table summarizes the Method A cleanup levels for COC in soil and groundwater:

| | Benzene | Toluene | Ethylbenzene | Xylenes | TPH-G | TPH-D |
|---|---|---|---|---|---|---|
| Soil | 0.03 mg/kg | 7 mg/kg | 6 mg/kg | 9 mg/kg | 30 mg/kg / 100 mg/kg* | 2,000 mg/kg |
| Groundwater | 5 µg/l | 1,000 µg/l | 700 µg/l | 1,000 µg/l | 800 µg/l | 500 µg/l |

* = The cleanup level is 30 mg/kg when benzene is not present and 100 mg/kg when benzene is present.

# 8.0 CONCEPTUAL SITE MODEL

Chapter 173-340 of the Washington Administrative Code (Chapter 173-340) defines contaminated site as the property where the contamination originated as well as adjoining or nearby properties that have been impacted by the contamination. Currently, the limits of the contamination have not been delineated to the east, south, and west.

## 8.1 Contaminants of Concern and Their Distribution

Soil contamination is found at four to 12 feet below the ground surface west of the current dispensers and appears to end near the western property boundary. The lower extent of soil contamination in this area has not been established.

Groundwater has been observed across the Site at approximately seven to eleven feet below the ground surface. Gasoline-range organics and volatile components of gasoline in groundwater begin somewhere near or under the current dispensers and extend northwest to MW-3 at the extreme northwest corner of the property, and west to the western property boundary at MW-5 and GCB-1 in a broad plume. Based on the concentrations documented during this investigation at MW-5 and GCB-1, as well as historical concentrations documented in MW-3, it appears probable that groundwater contamination has migrated off-property to the west and northwest. The limit of the plume to the west and northwest has not been established.

Diesel- and oil-range organics in groundwater are documented in all wells except MW-6. The limit of the plume for these contaminants has not been established to the east, south, or west. Because very little testing for diesel- and oil-range organics has been done in soil across the Site, little is known about the distribution of these COCs in soil.

## 8.2 Contaminant Sources

The primary source of gasoline-range organics as well as volatile gasoline components is assumed to be overfillage, spillage, and possibly leakage from the historical gasoline USTs and associated dispenser and product lines. The time of release and release mechanism are not precisely known. No documentation of diesel or oil storage or distribution at the Site has been found. The broad distribution of diesel- and oil-range organics across the Site except north of the current dispensers is inconsistent with the known fuel storage and distribution history of the Site.

## 8.3 Transport Mechanisms

Possible transport mechanisms for soil include particles and volatilization to outdoor air and leaching to groundwater. Potential groundwater contaminant transport mechanisms

include advection and diffusion through groundwater, then volatilization from groundwater used as tap water to indoor air, volatilization from groundwater to outdoor and indoor air, and discharge to the surface. To volatilize to outdoor or indoor air, contaminants must partition from the groundwater to soil vapor in the vadose zone, then migrate upward and/or laterally to the surface or to a building via molecular diffusion or advection.

### 8.4 Exposure Pathways and Receptors

The area of the Site impacted by contamination is almost entirely paved except along the western and northwestern boundaries that are unsurfaced planter areas. The Site is zoned commercial and will likely remain a gasoline station for the foreseeable future. A paved roadway adjoins the Site to the north and west, followed by commercial business and apartments. However, the apartments are cross-gradient with respect to the inferred groundwater migration direction. A shopping center with several commercial businesses adjoins the Site to the south and east, in the upgradient direction with respect to both topography and inferred groundwater migration direction.

Because the plume has not been fully delineated, inhalation, ingestion, and dermal contact with surface and subsurface soil by current and future residential and occupational receptors, as well as current construction and excavation receptors, are considered potentially complete pathways now. The Property contains no surface waterways and surface sediments.

# 9.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this investigation was to further define the limits and magnitude of soil and groundwater contamination north and west of the current dispensers and monitoring well MW-2. The results indicate that gasoline-range organics as well as some BTEX compounds are present in groundwater west and northwest of the current dispensers to at least the property boundary. In addition, diesel- and oil-range organics are present in groundwater across much of the Site except north of the current dispensers. Little is known about the distribution of diesel- and oil-range organics in soil. The broad distribution of diesel- and oil-range organics in groundwater across the Site is inconsistent with the known fuel storage and distribution history of the Site.

To fully characterize the Site, it will be necessary to determine the limit of gasoline contamination in groundwater to the northwest and west and to determine the vertical limits of gasoline contaminants in soil. Also, additional investigation is needed to determine the source and distribution of diesel and oil contamination in soil and groundwater.

Currently, all known contaminant sources are located downgradient from the store building with respect to the inferred groundwater migration direction. Volatile contamination has not been documented near or under the building. However, additional data is needed to rule out vapor intrusion.

GeoConsulting recommends installing five additional soil borings and four additional groundwater monitoring wells. One of the borings should be installed and completed west of 105th Place SE and one in the traffic island where 105th Place NE meets Carr Road SE. One boring should be installed and completed as a groundwater monitoring well along the southern property boundary west of the building and another east of the store building. The final soil boring should be installed in the known area of soil contamination west of the dispensers to sufficient depth to determine the contaminant limit in depth.

# 10.0 REFERENCES

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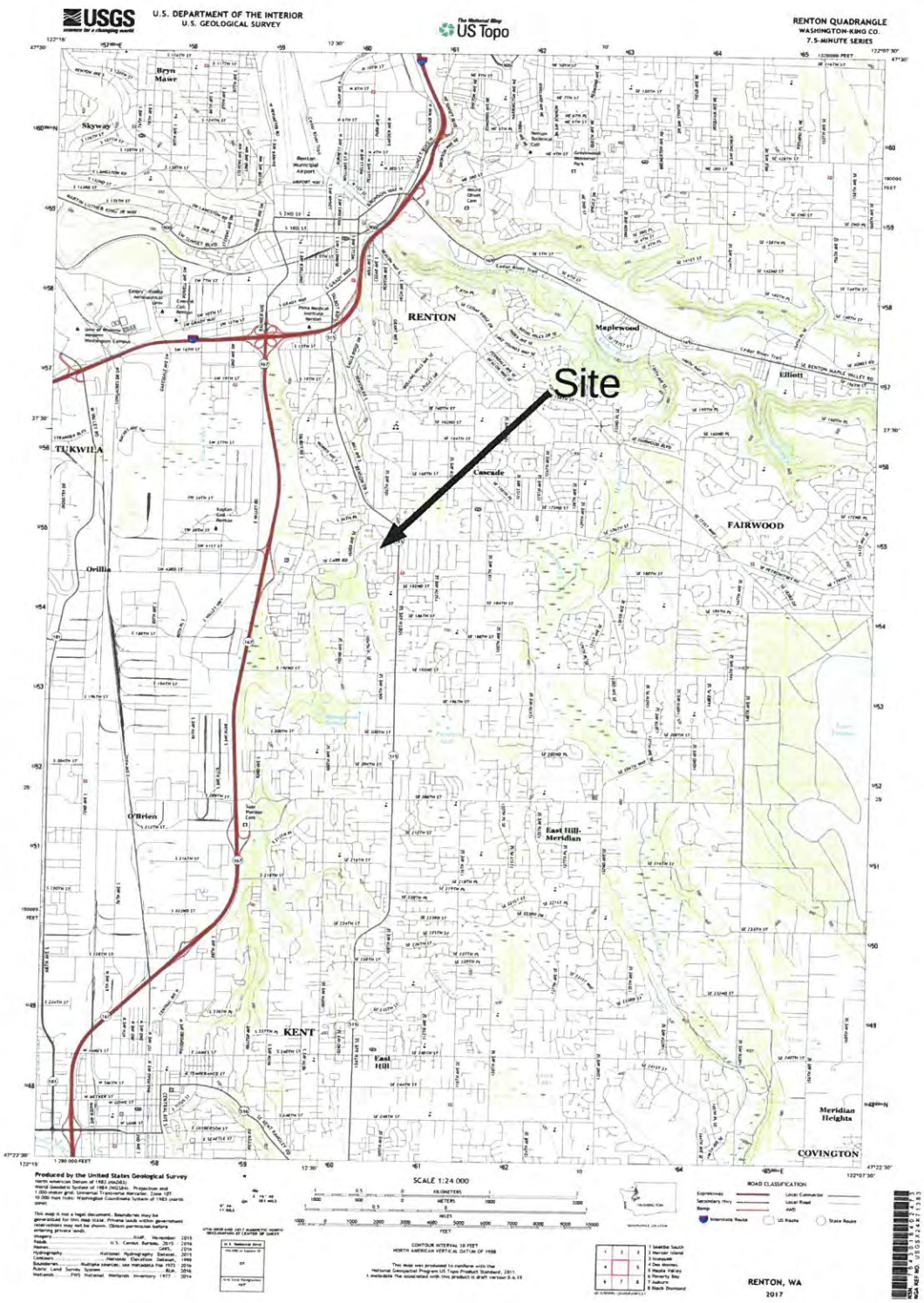
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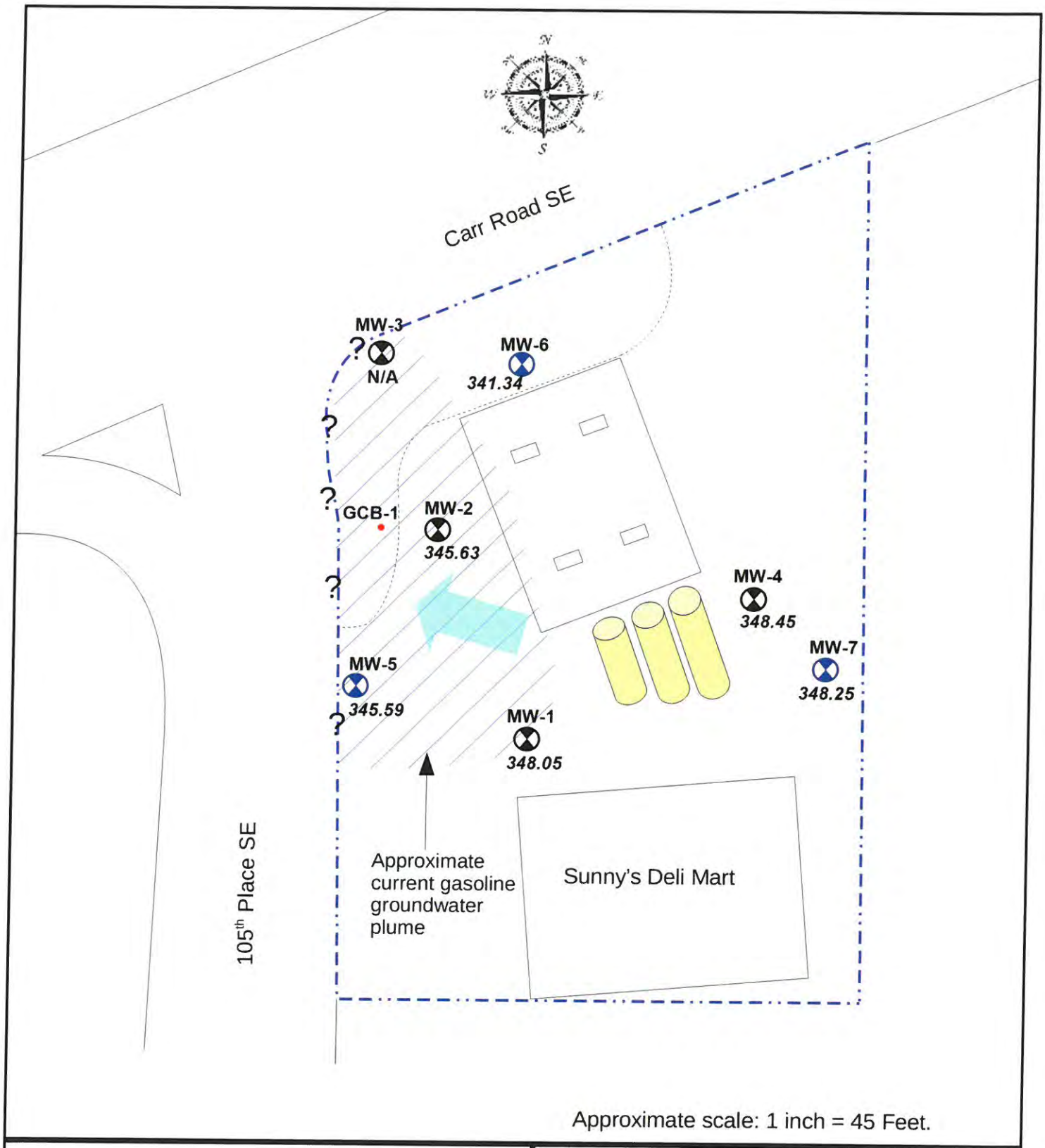
# Appendix A- FIGURES




# Figure 1 – Site Location Map

Sunny's Deli Mart
10545 Carr Road SE
Renton, Washington

GeoConsulting, Inc.
June 28, 2017




# Figure 2 – Site and Exploration Map

Sunny's Deli Mart
10545 Carr Road SR
Renton, Washington

## GeoConsulting, Inc.

August 16, 2017

- GeoConsulting soil boring location.
- Groundwater monitoring well location.
- New groundwater monitoring well location.
- Inferred groundwater migration direction.
- 348.05 Groundwater elevation.

# Appendix B – BORING LOG

| Boring Log | GCB-1 | | | 1 of 1 |
|---|---|---|---|---|
| | Drilling Co.: ESN<br>Driller: Brian | Method: Direct Push | Logged By:<br>Jim Coppernoll | |
| GeoConsulting, Inc. | Lat: | Ele: ~353 ft. | Well Depth: 18 ft. | |
| | Long: | TOC Ele: N/A | Casing Diameter: 1 in. | |
| Project No.: SER01-1702 | Depth to Water at time of drilling: ~11 ft. | | Date Drilled: 07/19/2017 | |
| | Boring Depth: 18 ft. | | | |
| Address: 10545 SE Carr Road, Renton, Washington | N/A | Seal: N/A | | |

| Depth (Feet) | Rec. | PID | Time | Soil | Description | Well |
|---|---|---|---|---|---|---|
| 1 | | | | | Unsurfaced. | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | 40 | 3 | 9:25 | SM | SAND; tannish-gray, moist, fine- to coarse-grained silty sand with subrounded to rounded gravel. | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | Becomes saturated with increased fine sand. | |
| 9 | | | | | | |
| 10 | 50 | 0 | 9:26 | SM | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | Becomes damp to moist and very dense. | |
| 15 | 50 | 0 | 9:28 | SM | | |
| 16 | | | | | Becomes olive-gray. | |
| 17 | | | | | | |
| 18 | | | | | Terminated at 18 feet | |
| 19 | | | | | | |
| 20 | | | | | | |

| Boring Log | GCB-2/MW-5 | | | 1 of 1 |
|---|---|---|---|---|
| | Drilling Co.: ESN<br>Driller: Brian | Method: Hollow Stem Auger | Logged By: Jim Coppernoll | |
| GeoConsulting, Inc. | Lat:<br>Long: | Ele: ~353 ft.<br>TOC Ele: 352.6 | Well Depth: 17.5 ft.<br>Casing Diameter: 2 in. | |
| Project No.: SER01-1702 | Depth to Water at time of drilling: ~10 ft. | | Date Drilled: 07/19/2017 | |
| | Boring Depth: 17.5 ft. | | | |
| Address: 10545 SE Carr Road, Renton, Washington | Sandpack: 4 – 17.5 | Seal: 0.5 - 4 | | |

| Depth (Feet) | Rec. | PID | Time | Soil | Description | Well |
|---|---|---|---|---|---|---|
| 1 | | | | | Asphalt Surface. | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | 45 | 0 | 10:06 | ML | SILT; reddish-tan, moist, soft. | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | 55 | 0 | 10:09 | ML | SILT; grayish-orange, moist, soft. | |
| 11 | | | | | Becomes saturated. | |
| 12 | | | | | Increasing gravel with depth. | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | 50 | 0 | 10:13 | SM | SAND; gray, saturated, fine to medium, silty sand with Subrounded to rounded gravel. | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |

| Boring Log | GCB-3/MW-6 | | | 1 of 1 |
|---|---|---|---|---|
| | Drilling Co.: ESN<br>Driller: Brian | Method: Hollow Stem Auger | Logged By: Jim Coppernoll | |
| GeoConsulting, Inc. | Lat: | Ele: ~353 ft. | Well Depth: 15 ft. | |
| | Long: | TOC Ele: 352.3 | Casing Diameter: 2 in. | |
| Project No.: SER01-1702 | Depth to Water at time of drilling: ~7 ft. | | Date Drilled: 07/19/2017 | |
| | Boring Depth: 15 ft. | | | |
| Address: 10545 SE Carr Road, Renton, Washington | Sandpack: 3 - 15 | Seal: 0.5 - 3 | | |

| Depth (Feet) | Rec. | PID | Time | Soil | Description | Well |
|---|---|---|---|---|---|---|
| 5 | 45 | 0 | 11:02 | SM | SAND; olive-gray, moist, fine to medium silty sand with subrounded to rounded gravel. | |
| 7 | | | | | Becomes saturated. | |
| 10 | 40 | 80 | 11:04 | SM | | |
| 12 | | | | | Becomes tan, damp, and very dense. | |
| 13 | | | | | Increasing gravel with depth. | |
| 15 | 50 | 0 | 11:09 | SM | SAND; tannish-gray, saturated, fine to medium, silty sand with subrounded to rounded gravel. | |

| Boring Log | GCB-4/MW-7 | | 1 of 1 |
|---|---|---|---|
| | Drilling Co.: ESN<br>Driller: Brian | Method: Hollow Stem Auger | Logged By: Jim Coppernoll |
| GeoConsulting, Inc. | Lat:<br>Long: | Ele: ~353 ft.<br>TOC Ele: 355.2 | Well Depth: 15 ft.<br>Casing Diameter: 2 in. |
| Project No.: SER01-1702 | Depth to Water at time of drilling: ~9 ft. | Date Drilled: 07/19/2017 | |
| | Boring Depth: 15 ft. | | |
| Address: 10545 SE Carr Road, Renton, Washington | Sandpack: 9 - 15 | Seal: 0.5 - 9 | |

| Depth (Feet) | Rec. | PID | Time | Soil | Description | Well |
|---|---|---|---|---|---|---|
| 1 | | | | | Asphalt Surface. | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | SAND; reddish-tan, moist, silty sand with some subrounded | |
| 5 | 55 | 0 | 12:07 | SM | to rounded gravel. | |
| 6 | | | | | Becomes olive-gray, wet. | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | 58 | 0 | 12:09 | SM | Becomes saturated. | |
| 11 | | | | | Increasing gravel. | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | 50 | 0 | 102:11 | SM | SAND; gray, moist, fine to medium, silty sand with Subrounded to rounded gravel. | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |

# Appendix C – CERTIFIED LABORATORY REPORTS

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 6, 2017

Jim Coppernoll
GeoConsulting, Inc.
15306 Plainview Place
Monroe, WA 98272

Re: Analytical Data for Project Carr Road, Texaco
Laboratory Reference No. 1705-335

Dear Jim:

Enclosed are the analytical results and associated quality control data for samples submitted on May 30, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 6, 2017
Samples Submitted: May 30, 2017
Laboratory Reference: 1705-335
Project: Carr Road, Texaco

**Case Narrative**

Samples were collected on May 30, 2017 and received by the laboratory on May 30, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 6, 2017
Samples Submitted: May 30, 2017
Laboratory Reference: 1705-335
Project: Carr Road, Texaco

## NWTPH-Gx/BTEX

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **MW-1** | | | | | |
| Laboratory ID: | 05-335-01 | | | | | |
| Benzene | **1.0** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Toluene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Ethyl Benzene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| m,p-Xylene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| o-Xylene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *99* | *61-118* | | | | |
| **Client ID:** | **MW-3** | | | | | |
| Laboratory ID: | 05-335-02 | | | | | |
| Benzene | **78** | 5.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Toluene | **7.0** | 5.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Ethyl Benzene | **25** | 5.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| m,p-Xylene | **320** | 5.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| o-Xylene | **120** | 5.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Gasoline | **7300** | 500 | NWTPH-Gx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *108* | *61-118* | | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 6, 2017
Samples Submitted: May 30, 2017
Laboratory Reference: 1705-335
Project: Carr Road, Texaco

## NWTPH-Gx/BTEX
## QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB0531W1 | | | | | |
| Benzene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Toluene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Ethyl Benzene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| m,p-Xylene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| o-Xylene | **ND** | 1.0 | EPA 8021B | 5-31-17 | 5-31-17 | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *93* | *61-118* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 05-324-02 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Benzene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Toluene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Ethyl Benzene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| m,p-Xylene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| o-Xylene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Gasoline | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *94* | *91* | *61-118* | | | |
| **MATRIX SPIKES** | | | | | | | | | | | |
| Laboratory ID: | 05-324-02 | | | | | | | | | | |
| | MS | MSD | MS | MSD | | MS | MSD | | | | |
| Benzene | **52.4** | **54.8** | 50.0 | 50.0 | ND | **105** | **110** | 80-120 | 4 | 13 | |
| Toluene | **53.0** | **55.4** | 50.0 | 50.0 | ND | **106** | **111** | 81-115 | 4 | 14 | |
| Ethyl Benzene | **53.8** | **56.2** | 50.0 | 50.0 | ND | **108** | **112** | 81-114 | 4 | 12 | |
| m,p-Xylene | **53.6** | **55.9** | 50.0 | 50.0 | ND | **107** | **112** | 81-114 | 4 | 13 | |
| o-Xylene | **53.6** | **55.9** | 50.0 | 50.0 | ND | **107** | **112** | 81-113 | 4 | 11 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *109* | *111* | *61-118* | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 6, 2017
Samples Submitted: May 30, 2017
Laboratory Reference: 1705-335
Project: Carr Road, Texaco

**NWTPH-Dx**

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **MW-1** | | | | | |
| Laboratory ID: | 05-335-01 | | | | | |
| Diesel Range Organics | **0.86** | 0.28 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| Lube Oil Range Organics | **0.77** | 0.45 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *83* | *50-150* | | | | |
| **Client ID:** | **MW-3** | | | | | |
| Laboratory ID: | 05-335-02 | | | | | |
| Diesel Range Organics | **4.8** | 0.26 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| Lube Oil Range Organics | **0.66** | 0.42 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *84* | *50-150* | | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 6, 2017
Samples Submitted: May 30, 2017
Laboratory Reference: 1705-335
Project: Carr Road, Texaco

## NWTPH-Dx
## QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB0531W1 | | | | | |
| Diesel Range Organics | **ND** | 0.25 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| Lube Oil Range Organics | **ND** | 0.40 | NWTPH-Dx | 5-31-17 | 5-31-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *81* | *50-150* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 05-335-01 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Diesel Range Organics | **0.863** | **0.768** | NA | NA | | NA | | NA | 12 | NA | |
| Lube Oil Range Organics | **0.774** | **0.620** | NA | NA | | NA | | NA | 22 | NA | |
| *Surrogate:* | | | | | | | | | | | |
| *o-Terphenyl* | | | | | | *83* | *96* | *50-150* | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

# Chain of Custody

**OnSite Environmental Inc.**
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com



**Laboratory Number:** 05-335

Company: GeoConsulting, Inc.
Project Number:
Project Name: Carr Rd Texaco
Project Manager: Jim Coppernoll
Sampled by: Jim Coppernoll

**Turnaround Request (in working days)**
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | Number of Containers | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Gx | NWTPH-Dx (☐ Acid / SG Clean-up) | Volatiles 8260C | Halogenated Volatiles 8260C | EDB EPA 8011 (Waters Only) | Semivolatiles 8270D/SIM (with low-level PAHs) | PAHs 8270D/SIM (low-level) | PCBs 8082A | Organochlorine Pesticides 8081B | Organophosphorus Pesticides 8270D/SIM | Chlorinated Acid Herbicides 8151A | Total RCRA Metals | Total MTCA Metals | TCLP Metals | HEM (oil and grease) 1664A | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | mw-1 | 5/30/17 | 1100 | W | 5 | | X | | X | | | | | | | | | | | | | | |
| 2 | mw-3 | 5/30/17 | 1130 | W | 1 | | X | | X | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished | | GeoConsulting, Inc | 5/30/17 | 1300 |
| Received | | | 5/30/17 | 1300 |
| Relinquished | | | | |
| Received | | | | |
| Relinquished | | | | |
| Received | | | | |
| Reviewed/Date | | Reviewed/Date | | |

**Comments/Special Instructions**

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

## ESN NORTHWEST CHEMISTRY LABORATORY

GeoConsulting, Inc
PROJECT SUNNYS DELI MART
PROJECT #SEN01-1706
Renton, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Gasoline Range Organics & BTEX in Soil by Method NWTPH-Gx/8260**

| Sample Number | Date Prepared | Date Analyzed | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylenes (mg/kg) | Gasoline Range Organics (mg/kg) | Surrogate Recovery (%) |
|---|---|---|---|---|---|---|---|---|
| Method Blank | 7/20/2017 | 7/20/2017 | nd | nd | nd | nd | nd | 111 |
| LCS | 7/20/2017 | 7/20/2017 | 97% | 98% | 105% | 98% | 104% | 106 |
| LCSD | 7/20/2017 | 7/20/2017 | 101% | 97% | 102% | 95% | --- | 101 |
| GCB-1-14 | 7/19/2017 | 7/20/2017 | **0.032** | nd | **0.069** | nd | **34** | 113 |
| GCB-2-10 | 7/19/2017 | 7/20/2017 | nd | nd | nd | nd | nd | 116 |
| GCB-3-7 | 7/19/2017 | 7/20/2017 | nd | nd | nd | nd | **110** | 109 |
| GCB-4-7 | 7/19/2017 | 7/20/2017 | nd | nd | nd | nd | nd | 113 |
| Reporting Limits | | | 0.02 | 0.05 | 0.05 | 0.15 | 10 | |

"---" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS : 65% TO 135%

## ESN NORTHWEST CHEMISTRY LABORATORY

GeoConsulting, Inc
PROJECT SUNNYS DELI MART
PROJECT #SEN01-1706
Renton, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Gasoline Range Organics & BTEX in Water by Method NWTPH-Gx/8260**

| Sample Number | Date Analyzed | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | Gasoline Range Organics (ug/L) | Surrogate Recovery (%) |
|---|---|---|---|---|---|---|---|
| Method Blank | 7/21/2017 | nd | nd | nd | nd | nd | 117 |
| LCS | 7/21/2017 | 87% | 91% | 92% | 89% | 110% | 99 |
| LCSD | 7/21/2017 | 93% | 91% | 93% | 92% | --- | 101 |
| GCB-1-WATER | 7/21/2017 | **150** | **12** | **530** | **33** | **240,000** | 112 |
| Trip Blank | 7/21/2017 | nd | nd | nd | nd | nd | 113 |
| Reporting Limits | | 1.0 | 1.0 | 1.0 | 3.0 | 100 | |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

## ESN NORTHWEST CHEMISTRY LABORATORY

GeoConsulting, Inc
PROJECT SUNNYS DELI MART
PROJECT #SEN01-1706
Renton, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended**

| Sample Number | Date Prepared | Date Analyzed | Surrogate Recovery (%) | Diesel Range Organics (mg/kg) | Lube Oil Range Organics (mg/kg) |
|---|---|---|---|---|---|
| Method Blank | 7/24/2017 | 7/26/2017 | 109 | nd | nd |
| LCS | 7/24/2017 | 7/26/2017 | 111 | 106% | --- |
| GCB-1-14 | 7/24/2017 | 7/26/2017 | 116 | nd | nd |
| GCB-2-10 | 7/24/2017 | 7/26/2017 | 112 | nd | nd |
| GCB-3-7 | 7/24/2017 | 7/26/2017 | 108 | nd | nd |
| GCB-4-7 | 7/24/2017 | 7/26/2017 | 109 | nd | nd |
| Reporting Limits | | | | 50 | 100 |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST, INC. | Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Gee Consulting, Inc

ADDRESS: 15306 Plainview Pl, Monroe, WA 98272

PHONE: 425-350-7645 FAX: jim.geeconsulting@gmail.com

CLIENT PROJECT #: SENCI-106 PROJECT MANAGER: Jim Copperno

DATE: 7/19/17 PAGE 1 OF 1

PROJECT NAME: Sunnys Deli Mart

LOCATION: 10545 SE Carr Rd, Renton

COLLECTOR: Jim Copperno DATE OF COLLECTION: 7/19/17

| Sample Number | Depth | Time | Sample Type | Container Type | TPH - HCID | TPH - Diesel & Oil | TPH - Gasoline | BTEX | VOC 8260CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos - PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. GCB-1-14 | 14 | 925 | S | VOCs | | X | X | X | | | | | | | | | | | | | | | | |
| 2. GCB-1-WATER | | 930 | W | " | | | X | X | | | | | | | | | | | | | | | | |
| 3. GCB-2-10 | 10 | 1000 | S | " | | X | X | X | | | | | | | | | | | | | | | | |
| 4. GCB-3-7 | 7 | 1104 | S | " | | X | X | X | | | | | | | | | | | | | | | | |
| 5. GCB-4-7 | 7 | 1209 | S | " | | X | X | X | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| [signature] | 7/19/17 1250 | [signature] | 7/19/17 12:51 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
| | | | |

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

1210 Eastside Street SE, Suite 200
Olympia, Washington 98501
Phone: 360-459-4670
Fax: 360-459-3432
Website: www.esnnw.com
E-Mail: info@esnnw.com

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 28, 2017

Jim Coppernoll
GeoConsulting, Inc.
15306 Plainview Place
Monroe, WA 98272

Re: Analytical Data for Project SENO1-1706
Laboratory Reference No. 1707-221

Dear Jim:

Enclosed are the analytical results and associated quality control data for samples submitted on July 21, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 28, 2017
Samples Submitted: July 21, 2017
Laboratory Reference: 1707-221
Project: SENO1-1706

**Case Narrative**

Samples were collected on July 21, 2017 and received by the laboratory on July 21, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 28, 2017
Samples Submitted: July 21, 2017
Laboratory Reference: 1707-221
Project: SENO1-1706

**NWTPH-Gx/BTEX**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **MW-5** | | | | | |
| Laboratory ID: | 07-221-01 | | | | | |
| Benzene | **45** | 4.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Toluene | **ND** | 4.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Ethyl Benzene | **23** | 4.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| m,p-Xylene | **9.4** | 4.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| o-Xylene | **ND** | 4.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Gasoline | **3100** | 400 | NWTPH-Gx | 7-26-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *86* | *61-118* | | | | |
| **Client ID:** | **MW-6** | | | | | |
| Laboratory ID: | 07-221-02 | | | | | |
| Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Toluene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Ethyl Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| m,p-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| o-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 7-26-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *90* | *61-118* | | | | |
| **Client ID:** | **MW-7** | | | | | |
| Laboratory ID: | 07-221-03 | | | | | |
| Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Toluene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Ethyl Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| m,p-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| o-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 7-26-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *88* | *61-118* | | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 28, 2017
Samples Submitted: July 21, 2017
Laboratory Reference: 1707-221
Project: SENO1-1706

## NWTPH-Gx/BTEX
## QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB0726W1 | | | | | |
| Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Toluene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Ethyl Benzene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| m,p-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| o-Xylene | **ND** | 1.0 | EPA 8021B | 7-26-17 | 7-26-17 | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 7-26-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *100* | *61-118* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 07-211-16 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Benzene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Toluene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Ethyl Benzene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| m,p-Xylene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| o-Xylene | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| Gasoline | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *90* | *91* | *61-118* | | | |
| **MATRIX SPIKES** | | | | | | | | | | | |
| Laboratory ID: | 07-211-16 | | | | | | | | | | |
| | MS | MSD | MS | MSD | | MS | MSD | | | | |
| Benzene | **48.6** | **47.3** | 50.0 | 50.0 | ND | **97** | **95** | 80-120 | 3 | 13 | |
| Toluene | **49.0** | **47.6** | 50.0 | 50.0 | ND | **98** | **95** | 81-115 | 3 | 14 | |
| Ethyl Benzene | **49.1** | **47.7** | 50.0 | 50.0 | ND | **98** | **95** | 81-114 | 3 | 12 | |
| m,p-Xylene | **49.2** | **47.8** | 50.0 | 50.0 | ND | **98** | **96** | 81-114 | 3 | 13 | |
| o-Xylene | **49.1** | **48.1** | 50.0 | 50.0 | ND | **98** | **96** | 81-113 | 2 | 11 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *95* | *90* | *61-118* | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 28, 2017
Samples Submitted: July 21, 2017
Laboratory Reference: 1707-221
Project: SENO1-1706

**NWTPH-Dx**

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **MW-5** | | | | | |
| Laboratory ID: | 07-221-01 | | | | | |
| Diesel Range Organics | **2.7** | 0.26 | NWTPH-Dx | 7-25-17 | 7-26-17 | M |
| Lube Oil Range Organics | **ND** | 0.42 | NWTPH-Dx | 7-25-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *93* | *50-150* | | | | |
| | | | | | | |
| **Client ID:** | **MW-7** | | | | | |
| Laboratory ID: | 07-221-03 | | | | | |
| Diesel Range Organics | **0.51** | 0.31 | NWTPH-Dx | 7-25-17 | 7-26-17 | |
| Lube Oil Range Organics | **ND** | 0.50 | NWTPH-Dx | 7-25-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *96* | *50-150* | | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 28, 2017
Samples Submitted: July 21, 2017
Laboratory Reference: 1707-221
Project: SENO1-1706

## NWTPH-Dx
## QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB0725W1 | | | | | |
| Diesel Range Organics | **ND** | 0.25 | NWTPH-Dx | 7-25-17 | 7-26-17 | |
| Lube Oil Range Organics | **ND** | 0.40 | NWTPH-Dx | 7-25-17 | 7-26-17 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *83* | *50-150* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | |
| Laboratory ID: | 07-200-03 | | | | | | | | | |
| | ORIG | DUP | | | | | | | | |
| Diesel Range | **ND** | **ND** | NA | NA | | NA | NA | NA | NA | |
| Lube Oil Range | **ND** | **ND** | NA | NA | | NA | NA | NA | NA | |
| *Surrogate:* | | | | | | | | | | |
| *o-Terphenyl* | | | | | | *96* *82* | *50-150* | | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

# OnSite Environmental Inc.

Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

# Chain of Custody



Company: GeoConsulting, Inc
Project Number: SENO1-1706
Project Name: Sunnys Del. Mart
Project Manager: Jim Copperno11
Sampled by: Jim Copperno11

**Turnaround Request (in working days)**

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

**Laboratory Number:** 07-221

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | Number of Containers | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Gx | NWTPH-Dx (☐ Acid / SG Clean-up) | Volatiles 8260C | Halogenated Volatiles 8260C | EDB EPA 8011 (Waters Only) | Semivolatiles 8270D/SIM (with low-level PAHs) | PAHs 8270D/SIM (low-level) | PCBs 8082A | Organochlorine Pesticides 8081B | Organophosphorus Pesticides 8270D/SIM | Chlorinated Acid Herbicides 8151A | Total RCRA Metals | Total MTCA Metals | TCLP Metals | HEM (oil and grease) 1664A | | | | | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-5 | 7/21/17 | 1330 | W | | | X | | X | | | | | | | | | | | | | | | | | | |
| 2 | MW-6 | 7/21/17 | 1315 | W | | | X | | | | | | | | | | | | | | | | | | | | |
| 3 | MW-7 | 7/21/17 | 1230 | W | | | X | | X | | | | | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished | | GeoConsulting, Inc | 7/21/17 | 1530 |
| Received | | OnSite Env | 7/21/17 | 1536 |
| Relinquished | | | | |
| Received | | | | |
| Relinquished | | | | |
| Received | | | | |
| Reviewed/Date | | Reviewed/Date | | |

**Comments/Special Instructions**

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

# Appendix D – PREVIOUS REPORTS

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# PHASE II
# ENVIRONMENTAL SITE ASSESSMENT

## *Sunny's Deli Mart*

***10545 SE Carr Road***
***Renton, WA 98055***

**Prepared for**

Mr. Kyoungho Hwangpo
H22 Inc.
10545 SE Carr Road
Renton, WA 98055

**Prepared by**

Envitech, Llc.
9528 226th PL NE
Redmond, WA 98053

October 2, 2007

Project No. 01070828-1

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# EXECUTIVE SUMMARY

Mr. Kyoungho Hwangpo engaged Envitech, Llc. to conduct a Phase II Environmental Site Assessment (ESA) on the property, Sunny's Deli Mart, located at 10545 SE Carr Road, Renton, Washington 98055.

The recognized on-site environmental concerns associated as part of this Phase II ESA were the presence of underground fuel storage tanks.

The assessments performed to evaluate the recognized on-site environmental conditions were: 4 borings were drilled and sampled; 4 soil samples were analyzed for Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX), and TPH-Gasoline; and 1 sample was analyzed for TPH-Diesel.

Based on the results of this assessment, the following conclusions are drawn:

- Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.
- All other contaminants in samples S1-11 and S2-11 were below the detection levels.
- Diesel-range hydrocarbon was not detected in S4-12.
- The full lateral and vertical extent of impacted soil remains unknown at this time. Envitech would recommend **additional subsurface sampling and testing activities** in an effort to resolve unknowns regarding the lateral and vertical extent of petroleum-impacted soil.

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# 1. INTRODUCTION

Mr. Kyoungho Hwangpo engaged Envitech, Llc. (Envitech) to conduct a Phase II Environmental Site Assessment (ESA) on the property, Sunny's Deli Mart, located at 10545 SE Carr Road, Renton, Washington 98055, subsequently referred to in this report as "the Subject Property". This assessment was prepared in general accordance with the American Society of Testing and Materials (ASTM) Standard Practices for Environmental Site Assessments: Phase II ESA Process (ASTM Designation: E1903-97, Re-approved 2002) (ASTM International, 1997).

## 1.1. PURPOSE

The purpose of the Phase II ESA was to evaluate the recognized environmental conditions identified in the Phase I ESA or transaction screen process for the purpose of providing sufficient information regarding the nature and extent of contamination to assist in making informed business decisions about the property; and where applicable, providing the level of knowledge necessary to satisfy the innocent purchaser defense under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

## 1.2. SCOPE OF SERVICES

The scope of work for this assessment was in general accordance with the American Society of Testing and Materials (ASTM) Standard Practices for Environmental Site Assessments: Phase II ESA Process (ASTM Designation: E1903-97). The methodologies are described as representing good commercial and customary practice for conducting a Phase II ESA of a property for the purpose of evaluating recognized environmental conditions.

The scope of work included the following tasks:

- Review of Existing Information
- Field Exploration
- Sampling and Chemical Analyses
- Evaluation of Results
- Discussion of Finding and Conclusions

## 1.3. Special Terms and Conditions

The following recognized environmental concerns for the Subject Property were not assessed as part of this Phase II ESA: the possible presence of asbestos containing materials in the building could be investigated separately as part of an assessment of asbestos-containing materials (ACM). The findings and conclusions presented in this report apply only to the recognized environmental conditions assessed.

## 1.4. Limitations and Exceptions of Assessments

The report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1903-97 (Re-approved 2002) (ASTM International, 1997), and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

## 1.5. Limiting Conditions and Methodologies Used

No ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical analysis may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. Additional assessment may be able to reduce the uncertainty.

Even when Phase II ESA work is executed with an appropriate site-specific standard of care, certain conditions present especially difficult detection problems. Such conditions may include, but are not limited to, complex geological settings, the fate and transport characteristics of certain hazardous substances, the distribution of existing contamination, physical limitations imposed by the location of utilities and other man-made objects, and the limitations of assessment technologies.

Phase II ESA does not generally require an exhaustive assessment of environmental conditions on a property. There is a point at which the cost of information obtained and the time required to obtain it outweigh the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. If hazardous substance releases are confirmed on a parcel of property, the extent of further assessment is related to the degree of uncertainty that is acceptable to the user with respect to the real estate transaction.

Measurements and sampling data only represent the site conditions at the time of data collection. Therefore, the usability of data collected as part of this Phase II ESA may have a finite lifetime depending on the application and use being made of the data. An

environmental professional should evaluate whether the generated data are appropriate for any subsequent use beyond the original purpose for which it was collected.

# 2. BACKGROUND

## 2.1. SITE DESCRIPTION AND FEATURES

The Subject Property at 10545 SE Carr Road is located on the northeast corner of 10545 SE Carr Road and 4th Ave N in Renton, Washington. It is approximately 0.65 acres in size.

The Subject Property consists of gasoline dispensing station and convenience store. The site is occupied by an approximately 3,241 square feet, concrete slab on grade commercial building that houses Sunny's Deli Mart.

A gasoline station with single canopy is located at north side of the Subject Property. Underground Storage Tanks are located between the canopy and convenience store. The remainder of the property is asphalt-paved parking space.

The site was built in 1969, according to King County Assessor.

The legal description of the Subject Property is:

N 290 FT OF W 150 FT OF E 1/2 OF E 1/2 OF W 1/2 OF NE 1/4 OF NW 1/4 LESS POR NLY OF SLY MGN OF CARR RD # SH 515 LESS CO RD

## 2.2. PHYSICAL SETTING

The Subject Property at 10545 SE Carr Road is located on the southeast corner of SE Carr Road and 105th PL SE. It is approximately 19,602 square feet (0.45 acres) in size. The site is occupied by an approximately 1,440 square feet, commercial building that houses Sunny's Deli Mart. The property is located in a retail and commercial area.

The topography of the Subject Property is general slope toward NW.

The Subject Property's parcel number is 3223059237.

Renton is a city in King County, Washington, immediately southeast of Seattle. The city has a total area of 17.3 $mi^2$. Most of it is a land and 1.62 % of it is Cedar River.

## 2.3. ADJOINING PROPERTY USE

For the scope of this assessment, properties are defined and categorized based upon their physical proximity to the Subject Property. An adjoining property is any real estate property whose border is contiguous or partially contiguous with the subject properties,

or that would be if the properties were not separated by a roadway, street, public thoroughfare, river, or stream. The following identifies specific adjacent property tenants and/or use:

| Direction | Description |
|---|---|
| **North** | SE Carr Road followed by Apartment |
| **East** | Mall |
| **South** | Mall |
| **West** | 105th PL SE followed by KFC |

# 3. ASSESSMENT METHODOLOGY

## 3.1. SCOPE OF ASSESSMENT

### 3.1.1. SAMPLING PLAN

The sampling plan was designed to prove for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

The sampling plan was developed in general accordance with ASTM Standard D 5730: Guide to Site Characterizations for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Ground Water (ASTM International, 2004).

Personal health and safety precautions were followed in accordance with applicable federal and state law or local equivalents and any requirements imposed by the owner, occupant, or field personnel.

### 3.1.2. CHEMICAL TESTING PLAN

The chemical testing plan was designed to detect the contaminants suspected to be present in the samples collected. The testing plan included tests which provide quality assurance (QA) and techniques that provide quality control (QC) over the chemical analysis. A completed chain of custody record accompanied each sample shipment to the analytical laboratory. Chain of custody records provide written documentation regarding sample collection and handling, identify the persons involved in the chain of sample possession, and a written record of requested analytical parameters.

### 3.1.3. DEVIATIONS FROM THE WORK PLAN

There were no deviations to the work plan.

## 3.2. FIELD EXPLORATIONS AND METHODS

### 3.2.1. SOIL BORINGS

A total of 4 borings were drilled into native soils on September 10, 2007 near the tanks and dispensing islands. The tanks are located between the canopy and convenience store and the dispensing islands are located on the north side of the convenience store. Prior to performing the soil borings, the site was clearly marked by a utility locator.

The method for boring was a direct push probe performed by Northwest Probe, which involves the use of truck-mounted hydraulic hammer to push a series of 1.5-inch

diameter steel rods to the sampling depth. Every four feet, the rods were removed and disposable Teflon sampling tubes were recovered. Now sections of Teflon sampling tubes were used for each sampling depth. This boring method had proven successful on other properties near the site.

The first drill hole, S1, was drilled to the east side of the USTs. The second drill hole, S2, was drilled to the northeast corner of the canopy. The third drill hole, S3, was drilled to the northwest corner of the canopy. The last drill hole, S4, was drilled to the southwest corner of the canopy. The borings were drilled up to a depth of 12 feet below ground surface (bgs). No groundwater was encountered during any of the borings up to 12 feet. No boring was performed between the tank farm area and pump island due to potential contact with buried vent and product pipe lines. The approximate boring locations are shown in Figure 2.

### 3.2.2. Soil Sampling Methods

All site sampling were performed by a registered Site Assessor. Boreholes were drilled until the boring refusal was encountered. Borehole S1 was extended to 11 feet below ground surface (ft bgs). Borehole S2 was extended to 11 ft bgs. Borehole S3 was extended to 11 ft bgs. Borehole S4 was extended to 12 ft bgs.

Soil samples were collected continuously using core samplers attached to drive rods. Each borehole was logged according to the Unified Soil Classification System as described in Figure A1 in Appendix A. borehole logs are included in Appendix A as Figure A2 through A5. One soil sample was collected from each of the test holes for chemical analysis. Soil samples at each location were collected in accordance with EPA method 5035A (US EPA, 2002). Approximately 5 gram core samples were dispensed immediately into three pre-weighed 40-mL VOA vials. Additional sample was collected into a tow-ounce jar for dry weight determination. Soil samples were stored in a chilled container for delivery to the laboratory.

### 3.2.3. Groundwater Sampling Methods

Groundwater was not encountered during the soil borings.

### 3.2.4. Field Screening

Soil samples obtained from the core sampler were screened for volatile organic compounds (VOCs) using a miniRae Model 2000 photoionization detector (PID). Prior to use, the PID was calibrated against a 100 parts per million (ppm) isobutylene span gas in air mixture. The instrument was then zeroed against the ambient air near the work area. The PID is useful for qualitative field screening of VOCs and provides a basis for comparison between soil samples collected in the field. Soil samples were placed into sealable plastic bags and allowed to sit in a warm area for volatilization to occur. After approximately 5 minutes, VOCs were field measured by placing the tip of the PID into

the head space above each sample in each bag. This is not a compound-specific analysis and is affected by, among other influences, climate (e.g., temperature and humidity), soil type and conditions, instrument calibration and operation, and type of VOCs present.

### 3.2.5. Decontamination and Hole Closure

S1 through S4 were filled with bentonite granules and patched with concrete mix. Disposable sampling equipments were disposed of at each sample interval. Non-disposable sampling equipments were decontaminated by scrubbing in a solution of Alconox and potable water, followed by rinses with potable water between test holes. Soil cuttings, decontamination water, and purge water were stored in labeled drums in a secure location until they can be profiled and appropriately disposed of.

### 3.2.6. Other

No other assessment activities were conducted.

## 3.3. Sampling and Chemical Analysis

### 3.3.1. Soil

A total of four (4) soil samples were collected for chemical analysis. Soil samples were delivered under chain-of-custody protocol to Onsite Environmental Inc. in Redmond, Washington for chemical analysis.

### 3.3.2. Laboratory Analysis

In accordance with Washington State Department of Ecology (WSDOE) site assessment protocols, laboratory analysis was performed on selected soil and groundwater samples by WSDOE method NWTPH-gas/BTEX for the presence of petroleum hydrocarbon in the gasoline range, along with gasoline-associated benzene, toluene, ethylbenzene, and xylene (BTEX). The samples were also analyzed to detect the presence of diesel to heavy oil-range hydrocarbon by WSDOE method NWTPH-Dx

The exact sampling locations and depths are shown in Table 1.

### 3.3.3. Other

No other chemical analyses were performed.

# 4. EVALUATION AND PRESENTATION OF RESULTS

## 4.1. ANALYTICAL DATA

### 4.1.1. SOIL

Chemical analyses were performed on the soil samples by Onsite Environmental, Inc. a State Certified Laboratory, on the samples collected. The soil analytical results for BTEX, TPH-Gasoline, Diesel and Lube Oil along with the Washington State Department of Ecology (WSDOE) clean-up standard are summarized in Table 2.

Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory cleanup standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively.

All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.

All other contaminants in samples S1-11 and S2-11 were below the detection levels.

Diesel-range hydrocarbon was not detected in S4-12.

## 4.2. OTHER

There is no other analytical data obtained during this investigation.

# 5. DISCUSSION OF FINDINGS AND CONCLUSIONS

This assessment has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1903-97 (Re-approved 2002) (ASTM International, 1997), and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided in this report.

This limited Phase II Environmental Site Assessment (ESA) was implemented to address the potential for subsurface contamination, which may be present as a result of the historical use of the Subject Property as a gasoline station.

Based on the finding of the current limited Phase II Environmental Site Assessment, the following conclusions are drawn:

- Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory cleanup standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.
- All other contaminants in samples S1-11 and S2-11 were below the detection levels.
- Diesel-range hydrocarbon was not detected in S4-12.

Based on the results of this assessment, it would appear that soils around the boreholes S3 and S4 were contaminated with gasoline.

The full lateral and vertical extent of impacted soil remains unknown at this time. Envitech would recommend additional subsurface sampling and testing activities in an effort to resolve unknowns regarding the lateral and vertical extent of petroleum-impacted soil. Depending upon the findings of such additional evaluation, the most practical and potentially cost-effective remediation will be evaluated by Envitech.

Finally, to achieve lawful compliance with Chapter 173-340-300, Envitech recommends that copies of this report along with any future reports regarding the environmental conditions thus far encountered be forwarded to the Washington State Department of Ecology by the property owner and/or operator.

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# 6. RECOMMENDATIONS

Envitech hereby recommends **additional site characterization** to verify the lateral and vertical extent of the petroleum-impacted soil.

# 7. CLOSURE

This report has been prepared for the sole benefit of Mr. Kyoungho Hwangpo. The report may not be relied upon by any other person or entity without the express written consent of Envitech, Llc. and Mr. Kyoungho Hwangpo.

Respectively submitted,

**Envitech, llc.**

**Prepared by:**

Jake S. Lee, Ph.D.
Principal of Envitech, Llc.
Washington State Site Assessor (#5264460-U7)

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# TABLES

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## Table 1. Location, Depth and Type of Samples Collected

| Sample ID | Sample type | Depth (ft) | Compound of concern | Analysis method | Date collected |
|---|---|---|---|---|---|
| S1-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 10:25 am |
| S2-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 10:50 am |
| S3-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 11:10 am |
| S4-12 | Soil | 12 | BTEX, TPH-Gas, Diesel, Lube | NWTPH-Gx/BTEX NWTPH-Dx | Sep 10 2007 11:30 am |

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## Table 2. Summary of Soil Analytical Results, mg/kg (NWTPH-Gx/BTEX, NWTPH-Dx)

| Method | Contaminant | S1-11 | S2-11 | S3-11 | S4-12 | Standard* mg/kg |
|---|---|---|---|---|---|---|
| NWTPH-Gx BTEX | Benzene | ND | ND | 1.1 | 14 | 0.03 |
| | Toluene | ND | ND | 0.33 | 0.3 | 7 |
| | Ethyl Benzene | ND | ND | 1.7 | 5.9 | 6 |
| | Xylene | ND | ND | 8.0 | 2.8 | 9 |
| | TPH-Gas | ND | ND | 110 | 670 | 100 |
| NWTPH-DX | Diesel | - | - | - | ND | 2,000 |
| | Lube Oil | - | - | - | ND | 2,000 |

Notes:
* Method A Soil Cleanup Levels for Unrestricted Land Uses.
ND = Not detected above laboratory reporting limits.
- = Not analyzed

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# FIGURES

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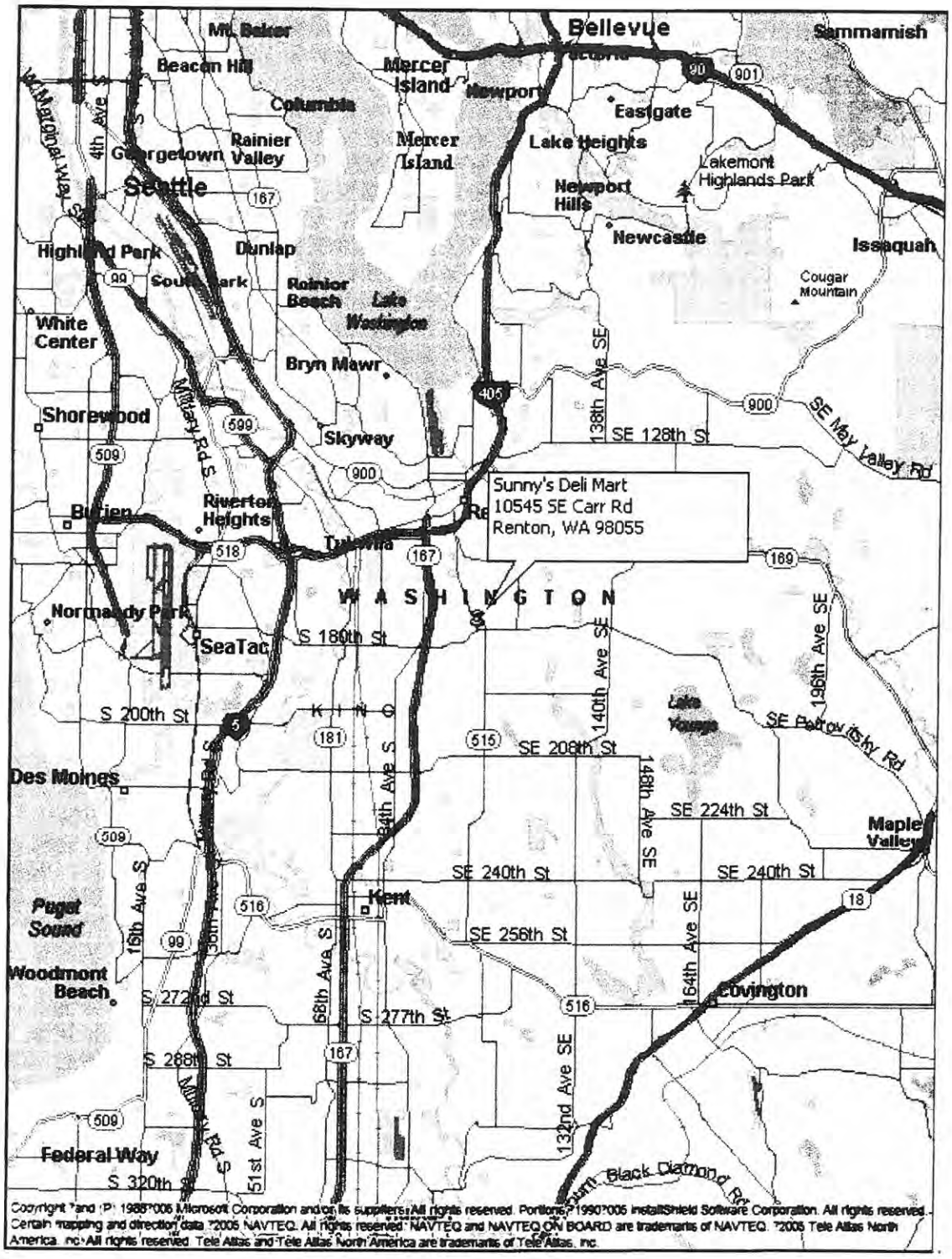



**Figure 1. Site Location Map**

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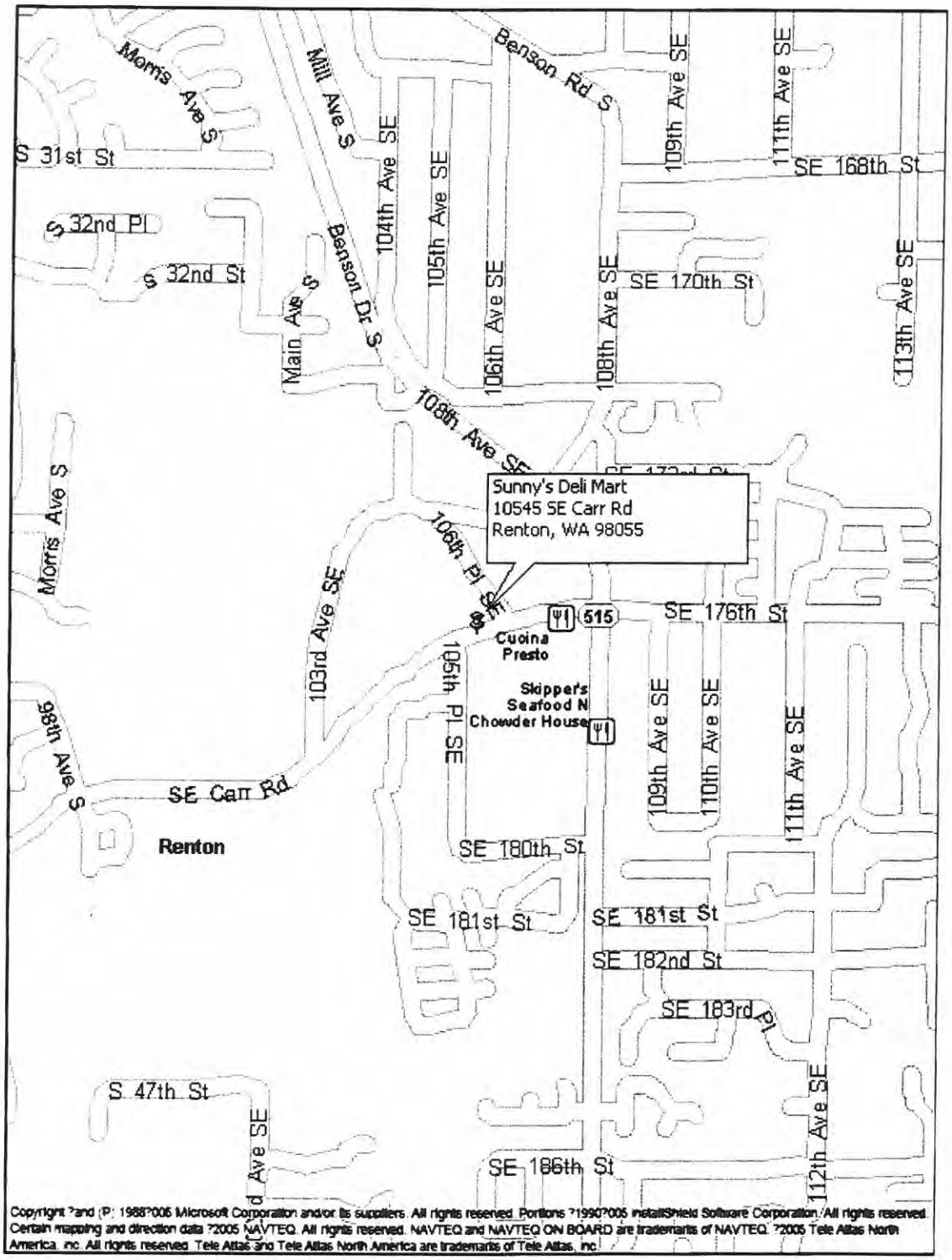



**Figure 2. Site Vicinity Map**

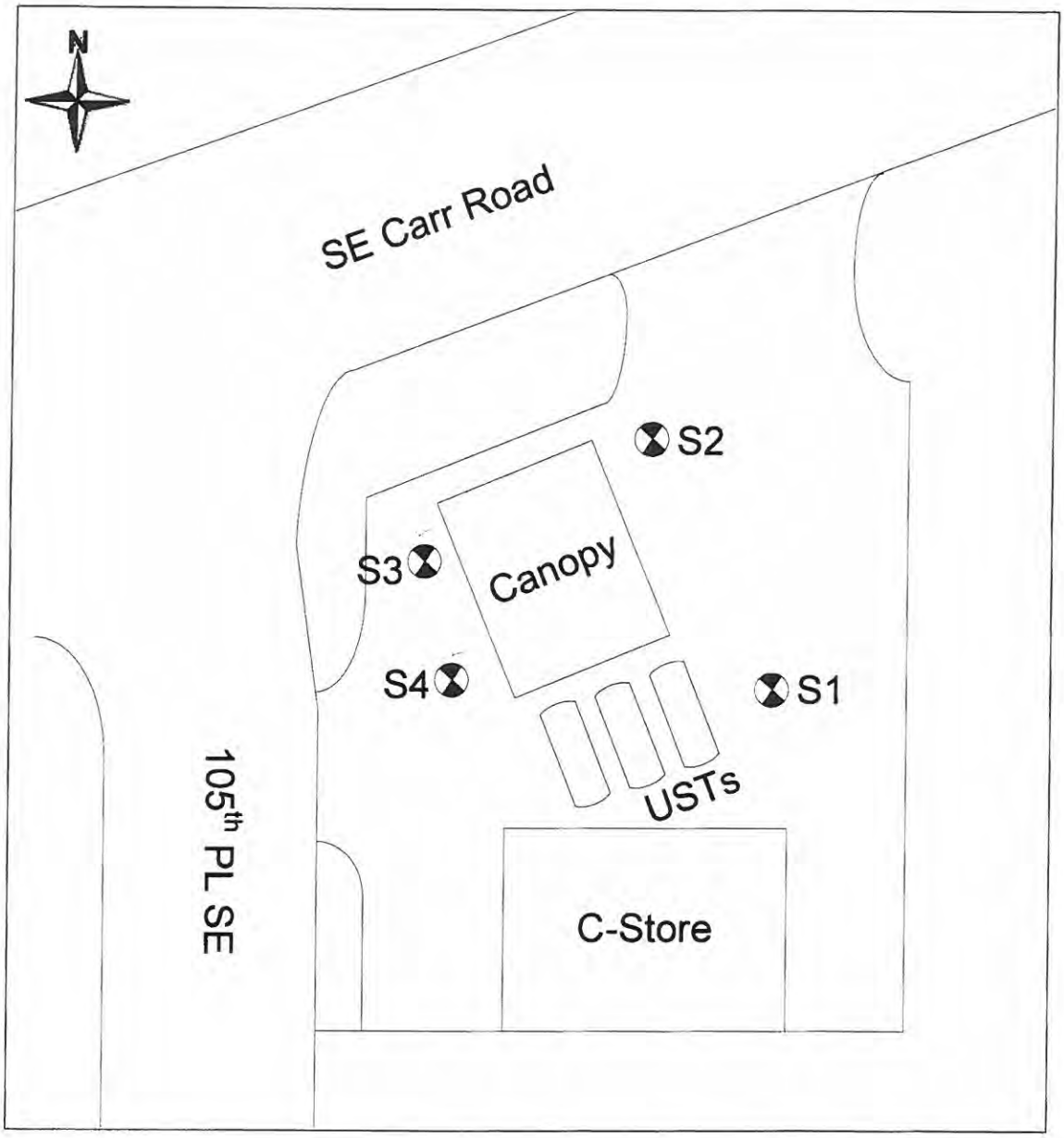
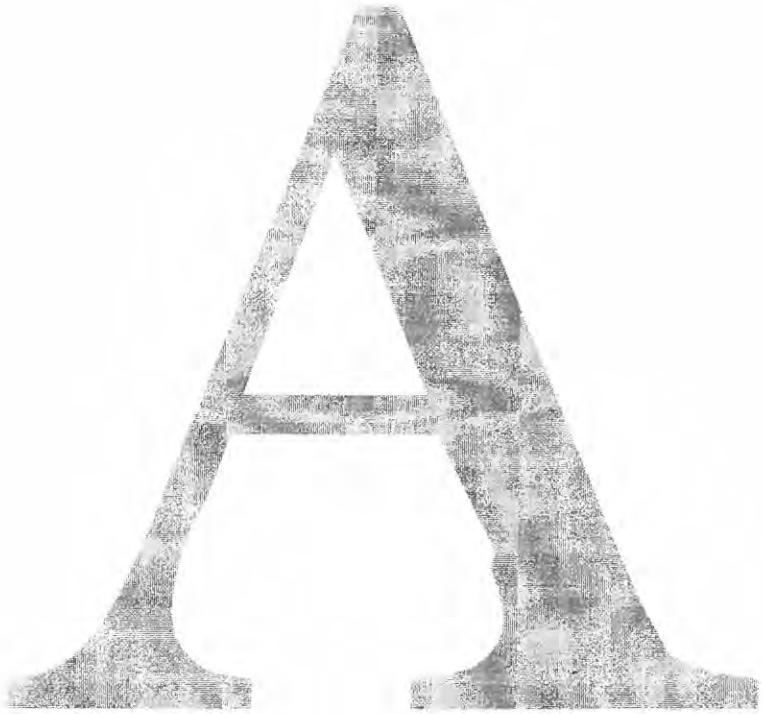



**Figure 3. Site Plan and Exploration Location Plan**

# APPENDICES

# APPENDIX A. BORING LOGS



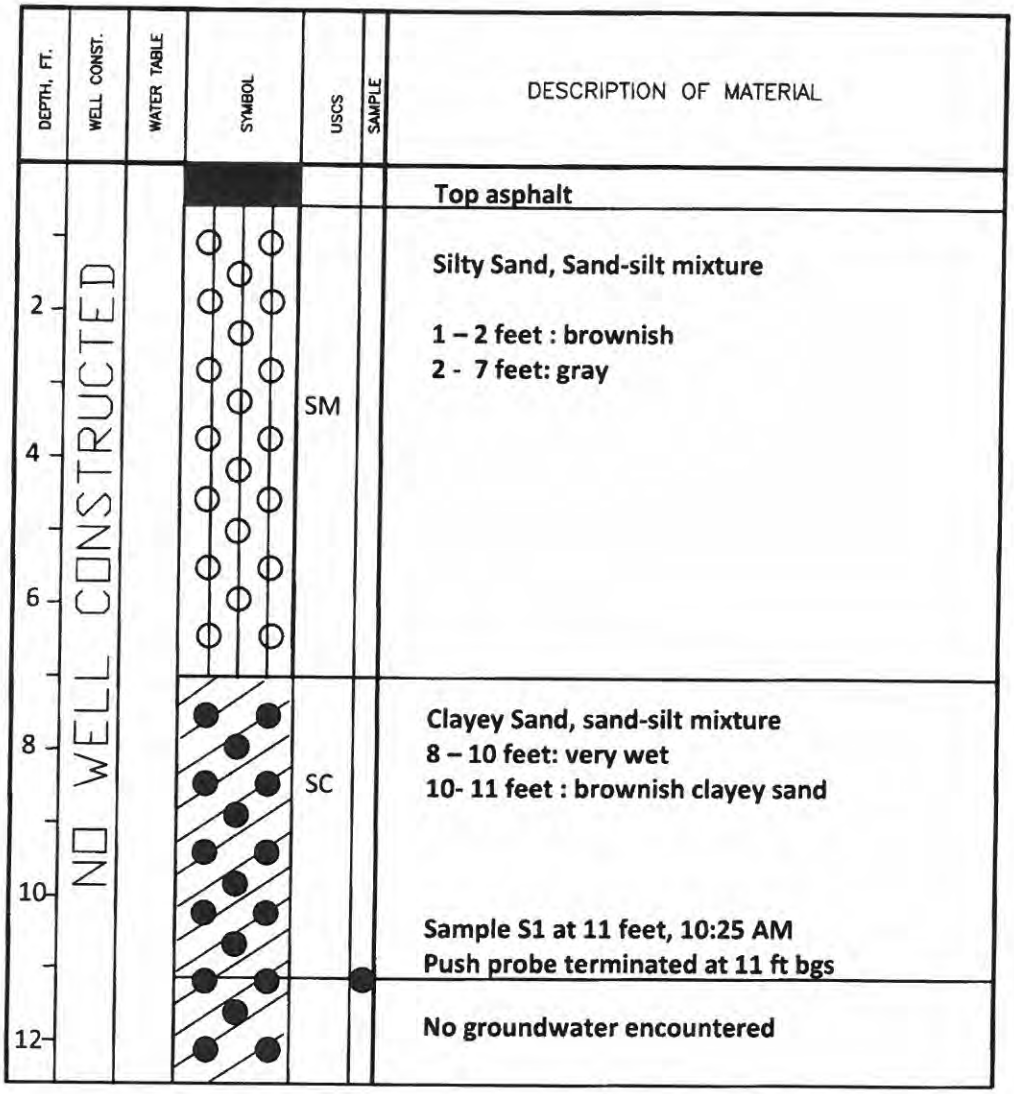
| Major Divisions (1) | (2) | Letter (3) | Symbols: Hatching (4) | Symbols: Color (5) | Name (6) |
|---|---|---|---|---|---|
| Coarse-Grained Soils | Gravel and Gravelly Soils | GW | | Red | Well-graded gravels or gravel-sand mixtures, little or no fines |
| | | GP | | | Poorly graded gravels or gravel-sand mixtures, little or no fines |
| | | GM | | Yellow | Silty gravels, gravel-sand-silt mixtures |
| | | GC | | | Clayey gravels, gravel-sand-clay mixtures |
| | Sand and Sandy Soils | SW | | Red | Well-graded sands or gravelly sands, little or no fines |
| | | SP | | | Poorly graded sands or gravelly sands, little or no fines |
| | | SM | | Yellow | Silty sands, sand-silt mixtures |
| | | SC | | | Clayey sands, sand-silt mixtures |
| Fine-Grained Soils | Silts and Clays LL < 50 | ML | | Green | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity |
| | | CL | | | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | | OL | | | Organic silts and organic silt-clays of low plasticity |
| | Silts and Clays LL ≥ 50 | MH | | Blue | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts |
| | | CH | | | Inorganic clays of high plasticity, fat clays |
| | | OH | | | Organic clays of medium to high plasticity, organic silts |
| Highly Organic Soils | | Pt | | Orange | Peat and other highly organic soils |

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**The Unified Soil Classification System (USCS)**

Sep 10, 2007 | Figure A1

# LOG OF BORING S1

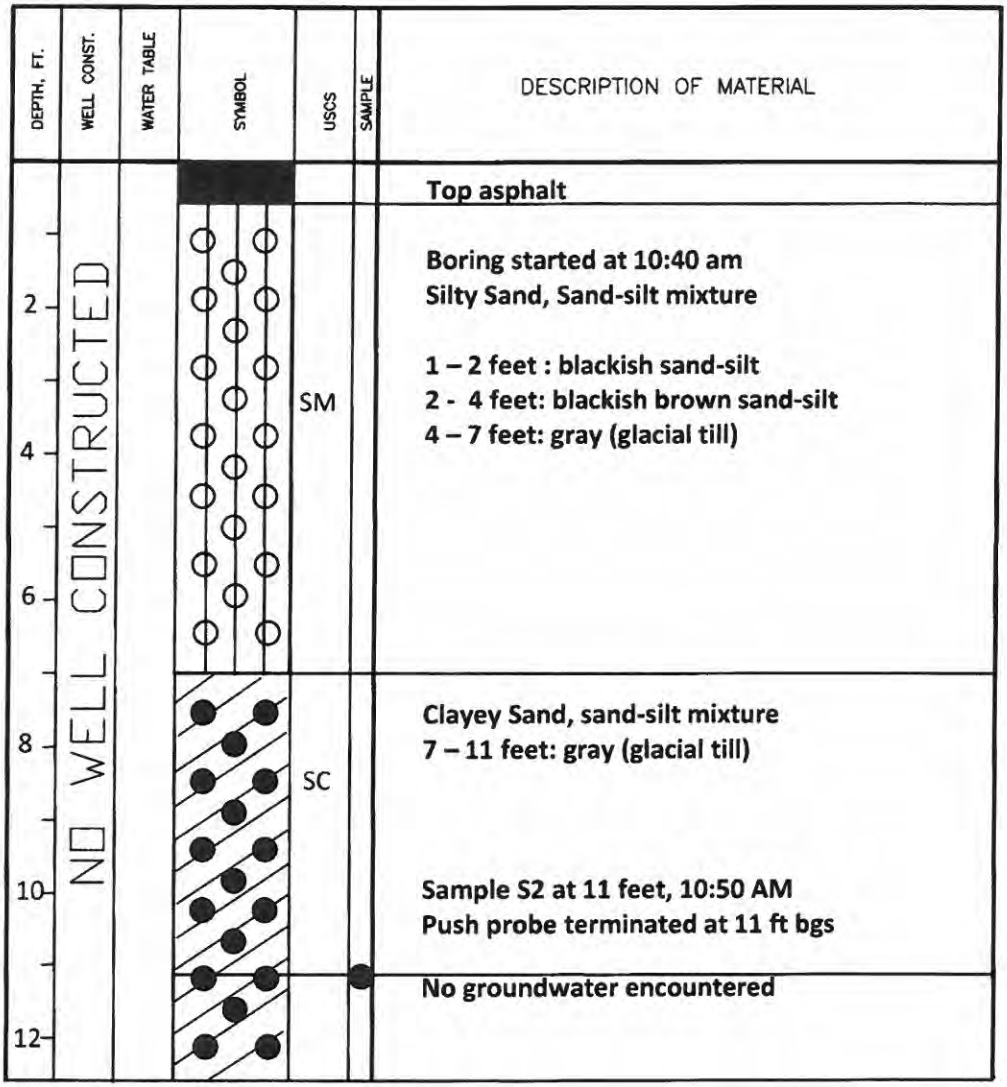



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**Sunny's Deli Mart**
**10545 SE Carr Road**
**Renton, WA 98055**

**September 10, 2007** | **Figure A2**

# LOG OF BORING S2

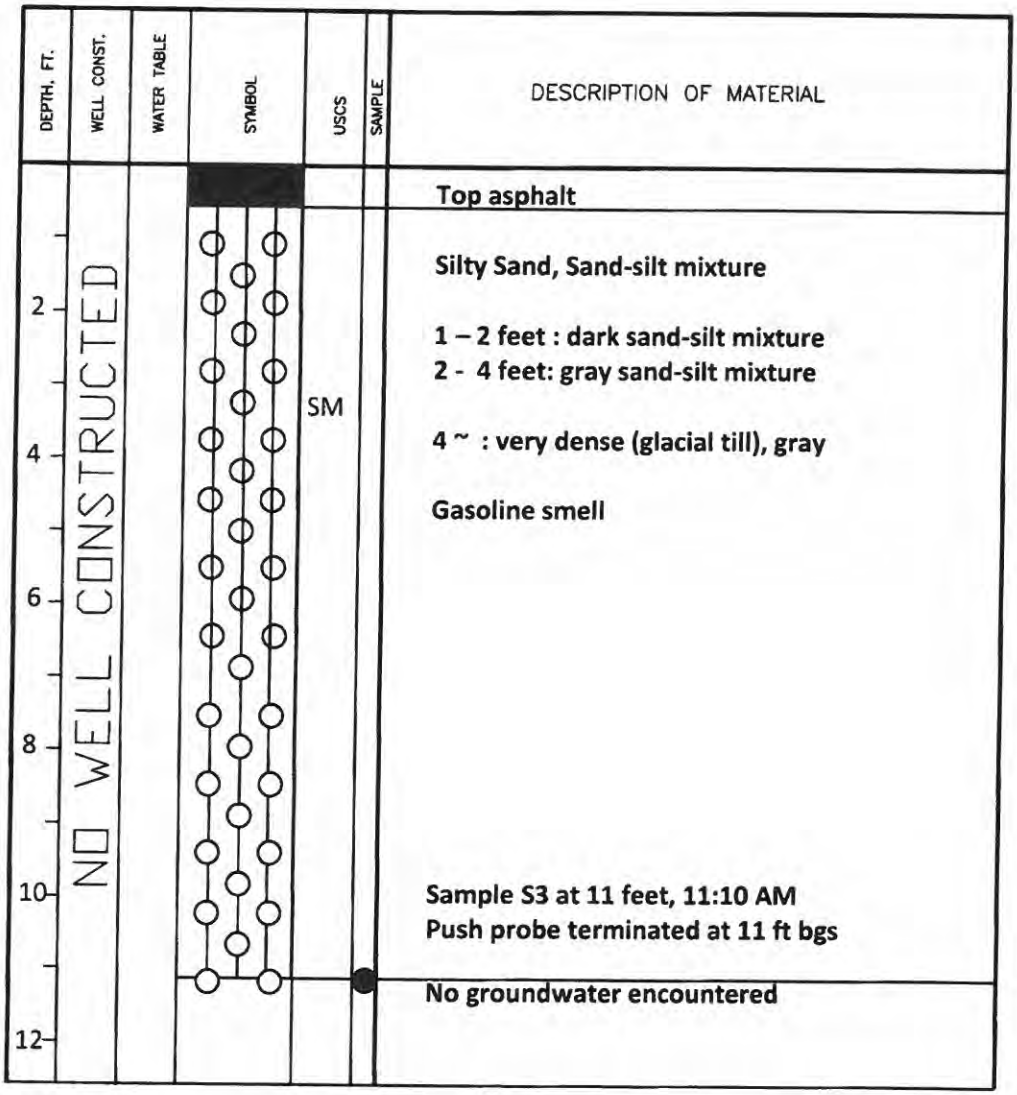



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**September 10, 2007** | **Figure A3**

# LOG OF BORING S3

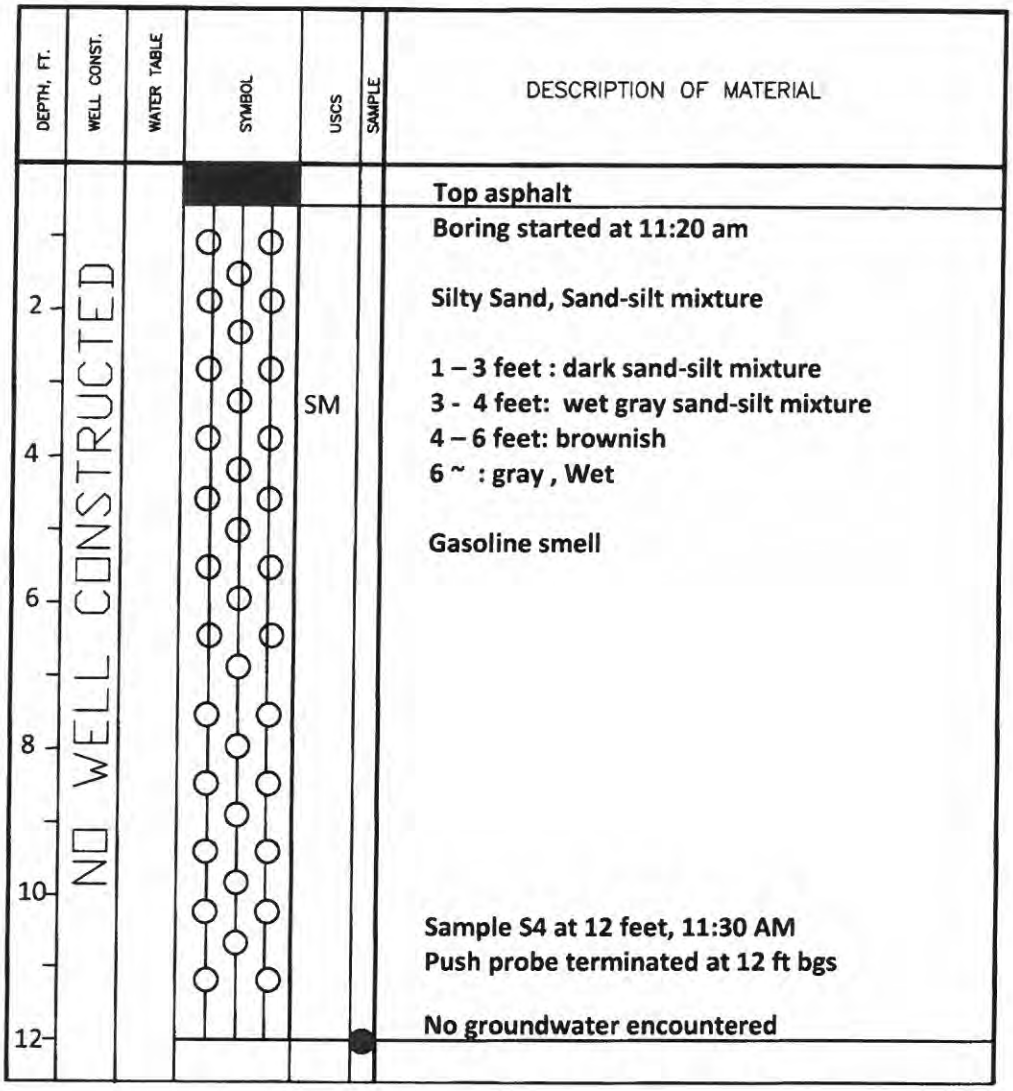



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**September 10, 2007** | **Figure A4**

# LOG OF BORING S4

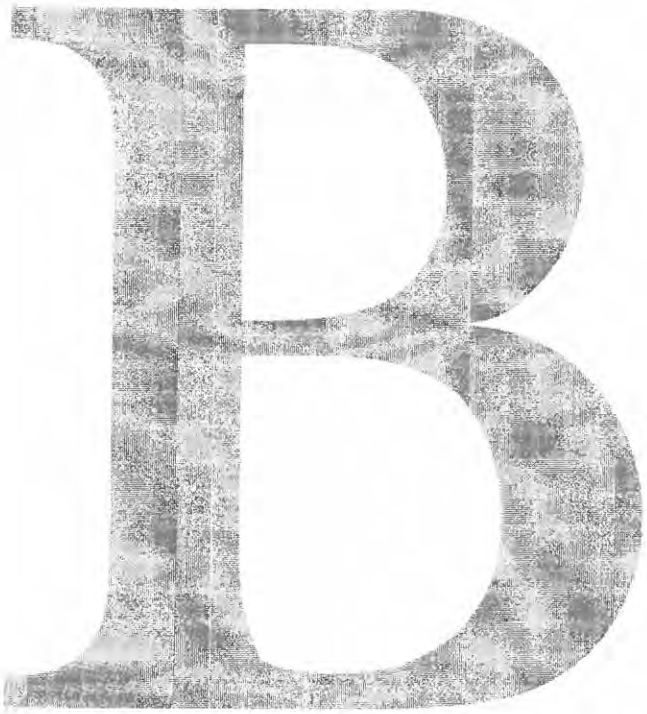



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**Renton, WA 98055**

**September 10, 2007** | **Figure A4**

# APPENDIX B. SITE PHOTOGRAPHS



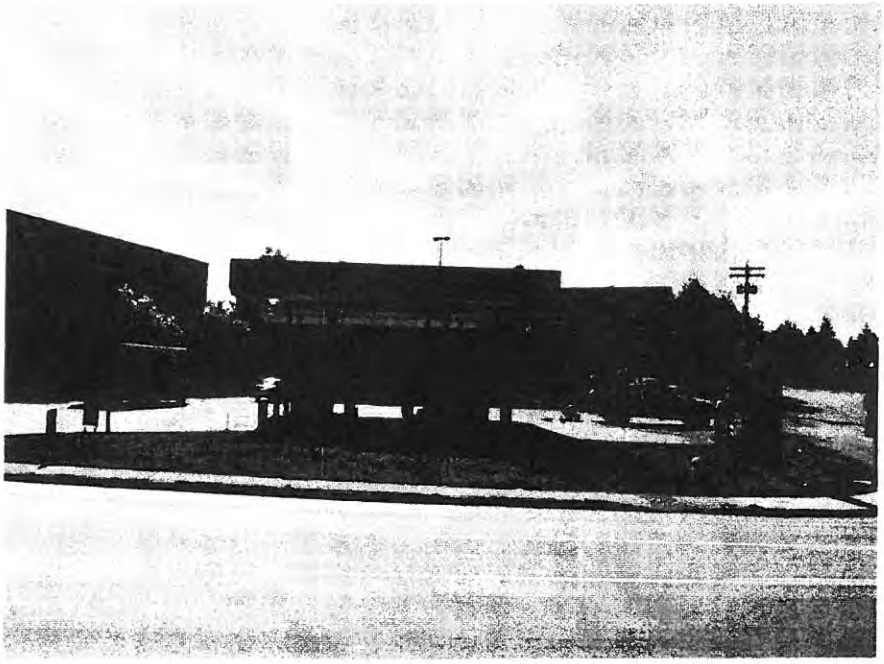


**Photo 1.** A front view of the Subject Property looking south across SE Carr Road.

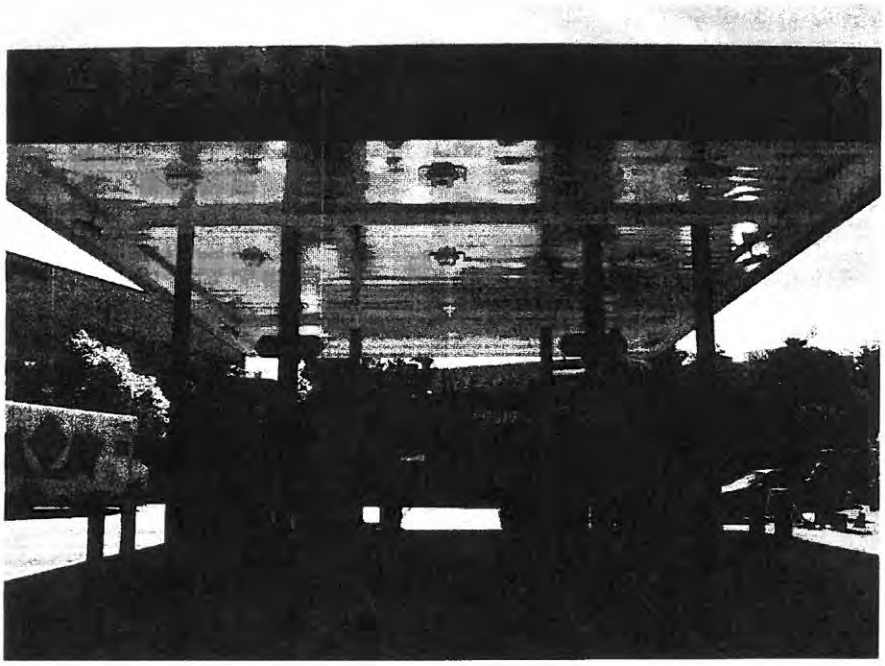


**Photo 2.** A View of canopy and pump islands looking south.



**Photo 3.** View of tank pad looking west.



**Photo 4.** A front view of the c-store looking south.

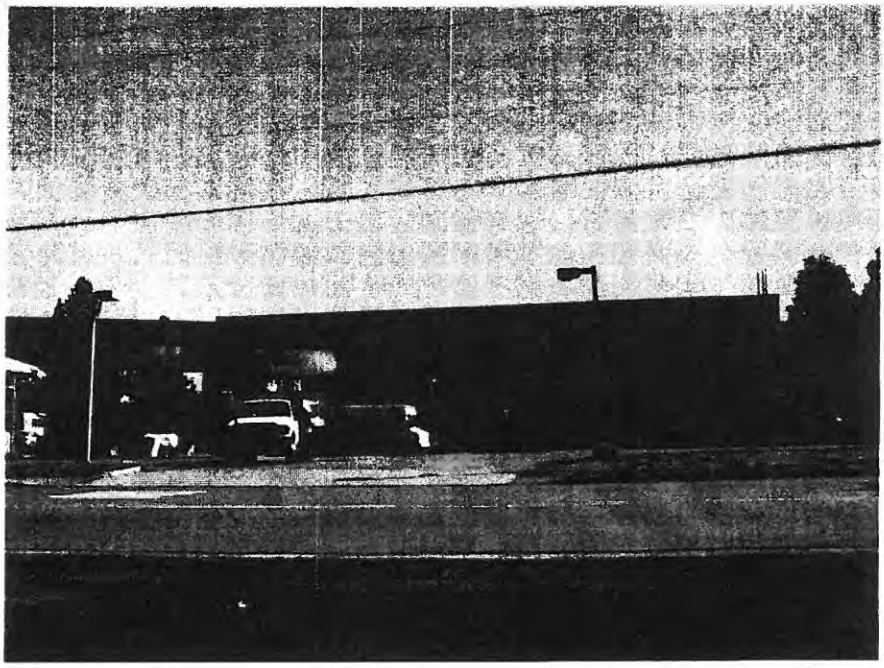


**Photo 5.** A side view of the subject property looking east.

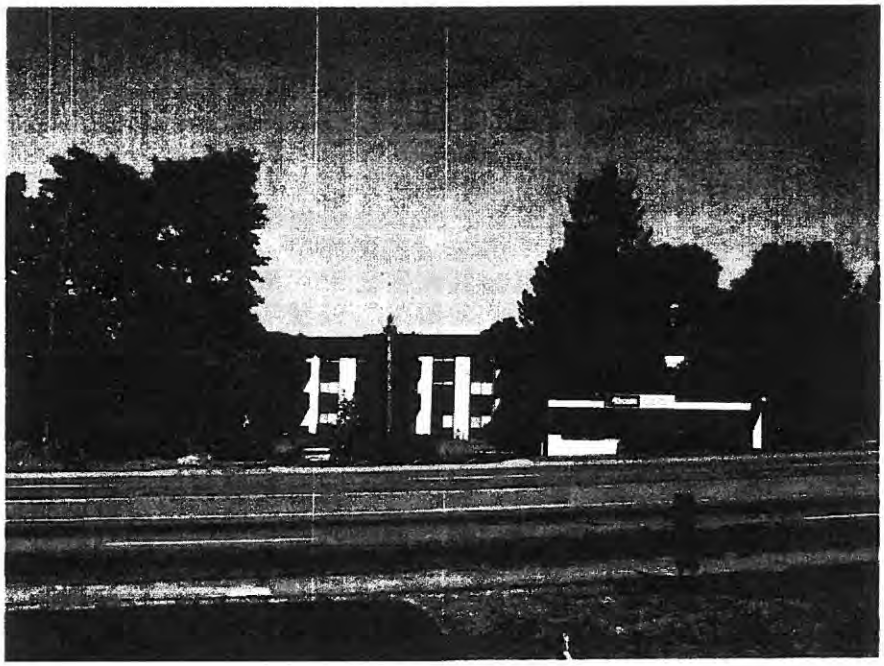


**Photo 6.** A view looking north from the Subject Property.

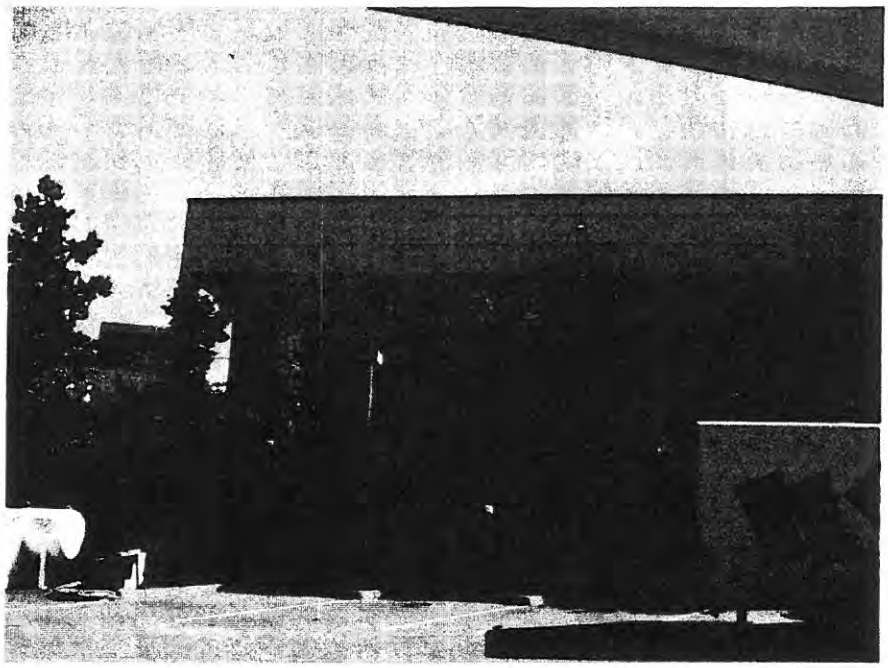


**Photo 7.** A view looking east from the subject property.

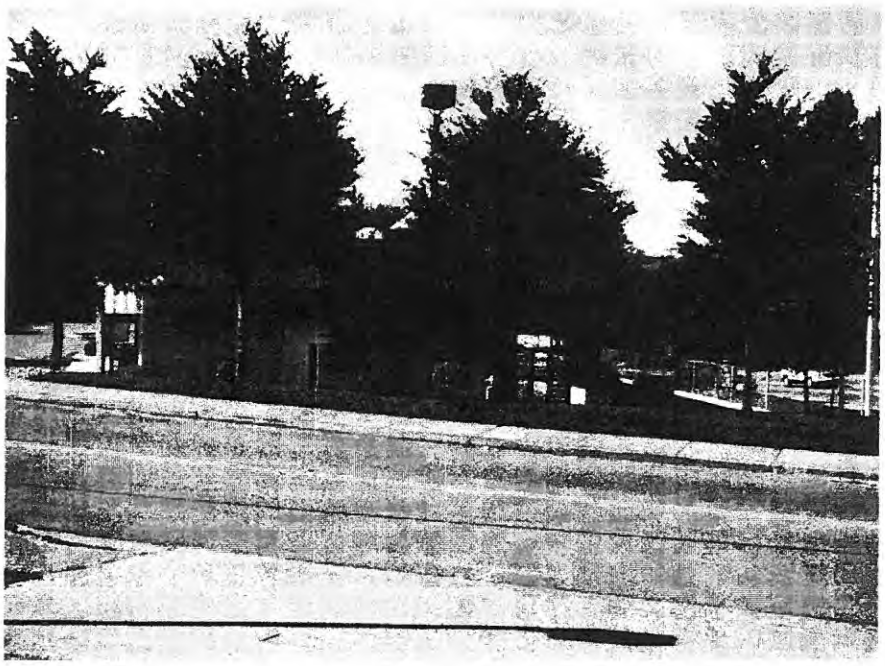


**Photo 8.** A view looking west from the Subject Property.

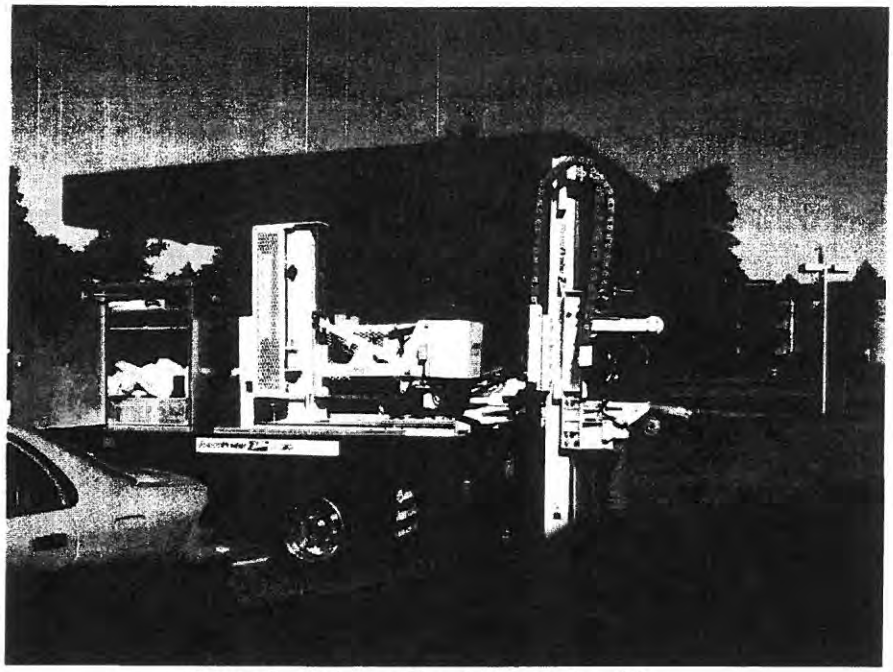


**Photo 9.** A view of boring location S1.

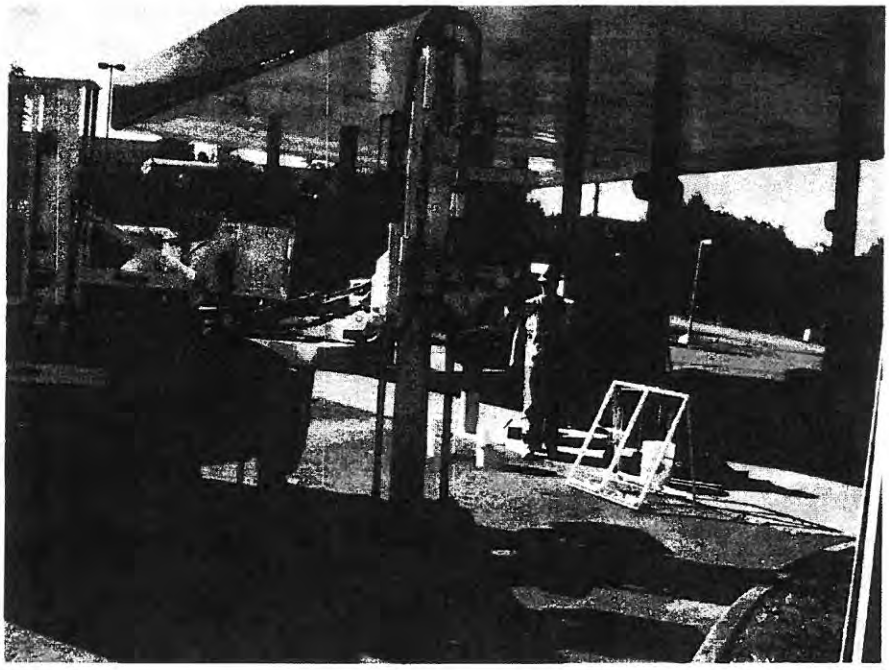


**Photo 10.** A view of boring location S2.

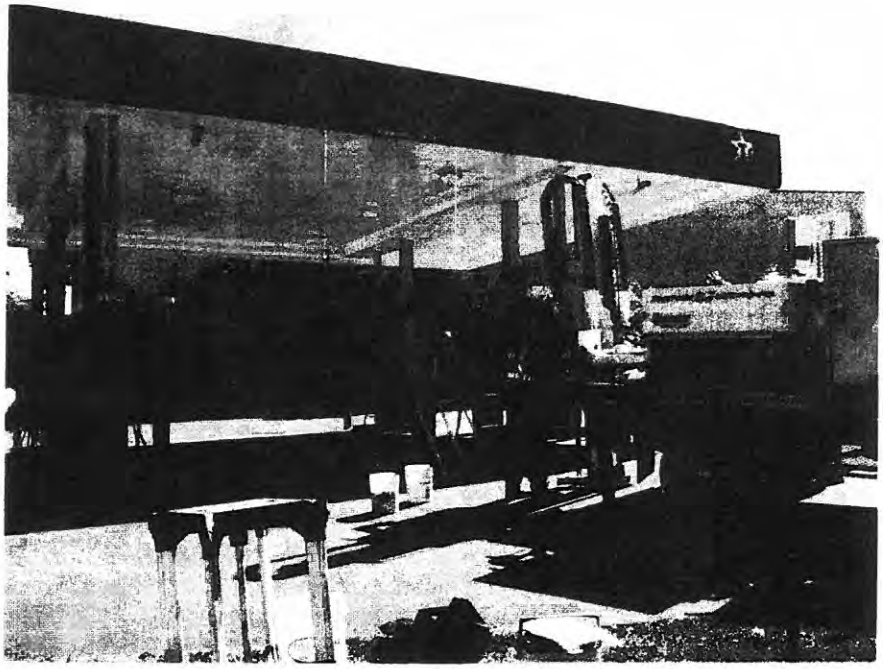


**Photo 11.** A view of boring location S3.

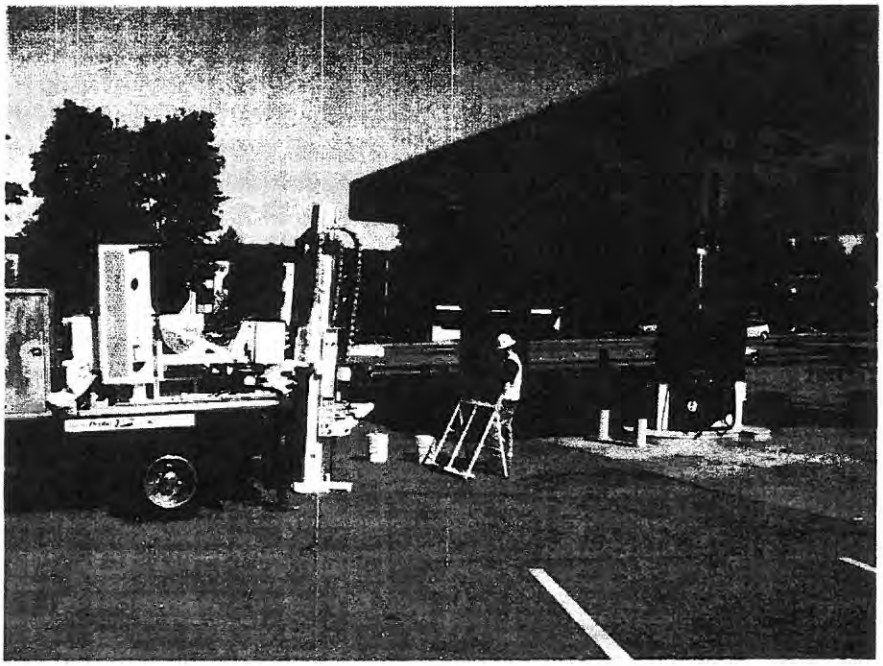
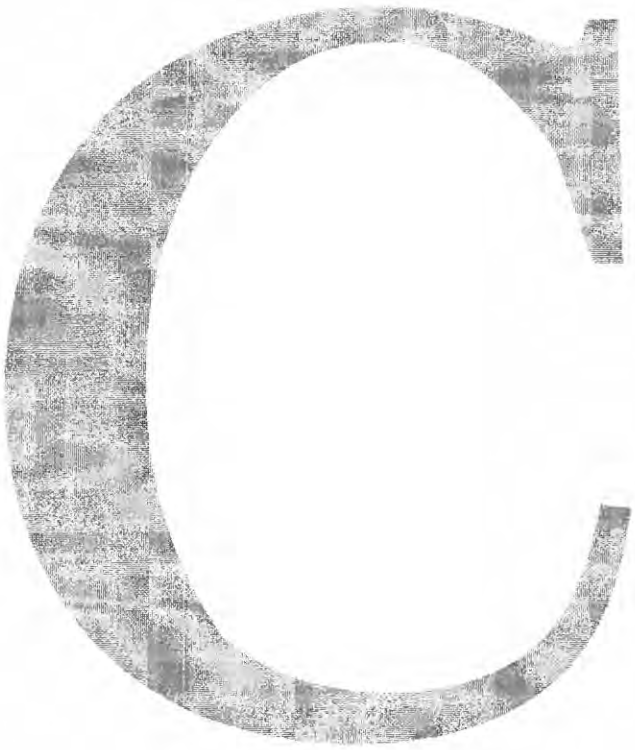


**Photo 12.** A view of boring location S4.

# APPENDIX C. LABORATORY REPORT



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 20, 2007

Jake Lee
Envitech, LLC
9528 226th Place NE
Redmond, WA 98052-3517

Re: Analytical Data for Project 01070828-1
Laboratory Reference No. 0709-053

Dear Jake:

Enclosed are the analytical results and associated quality control data for samples submitted on September 10, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**Case Narrative**

Samples were collected on September 10, 2007 and received by the laboratory on September 10, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx/BTEX Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

| Client ID: | **S1-11** | | | **S2-11** | | |
|---|---|---|---|---|---|---|
| Lab ID: | 09-053-01 | | | 09-053-02 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | **ND** | | 0.020 | **ND** | | 0.020 |
| Toluene | **ND** | | 0.077 | **ND** | | 0.045 |
| Ethyl Benzene | **ND** | | 0.077 | **ND** | | 0.045 |
| m,p-Xylene | **ND** | | 0.077 | **ND** | | 0.045 |
| o-Xylene | **ND** | | 0.077 | **ND** | | 0.045 |
| TPH-Gas | **ND** | | 7.7 | **ND** | | 4.5 |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 79% | | | 83% | | |



This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**

Date Extracted: 9-12-07
Date Analyzed: 9-12&13-07

Matrix: Soil
Units: mg/kg (ppm)

| Client ID: | **S3-11** | | | **S4-12** | | |
|---|---|---|---|---|---|---|
| Lab ID: | 09-053-03 | | | 09-053-04 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | **1.1** | | 0.047 | **14** | | 0.089 |
| Toluene | **0.33** | | 0.24 | **0.30** | | 0.089 |
| Ethyl Benzene | **1.7** | | 0.24 | **5.9** | | 0.089 |
| m,p-Xylene | **6.3** | | 0.24 | **2.8** | | 0.089 |
| o-Xylene | **1.7** | | 0.24 | **ND** | **U1** | 0.89 |
| TPH-Gas | **110** | | 24 | **670** | | 8.9 |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 98% | | | 94% | | |



This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0912S2

| | Result | Flags | PQL |
|---|---|---|---|
| Benzene | **ND** | | 0.020 |
| Toluene | **ND** | | 0.050 |
| Ethyl Benzene | **ND** | | 0.050 |
| m,p-Xylene | **ND** | | 0.050 |
| o-Xylene | **ND** | | 0.050 |
| TPH-Gas | **ND** | | 5.0 |
| Surrogate Recovery: Fluorobenzene | 90% | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

| Lab ID: | 09-060-02 **Original** | 09-060-02 **Duplicate** | **RPD** | **Flags** |
|---|---|---|---|---|
| Benzene | **ND** | **ND** | NA | |
| Toluene | **ND** | **ND** | NA | |
| Ethyl Benzene | **ND** | **ND** | NA | |
| m,p-Xylene | **ND** | **ND** | NA | |
| o-Xylene | **ND** | **ND** | NA | |
| TPH-Gas | **ND** | **ND** | NA | |
| Surrogate Recovery: | | | | |
| Fluorobenzene | 88% | 84% | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**MS/MSD QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

Spike Level (ppm): 1.93

| Lab ID: | 09-060-01 **MS** | Percent Recovery | 09-060-01 **MSD** | Percent Recovery | **RPD** | **Flags** |
|---|---|---|---|---|---|---|
| Benzene | **1.96** | **101** | **2.02** | **104** | 3 | |
| Toluene | **2.00** | **103** | **2.05** | **106** | 3 | |
| Ethyl Benzene | **2.00** | **104** | **2.06** | **107** | 3 | |
| m,p-Xylene | **2.02** | **105** | **2.08** | **107** | 3 | |
| o-Xylene | **2.03** | **105** | **2.08** | **107** | 2 | |

Surrogate Recovery:
Fluorobenzene 92% 91%



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| **Client ID:** | **S4-12** |
| Lab ID: | 09-053-04 |
| Diesel Range: | **ND** |
| PQL: | 28 |
| Identification: | --- |
| Lube Oil Range: | **ND** |
| PQL: | 57 |
| Identification: | --- |
| Surrogate Recovery | |
| o-Terphenyl: | 102% |
| Flags: | Y |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB0911S1 |
| Diesel Range: | **ND** |
| PQL: | 25 |
| Identification: | --- |
| Lube Oil Range: | **ND** |
| PQL: | 50 |
| Identification: | --- |
| Surrogate Recovery | |
| o-Terphenyl: | 113% |
| Flags: | Y |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**
**DUPLICATE QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |

| Lab ID: | 09-057-07 | 09-057-07 DUP |
|---|---|---|
| Diesel Range: | **ND** | **ND** |
| PQL: | 25 | 25 |
| RPD: | N/A | |
| Surrogate Recovery | | |
| o-Terphenyl: | 122% | 109% |
| Flags: | Y | Y |



This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

## % MOISTURE

Date Analyzed: 9-12-07

| Client ID | Lab ID | % Moisture |
|---|---|---|
| S1-11 | 09-053-01 | 34 |
| S2-11 | 09-053-02 | 10 |
| S3-11 | 09-053-03 | 9 |
| S4-12 | 09-053-04 | 12 |



This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

# Chain of Custody

Page 1 of 1

**OnSite Environmental Inc.**
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Envitech
Project Number: 01070828-1
Project Name: Sunny's Deli Mart
Project Manager: Jake Lee
Sampled by: Jake Lee

**Turnaround Request (in working days)**

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

**Laboratory Number:** 09-053

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont. | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270C | PAHs by 8270C / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | VPH | EPH | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S1-11 | 9.10.07 | 10:25 | Soil | 2 | | X | | | | | | | | | | | | | | X |
| 2 | S2-11 | 9.10.07 | 10:50 | Soil | 2 | | X | | | | | | | | | | | | | | X |
| 3 | S3-11 | 9.10.07 | 11:10 | Soil | 2 | | X | | | | | | | | | | | | | | X |
| 4 | S4-12 | 9.10.07 | 11:30 | Soil | 2 | | X | X | | | | | | | | | | | | | X |

| | Signature | Company | Date | Time | Comments/Special Instructions: |
|---|---|---|---|---|---|
| Relinquished by | | Envitech | 9-10-07 | 17.35 | |
| Received by | | OnSite Env. | 9/10/07 | 1735 | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Reviewed by/Date | | Reviewed by/Date | | | Chromatograms with final report ☐ |

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

***AEROTECH***
***Environmental Consulting Inc.***
9951 Mickelberry Road NW, Suite 219
Silverdale, Washington 98383
Fax (360) 692-1150
(360) 692-2131

February 7, 2008

Mr. Chris Chu
UNIBANK
16929 Highway 99, Suite No. 110
Lynnwood, Washington 98037
Fax: (425) 275-9777
(425) 275-9713

Re: Site Characterization & Remediation Work Plan
**SUNNY'S DELI MART & TEXACO**
10545 S.E. Car Road
Renton, Washington 98055

Prepared by: Robert M. Rodman, BSME, November 2007.

Dear Mr. Chu,

Per your previous request, we have reviewed the aforementioned Site Characterization Investigation and Remediation Work Plan as prepared by Robert M. Rodman. The Site Characterization identified the following petroleum impacted areas:

> "the groundwater Northwest (down gradient) of the station's UST's and pump islands contains concentrations of gasoline and BTEX that exceed the MTCA Method A cleanup levels. These results indicate that a release of gasoline product may have occurred from the on-site UST's or piping in the vicinity of the USTs. The release likely occurred near the water table or migrated downward to the water table without spreading laterally through the soil. The released gasoline is dissolving into the groundwater and moving Northwest from the UST location. The low concentrations of BTEX indicate that the gasoline is relatively old. A limited amount of soil appears to have been impacted in the areas tested, and most of this is soil interfacing with the groundwater."

*Site Characterization for Sunny's Deli Mart & Texaco*, prepared by Robert Rodman, B.S.M.E., November 2007, "Conclusions."

Based upon the data developed in the aforementioned Phase II Investigation, Robert Rodman has recommended a response and remediation action employing bioremediation with microbe based technology. The prepared Work Plan states:

> Utilizing the injection points, enhanced microbes and surfactant's [sic] purchased from Blue Strip Distributing under the brand name "Superbugs" will be injected into the groundwater every two weeks for the first two months. Water samples will be taken from the monitoring well with the highest contamination level prior to treatment and then once each month until cleanup levels are achieved. Once analytical results from the monitoring wells are below Department of Ecology (WDOE) cleanup levels, Phase III will begin. ... Water samples will be taken once every quarter from each monitoring well and analyzed by the project laboratory. When four consecutive quarters of analyses show no detection of hydrocarbons in the water, a no further action (NFA) status will be sought from WDOE.
>
> Estimated time line till NFA is 18 months.
> Estimated total cost of project is $20,000.

*Remediation Work Plan for Sunny's Deli Mart & Texaco*, prepared by Robert Rodman, dated November 2007.

**SITE RESPONSE ACTIONS**
**"ROUGH" ESTIMATED COST ANALYSIS[1]**

When appropriately utilized, bio-remediation can be an extremely cost effect method of petroleum hydrocarbon subsurface remediation.

However, since this methodology relies upon the random nature of biological organisms, accurate estimates of both the time involved and cost tend to fluctuate over a wide range.

Based upon the supplied information, in our professional opinion we recommend that Unibank establish a reserve account of 2.5 times the consultant's estimated project cost, for a total reserve of :

$50,000.00

Since a pilot or test study of the effectiveness of bio-remediation at this particular Site has not been performed, we further recommended all initial payments for project costs incurred be withheld until data is available to prove that the bio-remediation process is in fact working at the Site.

As always, thank you for allowing our firm to be of service. If we can answer any additional questions or be of further assistance, please do not hesitate to call.

Best regards,

Alan T. Blotch

---

[1] State of Washington Court decisions have held that an "estimated" remediation cost budget should generally be expected to be within 15 - 18% of the actual cost of remediation. Due to the limitation of available Site contamination data, all "estimates" contained within this communication may or may not be within that range.

# REMEDIATION WORK PLAN

## Sunny's Deli Mart & Texaco

10545 SE Carr Road
Renton, Washington 98055

WDOE SITE ID # 6333


PREPARED BY

***ROBERT M. RODMAN***
***ENVIRONMENTAL CONSULTANT***
***BSME, Licensed Site Supervisor, Certified Environmental Site Assessor***
***Certified Regulatory Compliance Specialist***
***15513 Cedar Grove Road NE, Poulsbo, Washington 98370***
***Phone/Fax: (360) 779-6911***


**October 2007**

## PROJECT DESCRIPTION

The objective of this project will be the cleanup of petroleum contaminated soil from the site of the Texaco gasoline service station doing business as Sunny's Deli Mart, located on the Northwest corner of SE Carr Road and 106th Place SE in Renton, Washington. The cleanup method to be employed will be Bio-remediation; microbes which feed on hydrocarbons will be introduced into the contaminated areas. This method is non-intrusive and will not interfere with the operation of the business.

## BACKGROUND

In April of 1991, hydrocarbon contamination was discovered on site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site. (See **Exhibit A**).

In October of 2007, a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. 2 of the boring's **S3** and **S4** produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment.

## WORK PLAN

The first step of this project will be to perform a site characterization as required by WAC 173-340-450. Part of this characterization will be the advancement of a boring until ground water is reached (20 to 30 feet deep in this area). A monitoring well will be installed and water samples taken.

6 soil boring's will be advanced to a depth of 15 to 20 feet. Soil samples will be placed in a Ziplock bag, warmed and then field analyzed for hydrocarbons, the gasoline constituents, Benzene, Toluene, Ethyl benzene and, Xylenes (BTEX) utilizing a MultiRAE, Model PGM-50 Photo Ionization Detector (PID).

Each sample was also sheen tested (Soil sample is placed in a black plastic pan and clean water is poured over the sample, if the surface of the water develops any type of sheen, hydrocarbon contamination is indicated). Soil and water samples will be sent for laboratory analysis following all EPA established sample handling protocols.

The soil and water samples will be analyzed for gasoline using the test method NWTPH_Gx, and for the gasoline constituents Benzene, Toluene, Ethyl benzene, Xylenes (BTEX), and MTBE using the EPA test method 8021B. The project laboratory will be ESN Northwest Laboratories, 677 Woodland Square Loop SE, Suite D, in Lacey, Washington.

Procedures used are consistent with those outlined in the Washington Department of Ecology (WDOE) publication, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, revised edition, October, 1992.
See **Figure 1** for proposed sampling locations.

Upon completion of the site characterization, a remediation plan will be produced.

**Robert Rodman** BSME
Environmental Consultant
**Donald Balmer** LG
Hydrogeologist

# Exhibit A

LEAKING UNDERGROUND STORAGE TANKS (LUSTLIST
2/16/2006

| COUNTY | CITY | FS-ID | SITE_ID | RELEASE ID | SITE NAME | ALTERNATE_NAME | STREET | ZIP | LATITUDE |
|---|---|---|---|---|---|---|---|---|---|
| King | | | | | | | | | |
| | Renton | | | | | | | | |
| | | 58459353 | 6089 | 1487 | SOUND FORD INC | SOUND FORD RENTON | 750 RAINIER AVE S | 980553203 | 47.473212 |
| | | 58459353 | 6089 | 1487 | SOUND FORD INC | SOUND FORD RENTON | 750 RAINIER AVE S | 980553203 | 47.473212 |
| | | 55231872 | 6333 | 1816 | SUNNY'S DELI MART | ERNIE'S DELI | 10545 SE CARR RD | 98055 | 47.44437 |
| | | 55231872 | 6333 | 1816 | SUNNY'S DELI MART | ERNIE'S DELI | 10545 SE CARR RD | 98055 | 47.44437 |
| | | 96572525 | 6789 | 521951 | INDY LUBE | FORMULA ONE SERVICE | 100 RAINIER AVE S | 980552044 | 47.482882 |
| | | 96572525 | 6789 | 521951 | INDY LUBE | FORMULA ONE SERVICE | 100 RAINIER AVE S | 980552044 | 47.482882 |
| | | 36726432 | 6687 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 36726432 | 6687 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 36726432 | 6687 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 27778869 | 6890 | 2162 | RENTON 1 | CAR WASH ENTERPRISES RE | 621 RAINIER AVE S | 980552410 | 47.474922 |
| | | 27778869 | 6890 | 2162 | RENTON 1 | CAR WASH ENTERPRISES RE | 621 RAINIER AVE S | 980552410 | 47.474922 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 79233831 | 7888 | 381891 | TUKWILA GULL #240 | GULL 240 | 15640 WEST VALLEY HWY | 98055 | 47.461641 |
| | | 79233831 | 7888 | 381891 | TUKWILA GULL #240 | GULL 240 | 15640 WEST VALLEY HWY | 98055 | 47.461641 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 60178828 | 7842 | 5543 | SEARS ROEBUCK & COMPANY | SEARS SVC CTR OLD RENTO | 359 RENTON CENTER WAY S.W. | 980552393 | 47.476392 |
| | | 60178828 | 7842 | 5543 | SEARS ROEBUCK & COMPANY | SEARS SVC CTR OLD RENTO | 359 RENTON CENTER WAY S.W. | 980552393 | 47.476392 |

# Figure 1

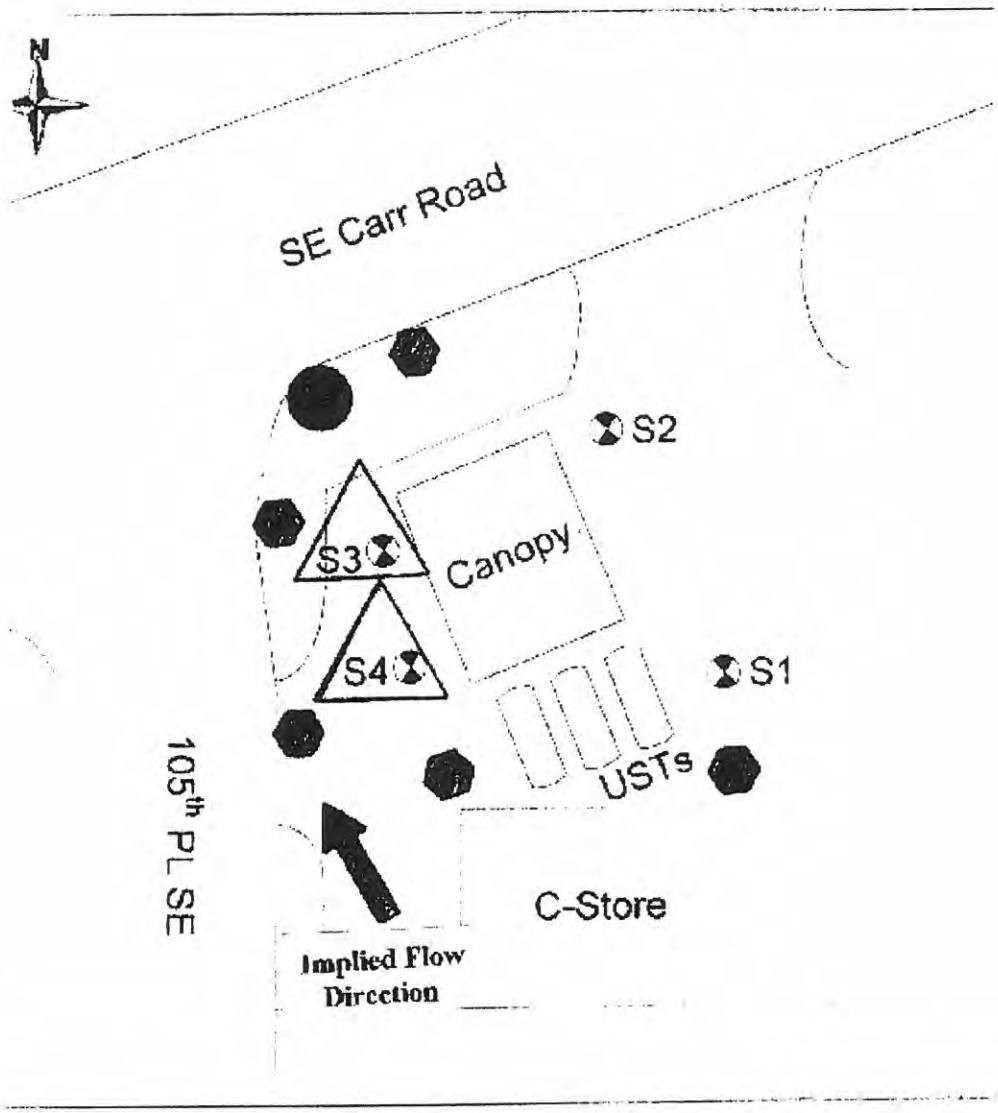



**Figure 3. Site Plan and Exploration Location Plan**

Phase II
Contaminated Boring's

Proposed
Soil Boring's

Proposed
Monitoring Well
(Assumed Site Low Point)

ghd Hyrangea

ROBERT M. RODMAN ENGINEERING SERVICES

JOHNSON CONTROLS

Johnson Controls, Inc.
Pan Am World Services, Inc.
Bangor Support Project
Naval Submarine Base Bangor
Silverdale, WA 98315
Tel 206/396 4662
FAX 206/396 7026

Robert M. Rodman
*Senior Environmental Engineer*

PWS

Pacific Western Services
Telecommunications, Programming, CAD, GIS, Environmental

(360) 692-2602
(360) 692-5917 FAX

3594 N.W. Byron Street
P.O. Box 304
Silverdale, WA 98383-304

(713) 363-9700
(713) 363-9464 (RES.)

**ERCO-Energy Resources Co., Inc.**
ENGINEERING, GEOLOGICAL AND
FINANCIAL CONSULTANTS

ROBERT M. RODMAN - CONTROL SYSTEMS ENGINEER
1776 WOODSTEAD CT., SUITE 200, THE WOODLANDS, TEXAS 77380

713/987-1100

ROBERT M. RODMAN
Sr. Control Systems
Engineer

BEST INDUSTRIES, INC. • 12800 Aldine - Westfield Road
P.O. Box 11877 • Houston, Texas 77293-1877 • Telex #79-1142

KOOMEY INC.

ROBERT M. RODMAN
Supervisor, Subsea Engineering

4747 Winfield Rd.
Houston, Texas 77039

Office 713-449-2252
Telex 791833

Cameron
IRON WORKS, INC.

ROBERT M. RODMAN
PRODUCTION DESIGN ENGINEERING
CONTROL SYSTEMS ENGINEERING

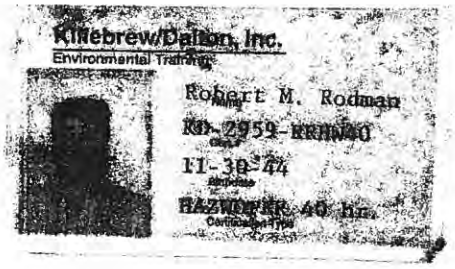
P. O. BOX 1212
HOUSTON, TEXAS 77001
(713) 939-4434
(713) 939-4426

Robert M. Rodman
Test Engineer

HYDRIL

Advanced Ocean Systems
5600 Bintliff
Houston, Texas 77036
(713) 977-0366






**Environmental Maintenance and Technology**

This certifies that

**Robert M Rodman**

Has completed 8 hr Refresher of training in:

Hazardous Waste Operations
Emergency Response

In compliance with OSHA 29 CFR 1910.120

PPE Taught: A, B, C, & D Initialed

Class Date: June 17, 2004

Certification Number: 060416R

Expires: June 17, 2005

Training Administrator

has participated in an American Heart Association, Washington Affiliate Basic Life Support (BLS) program.

Modules
- Adult Foreign Body Airway Obstruction & CPR
- Two Person CPR
- Pediatric BLS
- Barrier Devices
- Introduction to AED (optional)

☑ Heart Saver (Adult)

☐ Pediatric BLS (FBAO & CPR)

Date of Course

BLS Instructor/Instructor Trainer

THIS CARD DOES NOT CONSTITUTE CERTIFICATION OF SKILLS

This card is issued up to 2 years from date of issue.

Safety Data Services Inc.
OSHA AND L&I APPROVED EDUCATION & CONSULTING

**Chain of Survival** First Aid and CPR Program

**Certification Card**

5220 Agnes Road N.E.
Tacoma, Washington 98422

Tel. (206) 925-5159
(800) 240-5159

**Washington Underground Storage Tank Supervisor License**

This license is issued by the Director of the Department of Ecology in compliance with WAC 173-360 to:

RODMAN, ROBERT M

The licensee is authorized to supervise the following Underground Storage Tank Services in the State of Washington.

| Number | Expires | License |
|---|---|---|
| W882577 | 31 DEC 95 | INSTALLATION |
| | 31 DEC 95 | DECOMMISSIONING |

Signature

ECY 020-39 (REV)

International Conference of Building Officials

ROBERT M RODMAN
is CERTIFIED in
UNDERGROUND STORAGE TANK
DECOMMISSIONING

The individual named hereon is CERTIFIED in the category shown, pursuant to successful completion of the prescribed written examination.

Expiration date: June 14, 2003
ICBO No. 5071452-26
ASI No. 32003472

Not valid unless signed by certificate holder.

*ICBO certification attests to competent knowledge of codes and standards. Applicable experience should be verified by local jurisdictions.*

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Mail Stop PV-11 • Olympia, Washington 98504-8711 • (206) 459-6000

04 FEB 93

RODMAN, ROBERT M
JOHNSON CONTROLS SEEVICES
BOSC MS J33 NAVAL SUBBASE
SILVERDALE, WA 98315-5000

To Applicant:

This letter is confirmation that you are registered with the Washington State Department of Ecology Underground Storage Tank Program to perform site assessments in Washington State. Your name, address and phone number will be made available to individuals or firms who may be interested in your services.

Enclosed is the Department of Ecology's "Guidance for Site Checks and Site Assessments for Underground Storage Tanks" which has been prepared to clarify Ecology's requirements for conducting UST site checks and site assessments.

Also enclosed is the Site Check/Site Assessment checklist. For each site check or site assessment performed, the checklist must be filled out and submitted along with two copies of the results to the address shown on the checklist.

If you have any questions concerning the guidance or checklist, or any other questions on UST site assessments in general, please call Leon Wilhelm at (206) 438-7162.

Sincerely,

John Bails
Licensing Coordinator
Underground Storage Tank Section
Toxics Cleanup Program

JB:sd
Enclosure

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

February 6, 2004

Marlyn Kottsick
Robert Rodman
19136 Viking Way MW
Poulsbo, WA 98370

Dear Mr. Kottsick & Mr. Rodman:

Re: No Further Action/Independent Remedial Action NW0905
Tri Arc Electric/Puget Investments Property 640 South Spokane Street, Seattle, WA

Thank you for submitting the results of your independent remedial action(s) for review by the State of Washington Department of Ecology (Ecology). Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act (MTCA).

Ecology's Toxics Cleanup Program has reviewed the following information regarding the Tri Arc Electric property, located at 640 Spokane Street, Seattle, WA:

1. Phase II Environmental Site Assessment, March, 1995
2. Independent Remedial Cleanup Action Report, April, 2002
3. Letter from Ecology, dated 11/14/02 and
4. Summary of Groundwater testing December, 2003.

The reports listed above will be kept in the Central Files of the Northwest Regional Office (NWRO) of Ecology for review by appointment only. Appointments can be made by calling Central Records at the NWRO at (425) 649-7190 or -7239.

Based upon the information in the reports listed above, Ecology has determined that, at this time, the release of Total Petroleum Hydrocarbons (diesel & gasoline range) into the soil & groundwater no longer poses a threat to human health or the environment.

Therefore, Ecology is issuing this determination that no further remedial action is necessary at this site under MTCA, chapter 70.105D RCW. However, please note that because your actions

were not conducted under a consent decree with Ecology, this letter is written pursuant to RCW 70.105D.030(1)(i) and does not constitute a settlement by the state under RCW 70.105D.040(4) and is not binding on Ecology.

Ecology's 'no further action' determination is made only with respect to the release identified in the report(s) listed above. This 'no further action' determination applies only to the area of the property affected by the release identified in the reports at 640 Spokane Street, Seattle, WA. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Marlyn Kottsick or Puget Investments.

Ecology will update its database to reflect this 'no further action' determination. Your site will not appear in future publications of the Confirmed & Suspected Contaminated Sites Report (previously known as the Affected Media and Contaminants Report.)

The state, Ecology, and its officers and employees are immune from all liability and no cause of action of any nature may arise from any act or omission in providing this determination.

If you have any questions, please contact Teri Fisher at 425/649-4446.

Sincerely,

Teri Fisher

Teri Fisher
Toxics Cleanup Program

TF:tf

cc: Robert Rodman, Environmental Consultant

December 14, 1993

Robert Rodman
Johnson Controls
Naval Sub-base Bangor
M/S J-33
Silverdale, WA 98315

Dear Mr. Rodman:

This letter is to confirm your attendance and successful completion of the course entitled *Site Monitoring, Characterization, and Remediation for Underground Storage Tanks* offered by the University of Washington College of Engineering, December 2 and 3, 1993. Participants in the course earned 1.4 Continuing Education Units.

Any questions regarding your attendance or earning of CEUs may be directed to me at Engineering Professional Programs.

Sincerely,

Emily West

Emily West
Office Assistant

DEPARTMENT OF THE NAVY
NAVAL SUBMARINE BASE, BANGOR
SILVERDALE, WA 98315-5000

9593
Ser 851/ 001928
23 JUL 1992

Mr. Greg Kahler
Johnson Controls World Services Inc.,
Bangor Support Project
Naval Submarine Base, Bangor
Silverdale, WA 98315-5070

Dear Mr. Kahler:

We wish to formally recognize the excellent service your employee, Mr. Bob Rodman, has provided to Naval Submarine Base Bangor. We especially appreciate the work he has done in support of our Underground Storage Tank Program. He has done an excellent job keeping abreast of current regulations, researching ever changing equipment and coordinating Engineering design work. He has also provided an outstanding interface between all the parties involved in keeping our underground storage tanks in full compliance. Thank you for the excellent support.

Sincerely,

R. H. SETSER
Captain, U.S. Navy
Commanding Officer

. RECOGNIZING . EXCELLENCE .



# TEAM EXCELLENCE

BANGOR SUPPORT PROJECT

MERIT AWARD WINNER - 1990

*Awarded To:*

ROBERT M. RODMAN

*In recognition for meeting and exceeding the increasing expectations of your customers.*
*As a TEAM you have demonstrated Johnson Controls' commitment to Customer Satisfaction.*

*Date:* NOVEMBER 1, 1990

*Signature*

EXCELLENCE in Customer Satisfaction

JOHNSON CONTROLS

ENVITECH
www.envitechnology.com
support@envitechnology.com
tel. 425 890 3517 fax 425.310.6600
9528 226th Pl NE, Redmond, WA 98053



October 30, 2007

Project number 01070828-1

Mr. Chris Chu
UniBank
16929 Hwy 99 Suite 110
Lynnwood, WA 98037

Subject: Environmental Consulting Services
Sunny's Deli Mart & Texaco
10545 SE Carr Road, Renton, WA 98055

Dear Mr. Chris Chu:

Envitech, Llc. is pleased to provide environmental consulting services on the above property upon review of project information with regard to Environmental Site Characterization study.

If you have any questions, please contact the undersigned at your convenience. Thank you for the opportunity to be of service to Fortune Bank.

Yours very truly,

Lee, Seungbong

Jake S. Lee, Ph.D.

President
Envitech, Llc.

# SITE CHARACTERIZATION
# &
# REMEDIATION WORK PLAN
**For**

# Sunny's Deli Mart
# &
# Texaco
## 10545 SE Carr Road
## Renton, Washington 98055

## WDOE SITE ID # 6333


**PREPARED BY**

***ROBERT M. RODMAN B.S.M.E and DONALD BALMER L.G., RHG***
***ENVIRONMENTAL CONSULTANTS***
***15513 Cedar Grove Road NE, Poulsbo, Washington 98370***
***Phone/Fax: (360) 779-6911***

**November 2007**

***AEROTECH***
***Environmental Consulting Inc.***
9951 Mickelberry Road NW, Suite 219
Silverdale, Washington 98383
Fax (360) 692-1150
(360) 692-2131

February 7, 2008

Mr. Chris Chu
UNIBANK
16929 Highway 99, Suite No. 110
Lynnwood, Washington 98037
Fax: (425) 275-9777
(425) 275-9713

Re: Site Characterization & Remediation Work Plan
**SUNNY'S DELI MART & TEXACO**
10545 S.E. Car Road
Renton, Washington 98055

Prepared by: Robert M. Rodman, BSME, November 2007.

Dear Mr. Chu,

Per your previous request, we have reviewed the aforementioned Site Characterization Investigation and Remediation Work Plan as prepared by Robert M. Rodman. The Site Characterization identified the following petroleum impacted areas:

> "the groundwater Northwest (down gradient) of the station's UST's and pump islands contains concentrations of gasoline and BTEX that exceed the MTCA Method A cleanup levels. These results indicate that a release of gasoline product may have occurred from the on-site UST's or piping in the vicinity of the USTs. The release likely occurred near the water table or migrated downward to the water table without spreading laterally through the soil. The released gasoline is dissolving into the groundwater and moving Northwest from the UST location. The low concentrations of BTEX indicate that the gasoline is relatively old. A limited amount of soil appears to have been impacted in the areas tested, and most of this is soil interfacing with the groundwater."

*Site Characterization for Sunny's Deli Mart & Texaco*, prepared by Robert Rodman, B.S.M.E., November 2007, "Conclusions."

Based upon the data developed in the aforementioned Phase II Investigation, Robert Rodman has recommended a response and remediation action employing bioremediation with microbe based technology. The prepared Work Plan states:

> Utilizing the injection points, enhanced microbes and surfactant's [sic] purchased from Blue Strip Distributing under the brand name "Superbugs" will be injected into the groundwater every two weeks for the first two months. Water samples will be taken from the monitoring well with the highest contamination level prior to treatment and then once each month until cleanup levels are achieved. Once analytical results from the monitoring wells are below Department of Ecology (WDOE) cleanup levels, Phase III will begin. ... Water samples will be taken once every quarter from each monitoring well and analyzed by the project laboratory. When four consecutive quarters of analyses show no detection of hydrocarbons in the water, a no further action (NFA) status will be sought from WDOE.
>
> Estimated time line till NFA is 18 months.
> Estimated total cost of project is $20,000.

*Remediation Work Plan for Sunny's Deli Mart & Texaco*, prepared by Robert Rodman, dated November 2007.

**SITE RESPONSE ACTIONS**
**"ROUGH" ESTIMATED COST ANALYSIS[1]**

When appropriately utilized, bio-remediation can be an extremely cost effect method of petroleum hydrocarbon subsurface remediation.

However, since this methodology relies upon the random nature of biological organisms, accurate estimates of both the time involved and cost tend to fluctuate over a wide range.

Based upon the supplied information, in our professional opinion we recommend that Unibank establish a reserve account of 2.5 times the consultant's estimated project cost, for a total reserve of :

$50,000.00

Since a pilot or test study of the effectiveness of bio-remediation at this particular Site has not been performed, we further recommended all initial payments for project costs incurred be withheld until data is available to prove that the bio-remediation process is in fact working at the Site.

As always, thank you for allowing our firm to be of service. If we can answer any additional questions or be of further assistance, please do not hesitate to call.

Best regards,

Alan T. Blotch

---

[1] State of Washington Court decisions have held that an "estimated" remediation cost budget should generally be expected to be within 15 - 18% of the actual cost of remediation. Due to the limitation of available Site contamination data, all "estimates" contained within this communication may or may not be within that range.

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055

## Introduction

This report summarizes the results of a Site Characterization performed in November of 2007 at Sunny,s Deli Mart, a Texaco gasoline station and convenience store located at 10545 SE Carr Road in Renton, Washington. The property is located on the Southeast corner of the intersection of SE Carr Road and 105th Place SE (see **Figure 1**).

## Background

In April of 1991, hydrocarbon contamination was discovered on this site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site. (See Exhibit A).

In October of 2007, a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. 2 of the boring's, identified as S3 and S4 produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment. This report is located in **Appendix A**.

## Characterization Activities

In November of 2007, a site characterization, as required by WAC 173-340-450, was performed at this site. Part of this characterization was the installation of 2 monitoring wells. Including the monitoring wells, a total of 5 boring's were advanced to a depth of 12 feet utilizing a truck-mounted Direct-Push drilling rig. The soil boring locations are shown in **Figure 2**.

During drilling, soil samples were collected at four-foot intervals using a 1.5-inch diameter sampler driven into the soil at the head of the probe. Upon completion of the drilling, all soil boring's were backfilled with bentonite chips. The collected soil samples were field-screened using a Multi-RAE Photo-Ionization Detector (PID) for the presence of volatile organic compounds. Selected soil samples from each boring were collected for laboratory analysis. All soil samples were collected with stainless steel disposable spoons and contained in pre-sterilized glass jars and stored in plastic bags. Each sample was sealed and labeled and placed in an ice chest with synthetic ice. Groundwater was encountered in each boring at a depth of approximately 8 to 12 feet. Groundwater was sampled from the boring's using a peristaltic pump. The borings were pumped to reduce turbidity prior to sampling. The water samples were then collected in clean, laboratory-supplied, glass containers. Each sample was sealed and labeled and placed in an ice chest with synthetic ice. All samples were then transported to ESN Northwest Laboratories in Olympia, Washington for analysis. Samples were analyzed for Total Petroleum Hydrocarbons in the gasoline range by Method NWTPH-Gx and for the constituents Benzene, Ethylbenzene, Toluene, Xylenes (BTEX) by Method 8021B.

## Site Hydrogeological Characteristics

The soil conditions encountered in the five boring locations generally consisted of slightly silty to silty sand with occasional gravel. The material was typical of river flood-plain alluvium.

Groundwater was encountered in all of the boring locations. The water table occurred at a depth between 8 to 12 feet at each location. The occurrence of shallow groundwater is believed to be fairly uniform across the area, with the direction of movement in the vicinity of the site to the Northwest.

## Findings

Analysis and interpretation of the data generated during the field investigation and laboratory testing is presented in the following sections. The analytical results are compared with regulatory limits for any hydrocarbons identified in the soil and groundwater.

## Soil

All boring's were advanced to a depth of 12 feet. Soil samples were selected from the water table zone interface (8 to 12 feet) for laboratory analysis. The soil sample identified as B1-12 contained gasoline and benzene exceeding the MTCA Method A cleanup level. The soil sample identified as B2-12 contained benzene exceeding the MTCA Method A cleanup level, and the sample identified as B3-12 contained .04 parts per million (ppm) which is .01 ppm above the cleanup level of .03 ppm. .

The laboratory analytical results for the boring soil samples are listed in **Table 1**, and the laboratory report is presented in **Appendix B**.

**TABLE 1**
**LABORATORY ANALYTICAL RESULTS (SOIL)**

| SAMPLE ID | BORING ID | GASOLINE | B | T | E | X |
|---|---|---|---|---|---|---|
| B1-12 | B-1, 12 feet | 110 | 0.18 | 0.07 | 2.4 | 2.6 |
| B2-12 | B-2, 12 feet | 25 | 1.3 | 0.06 | 0.17 | 0.25 |
| B3-12 | B-3 12 feet | **12** | **0.04** | **ND** | **ND** | **ND** |
| **MTCA Method A Cleanup Levels** | | **100** | **0.03** | **7.0** | **6.0** | **9.0** |

Notes:
Concentrations listed in milligrams per kilogram (mg/kg), or parts per million (ppm).

## Groundwater

3 groundwater samples were collected from 3 borings for analysis of Total Petroleum Hydrocarbons (TPH) in the gasoline range with BTEX constituents to evaluate potential gasoline release impacts.

The analyzed groundwater samples all contained one or more detectable levels of gasoline or BTEX at concentrations exceeding the MTCA Method A cleanup levels. The laboratory analytical results for the groundwater are listed in **Table 2** and the laboratory report is presented in **Appendix B**.

# TABLE 2

### Laboratory Analytical Results

| SAMPLE ID | BORING ID | GASOLINE | B | T | E | X |
|---|---|---|---|---|---|---|
| B1 | Soil Boring B-1. | 26,000 | 2,400. | 55 | 2,800. | 2,200 |
| B2 | Soil Boring B-2. | 24,000 | 3,600 | 46. | 2,400 | 760 |
| B3 | Soil Boring B-3. | 2,000 | 220 | 3.6 | 4.9 | 22 |
| MTCA Method A Cleanup Levels | | 800/1,000 | 5 | 1,000 | 700 | 1,000 |

Notes:
Concentrations listed in micrograms per liter (µg/l), or parts per billion (ppb).

## CONCLUSIONS

Based on the results of this assessment, the following conclusions have been developed. Based on the analysis of samples from the soil boring's and monitoring wells, the groundwater Northwest (down gradient) of the station's UST's and pump islands contains concentrations of gasoline and BTEX that exceed the MTCA Method A cleanup levels. These results indicate that a release of gasoline product may have occurred from the on-site UST's or piping in the vicinity of the USTs. The release likely occurred near the water table or migrated downward to the water table without spreading laterally through the soil. The released gasoline is dissolving into the groundwater and moving Northwest from the UST location. The low concentrations of BTEX indicate that the gasoline is relatively old.

An Independent Remedial Action Plan will be developed to address the most cost effective and least intrusive method to mitigate the groundwater contamination on the site.

Procedures used for this site characterization are consistent with those outlined in the Washington Department of Ecology (WDOE) publication, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, revised edition, October, 1992.

***Robert Rodman BSME***

***Donald Balmer L.G.***

**Environmental Consultants**

**Northwest Region**

King County, City of Renton

| | | | |
|---|---|---|---|
| SUNNY'S DELI MART<br>10545 SE CARR RD<br>RENTON, 98055 | Facility Site ID:<br>55231872 | UST ID:<br>6333 | Lat/Long:<br>47.44437<br>-122.20002 |

Release ID: 1816 ERNIE'S DELI

| Media Affected: | Status: | Status Date: |
|---|---|---|
| Soil | Reported Cleaned Up | 5/21/1995 |
| | Cleanup Started | 4/18/1990 |

**About the Leaking Underground Storage Tanks Site List:**

The Cleanup Status assigned by the Department of Ecology to a Leaking Underground Tank Site is based on an informal review of the information we have received regarding the cleanup. A formal review could determine that the site has not been cleaned up to Model Toxics Control Act standards. Formal reviews including potential No Further Action determinations are available under the fee-based Voluntary Cleanup Program.

Cleanup Status Definitions:

Awaiting Cleanup -- Discovered or reported release, yet no active cleanup measures taken; or,
Site check (identified the source) begun or completed, yet no active cleanup measures taken; or,
Site characterization begun or completed, yet no active cleanup measures taken.

Cleanup Started -- Responsible party has initiated physical, biological, or chemical management of release (e.g. soil excavated, groundwater pumped, vapors extracted, free product removed, oxygen added, etc.). Site investigations and emergency responses (e.g. venting explosive vapors, providing bottled water) do not qualify as activities under Cleanup Started.

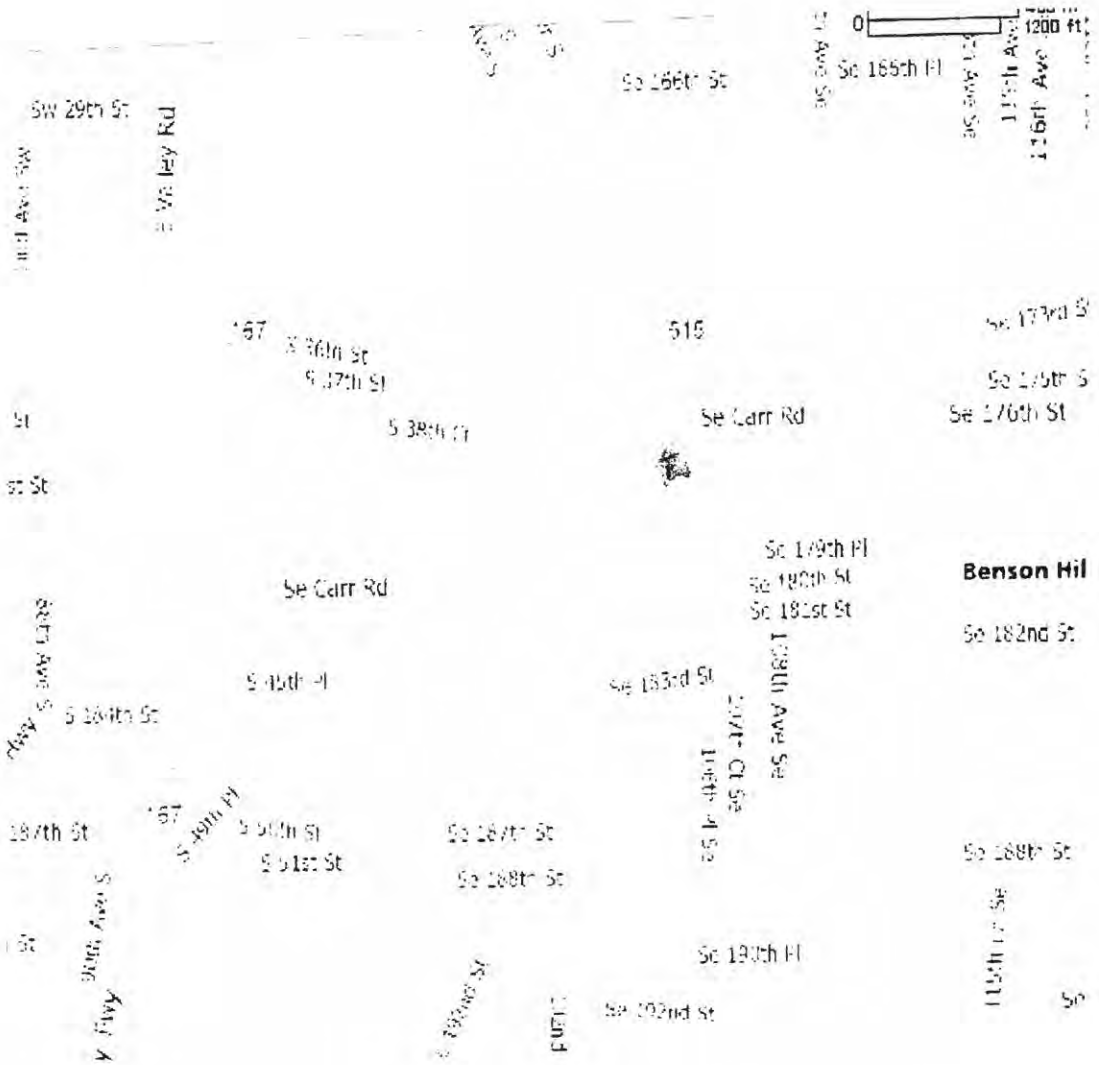
Monitoring -- Groundwater monitoring is the only activity occurring at the site; or, Site has been characterized, only low levels of soil and/or groundwater contamination remain, and natural attenuation is the chosen cleanup method; or, Confirmational monitoring following active cleanup measures.

Reported Cleaned Up -- Owner or consultant reports that contamination has been cleaned up; and/or.
Some soil contamination may remain under existing structures or in otherwise inaccessible areas if groundwater is not threatened and there has been no migration of contamination into the structure; and,
Cleanup report has not been formally reviewed by Ecology. A formal review could determine that the site has not been cleaned up to MTCA standards.

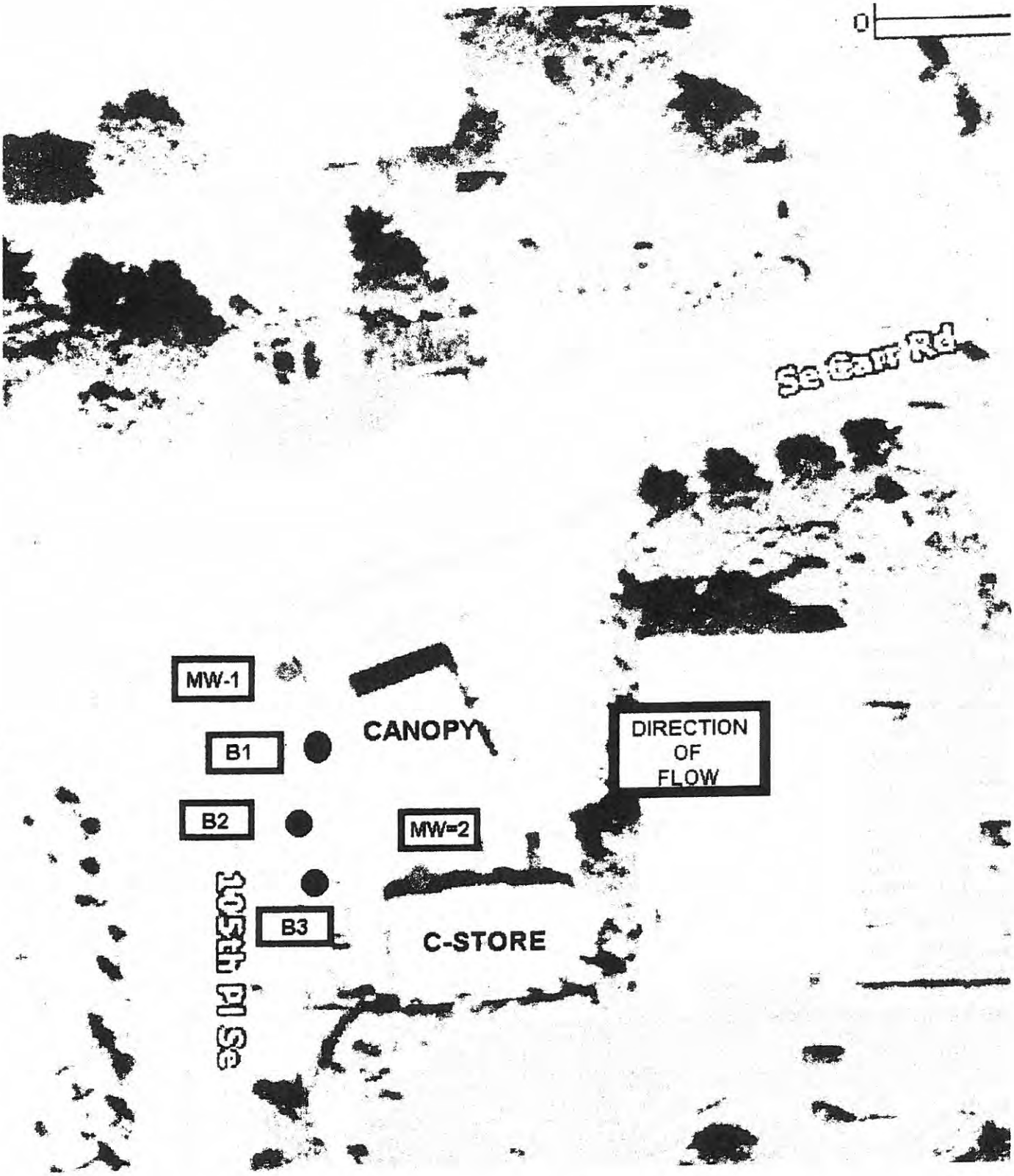
No Further Action -- Cleanup report has been formally reviewed by Ecology under the fee-based Voluntary Cleanup Program and resulted in a No Further Action status; and, Institutional controls may have been required due to soil contamination that may remain under existing structures or in otherwise inaccessible areas.

# EXHIBIT A

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055




**SITE LOCATION** **FIGURE 1**




**BORING & MW LOCATIONS** **FIGURE 2**

Sunny's Deli Mart
10545 SE Carr Road
Renton, Washington 98055

# APPENDIX B

## Laboratory Analytical Results

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055

# Laboratory Analytical Results
# (SOIL)

ESN NW BELLEVUE CHEMISTRY LABORATORY
Tel:(425) 957-9872. Fax: (425) 957-9904

ESN Job Number: S71120.3
Client: Bob Rodman
Client Job Name: Sunny's Deli
Client Job Number:

**NWTPH-Gx / BTEX (8260)**

Analytical Results

| NWTPH-Gx, mg/kg | | MTH BLK | LCS | B1 12' | B2 12' | B3 12' | MS | MSD | RPD |
|---|---|---|---|---|---|---|---|---|---|
| Matrix | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| Date extracted | Reporting | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Date analyzed | Limits | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Gasoline | 5.0 | nd | 105% | **110** | **25** | **12** | -- | -- | |
| Benzene | 0.02 | nd | 106% | **0.18** | **1.3** | **0.04** | 111% | 109% | 2% |
| Toluene | 0.05 | nd | 112% | **0.07** | **0.06** | nd | 101% | 99% | 2% |
| Ethylbenzene | 0.05 | nd | | **2.4** | **0.17** | nd | | | |
| Xylenes | 0.05 | nd | | **2.6** | **0.25** | nd | | | |
| Surrogate recoveries: | | | | | | | | | |
| Dibromofluoromethane | | 135% | 133% | 118% | 117% | 119% | 114% | 114% | |
| Toluene-d8 | | 107% | 107% | 108% | 111% | 104% | 107% | 108% | |
| 4-Bromofluorobenzene | | 102% | 101% | 100% | 103% | 100% | 99% | 99% | |

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
Soil values based on wet weight
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

# Sunny's Deli Mart
# 105455 SE Carr Road
# Renton, Washington 98055

# Laboratory Analytical Results
# (WATER)

ESN NW BELLEVUE CHEMISTRY LABORATORY
Tel:(425) 957-9872, Fax: (425) 957-9904

ESN Job Number: S71120.3
Client: Bob Rodman
Client Job Name: Sunny's Deli
Client Job Number:

**NWTPH-Gx / BTEX (8260)**

Analytical Results

| NWTPH-Gx, µg/l | | MTH BLK | LCS | B1 | B2 | B3 | MS | MSD | RPD |
|---|---|---|---|---|---|---|---|---|---|
| Matrix | Water | Water | Water | Water | Water | Water | Water | Water | |
| Date extracted | Reporting | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Date analyzed | Limits | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Gasoline | 100 | nd | 105% | **26,000** | **24,000** | **2,000** | -- | -- | |
| Benzene | 1.0 | nd | 106% | **2,400** | **3,600** | **220** | 98% | 95% | 3% |
| Toluene | 1.0 | nd | 112% | **55** | **46** | **3.6** | 109% | 109% | 0% |
| Ethylbenzene | 1.0 | nd | | **2,800** | **2,400** | **4.9** | | | |
| Xylenes | 1.0 | nd | | **2,200** | **760** | **22** | | | |
| Surrogate recoveries: | | | | | | | | | |
| Dibromofluoromethane | | 135% | 133% | 112% | 113% | 114% | 114% | 117% | |
| Toluene-d8 | | 107% | 107% | 108% | 109% | 107% | 107% | 108% | |
| 4-Bromofluorobenzene | | 102% | 101% | 102% | 99% | 102% | 104% | 106% | |

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

Sunny's Deli Mart
10545 SE Carr Road
Renton, Washington 98055

# APPENDIX A

ENVITECH LLC.
October 2007
Phase II
ESA

# PHASE II
# ENVIRONMENTAL SITE ASSESSMENT

## *Sunny's Deli Mart*

***10545 SE Carr Road***
***Renton, WA 98055***

**Prepared for**

Mr. Kyoungho Hwangpo
H22 Inc.
10545 SE Carr Road
Renton, WA 98055

**Prepared by**

Envitech, Llc.
9528 226th PL NE
Redmond, WA 98053

October 2, 2007

Project No. 01070828-1

# EXECUTIVE SUMMARY

Mr. Kyoungho Hwangpo engaged Envitech, Llc. to conduct a Phase II Environmental Site Assessment (ESA) on the property, Sunny's Deli Mart, located at 10545 SE Carr Road, Renton, Washington 98055.

The recognized on-site environmental concerns associated as part of this Phase II ESA were the presence of underground fuel storage tanks.

The assessments performed to evaluate the recognized on-site environmental conditions were: 4 borings were drilled and sampled; 4 soil samples were analyzed for Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX), and TPH-Gasoline; and 1 sample was analyzed for TPH-Diesel.

Based on the results of this assessment, the following conclusions are drawn:

- Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively. All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.
- All other contaminants in samples S1-11 and S2-11 were below the detection levels.
- Diesel-range hydrocarbon was not detected in S4-12.
- The full lateral and vertical extent of impacted soil remains unknown at this time. Envitech would recommend **additional subsurface sampling and testing activities** in an effort to resolve unknowns regarding the lateral and vertical extent of petroleum-impacted soil.

# 2. BACKGROUND

## 2.1. SITE DESCRIPTION AND FEATURES

The Subject Property at 10545 SE Carr Road is located on the northeast corner of 10545 SE Carr Road and 4th Ave N in Renton, Washington. It is approximately 0.65 acres in size.

The Subject Property consists of gasoline dispensing station and convenience store. The site is occupied by an approximately 3,241 square feet, concrete slab on grade commercial building that houses Sunny's Deli Mart.

A gasoline station with single canopy is located at north side of the Subject Property. Underground Storage Tanks are located between the canopy and convenience store. The remainder of the property is asphalt-paved parking space.

The site was built in 1969, according to King County Assessor.

The legal description of the Subject Property is:

N 290 FT OF W 150 FT OF E 1/2 OF E 1/2 OF W 1/2 OF NE 1/4 OF NW 1/4 LESS POR NLY OF SLY MGN OF CARR RD # SH 515 LESS CO RD

## 2.2. PHYSICAL SETTING

The Subject Property at 10545 SE Carr Road is located on the southeast corner of SE Carr Road and 105th PL SE. It is approximately 19,602 square feet (0.45 acres) in size. The site is occupied by an approximately 1,440 square feet, commercial building that houses Sunny's Deli Mart. The property is located in a retail and commercial area.

The topography of the Subject Property is general slope toward NW.

The Subject Property's parcel number is 3223059237.

Renton is a city in King County, Washington, immediately southeast of Seattle. The city has a total area of 17.3 $mi^2$. Most of it is a land and 1.62 % of it is Cedar River.

## 2.3. ADJOINING PROPERTY USE

For the scope of this assessment, properties are defined and categorized based upon their physical proximity to the Subject Property. An adjoining property is any real estate property whose border is contiguous or partially contiguous with the subject properties,

or that would be if the properties were not separated by a roadway, street, public thoroughfare, river, or stream. The following identifies specific adjacent property tenants and/or use:

| Direction | Description |
|---|---|
| **North** | SE Carr Road followed by Apartment |
| **East** | Mall |
| **South** | Mall |
| **West** | 105th PL SE followed by KFC |

# 3. ASSESSMENT METHODOLOGY

## 3.1. SCOPE OF ASSESSMENT

### 3.1.1. SAMPLING PLAN

The sampling plan was designed to prove for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

The sampling plan was developed in general accordance with ASTM Standard D 5730: Guide to Site Characterizations for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Ground Water (ASTM International, 2004).

Personal health and safety precautions were followed in accordance with applicable federal and state law or local equivalents and any requirements imposed by the owner, occupant, or field personnel.

### 3.1.2. CHEMICAL TESTING PLAN

The chemical testing plan was designed to detect the contaminants suspected to be present in the samples collected. The testing plan included tests which provide quality assurance (QA) and techniques that provide quality control (QC) over the chemical analysis. A completed chain of custody record accompanied each sample shipment to the analytical laboratory. Chain of custody records provide written documentation regarding sample collection and handling, identify the persons involved in the chain of sample possession, and a written record of requested analytical parameters.

### 3.1.3. DEVIATIONS FROM THE WORK PLAN

There were no deviations to the work plan.

## 3.2. FIELD EXPLORATIONS AND METHODS

### 3.2.1. SOIL BORINGS

A total of 4 borings were drilled into native soils on September 10, 2007 near the tanks and dispensing islands. The tanks are located between the canopy and convenience store and the dispensing islands are located on the north side of the convenience store. Prior to performing the soil borings, the site was clearly marked by a utility locator.

The method for boring was a direct push probe performed by Northwest Probe, which involves the use of truck-mounted hydraulic hammer to push a series of 1.5-inch

diameter steel rods to the sampling depth. Every four feet, the rods were removed and disposable Teflon sampling tubes were recovered. Now sections of Teflon sampling tubes were used for each sampling depth. This boring method had proven successful on other properties near the site.

The first drill hole, S1, was drilled to the east side of the USTs. The second drill hole, S2, was drilled to the northeast corner of the canopy. The third drill hole, S3, was drilled to the northwest corner of the canopy. The last drill hole, S4, was drilled to the southwest corner of the canopy. The borings were drilled up to a depth of 12 feet below ground surface (bgs). No groundwater was encountered during any of the borings up to 12 feet. No boring was performed between the tank farm area and pump island due to potential contact with buried vent and product pipe lines. The approximate boring locations are shown in Figure 2.

### 3.2.2. Soil Sampling Methods

All site sampling were performed by a registered Site Assessor. Boreholes were drilled until the boring refusal was encountered. Borehole S1 was extended to 11 feet below ground surface (ft bgs). Borehole S2 was extended to 11 ft bgs. Borehole S3 was extended to 11 ft bgs. Borehole S4 was extended to 12 ft bgs.

Soil samples were collected continuously using core samplers attached to drive rods. Each borehole was logged according to the Unified Soil Classification System as described in Figure A1 in Appendix A. borehole logs are included in Appendix A as Figure A2 through A5. One soil sample was collected from each of the test holes for chemical analysis. Soil samples at each location were collected in accordance with EPA method 5035A (US EPA, 2002). Approximately 5 gram core samples were dispensed immediately into three pre-weighed 40-mL VOA vials. Additional sample was collected into a tow-ounce jar for dry weight determination. Soil samples were stored in a chilled container for delivery to the laboratory.

### 3.2.3. Groundwater Sampling Methods

Groundwater was not encountered during the soil borings.

### 3.2.4. Field Screening

Soil samples obtained from the core sampler were screened for volatile organic compounds (VOCs) using a miniRae Model 2000 photoionization detector (PID). Prior to use, the PID was calibrated against a 100 parts per million (ppm) isobutylene span gas in air mixture. The instrument was then zeroed against the ambient air near the work area. The PID is useful for qualitative field screening of VOCs and provides a basis for comparison between soil samples collected in the field. Soil samples were placed into sealable plastic bags and allowed to sit in a warm area for volatilization to occur. After approximately 5 minutes, VOCs were field measured by placing the tip of the PID into

the head space above each sample in each bag. This is not a compound-specific analysis and is affected by, among other influences, climate (e.g., temperature and humidity), soil type and conditions, instrument calibration and operation, and type of VOCs present.

### 3.2.5. Decontamination and Hole Closure

S1 through S4 were filled with bentonite granules and patched with concrete mix. Disposable sampling equipments were disposed of at each sample interval. Non-disposable sampling equipments were decontaminated by scrubbing in a solution of Alconox and potable water, followed by rinses with potable water between test holes. Soil cuttings, decontamination water, and purge water were stored in labeled drums in a secure location until they can be profiled and appropriately disposed of.

### 3.2.6. Other

No other assessment activities were conducted.

## 3.3. Sampling and Chemical Analysis

### 3.3.1. Soil

A total of four (4) soil samples were collected for chemical analysis. Soil samples were delivered under chain-of-custody protocol to Onsite Environmental Inc. in Redmond, Washington for chemical analysis.

### 3.3.2. Laboratory Analysis

In accordance with Washington State Department of Ecology (WSDOE) site assessment protocols, laboratory analysis was performed on selected soil and groundwater samples by WSDOE method NWTPH-gas/BTEX for the presence of petroleum hydrocarbon in the gasoline range, along with gasoline-associated benzene, toluene, ethylbenzene, and xylene (BTEX). The samples were also analyzed to detect the presence of diesel to heavy oil-range hydrocarbon by WSDOE method NWTPH-Dx

The exact sampling locations and depths are shown in Table 1.

### 3.3.3. Other

No other chemical analyses were performed.

# 4. EVALUATION AND PRESENTATION OF RESULTS

## 4.1. ANALYTICAL DATA

### 4.1.1. SOIL

Chemical analyses were performed on the soil samples by Onsite Environmental, Inc. a State Certified Laboratory, on the samples collected. The soil analytical results for BTEX, TPH-Gasoline, Diesel and Lube Oil along with the Washington State Department of Ecology (WSDOE) clean-up standard are summarized in Table 2.

Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory cleanup standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (µg/L) in sample S3-11 and S4-12, respectively.

All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.

All other contaminants in samples S1-11 and S2-11 were below the detection levels.

Diesel-range hydrocarbon was not detected in S4-12.

## 4.2. OTHER

There is no other analytical data obtained during this investigation.

# 5. DISCUSSION OF FINDINGS AND CONCLUSIONS

This assessment has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1903-97 (Re-approved 2002) (ASTM International, 1997), and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided in this report.

This limited Phase II Environmental Site Assessment (ESA) was implemented to address the potential for subsurface contamination, which may be present as a result of the historical use of the Subject Property as a gasoline station.

Based on the finding of the current limited Phase II Environmental Site Assessment, the following conclusions are drawn:

- Benzene and TPH-gasoline were found in sample S3-11 and S4-12, which were above the regulatory cleanup standard. Benzene was detected at concentrations of 1.1 and 14 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. TPH-Gas was also detected at concentrations of 110 and 670 microgram per liter (μg/L) in sample S3-11 and S4-12, respectively. All other constituent of gasoline such as toluene, ethyl benzene, xylene were also found in S3-11 and S4-12, but they were below the regulation standards.
- All other contaminants in samples S1-11 and S2-11 were below the detection levels.
- Diesel-range hydrocarbon was not detected in S4-12.

Based on the results of this assessment, it would appear that soils around the boreholes S3 and S4 were contaminated with gasoline.

The full lateral and vertical extent of impacted soil remains unknown at this time. Envitech would recommend additional subsurface sampling and testing activities in an effort to resolve unknowns regarding the lateral and vertical extent of petroleum-impacted soil. Depending upon the findings of such additional evaluation, the most practical and potentially cost-effective remediation will be evaluated by Envitech.

Finally, to achieve lawful compliance with Chapter 173-340-300, Envitech recommends that copies of this report along with any future reports regarding the environmental conditions thus far encountered be forwarded to the Washington State Department of Ecology by the property owner and/or operator.

# 6. RECOMMENDATIONS

Envitech hereby recommends **additional site characterization** to verify the lateral and vertical extent of the petroleum-impacted soil.

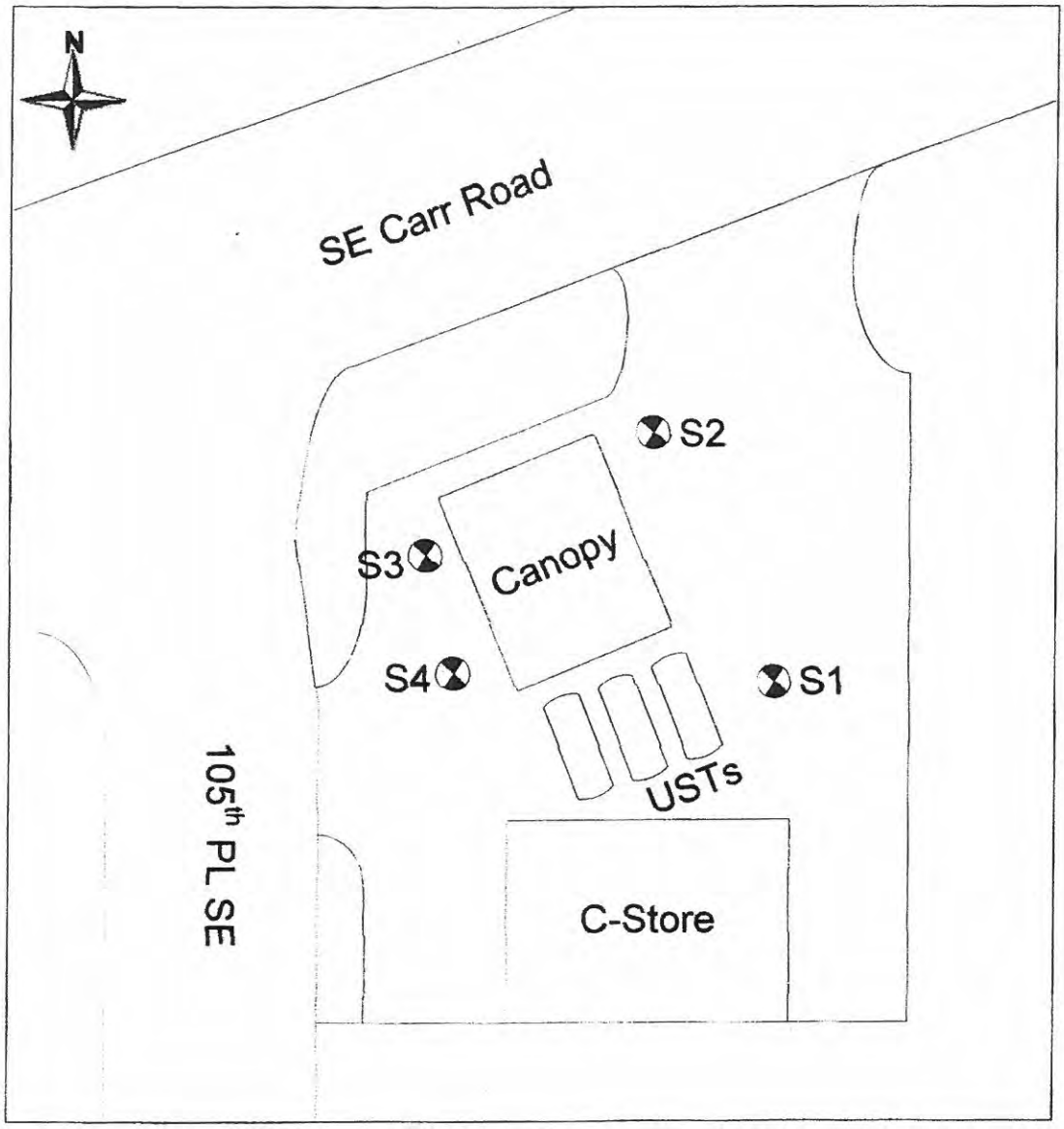



**Figure 3. Site Plan and Exploration Location Plan**

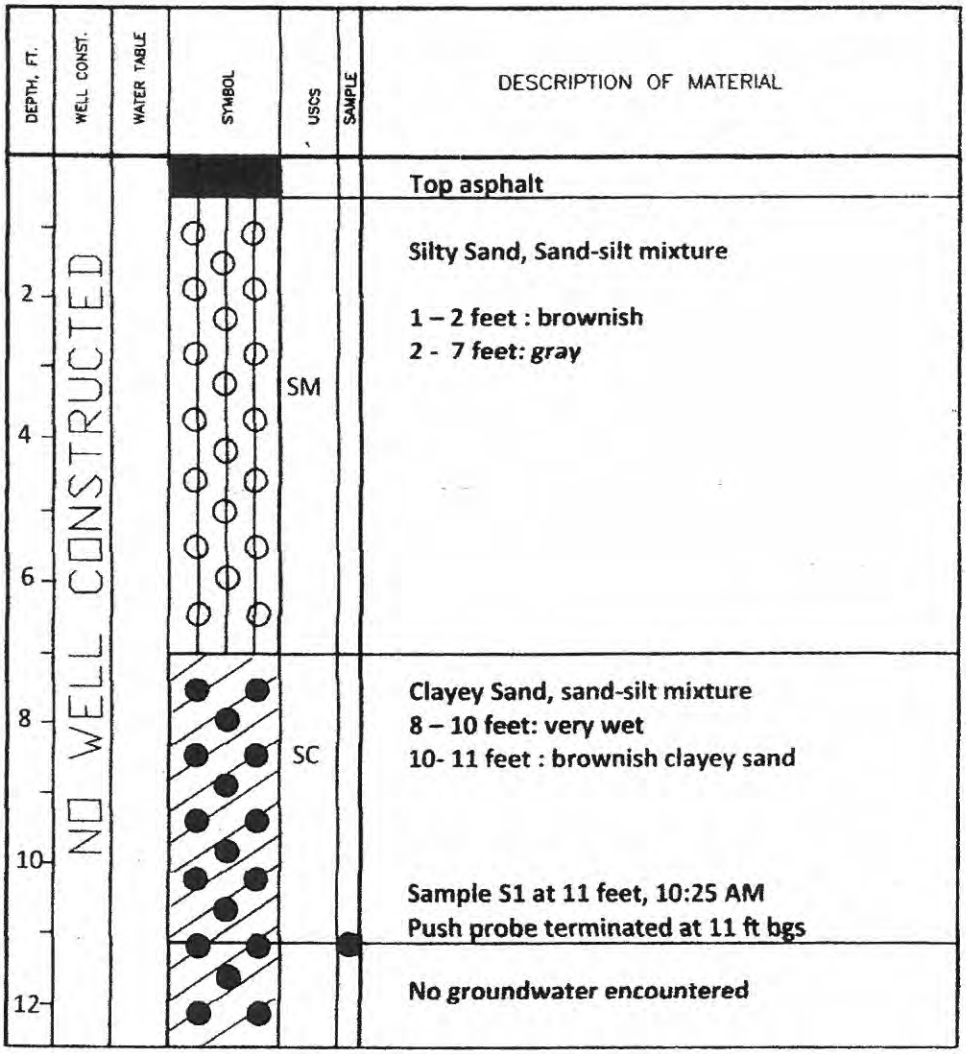
| Major Divisions (1) | (2) | Letter (3) | Symbols Hatching (4) | Color (5) | Name (6) |
|---|---|---|---|---|---|
| Coarse-Grained Soils | Gravel and Gravelly Soils | GW | | Red | Well-graded gravels or gravel-sand mixtures, little or no fines |
| | | GP | | | Poorly graded gravels or gravel-sand mixtures, little or no fines |
| | | GM | | Yellow | Silty gravels, gravel-sand-silt mixtures |
| | | GC | | | Clayey gravels, gravel-sand-clay mixtures |
| | Sand and Sandy Soils | SW | | Red | Well-graded sands or gravelly sands, little or no fines |
| | | SP | | | Poorly graded sands or gravelly sands, little or no fines |
| | | SM | | Yellow | Silty sands, sand-silt mixtures |
| | | SC | | | Clayey sands, sand-silt mixtures |
| Fine-Grained Soils | Silts and Clays LL < 50 | ML | | Green | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity |
| | | CL | | | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | | OL | | | Organic silts and organic silt-clays of low plasticity |
| | Silts and Clays LL ≥ 50 | MH | | Blue | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts |
| | | CH | | | Inorganic clays of high plasticity, fat clays |
| | | OH | | | Organic clays of medium to high plasticity, organic silts |
| Highly Organic Soils | | Pt | | Orange | Peat and other highly organic soils |

ENVITECH, LLC
www.envitechnology.com
support@envitechnology.com
tel.425.890.3517 fax.425.898.8236
9528 226th PL NE Redmond, WA 98053

**The Unified Soil Classification System (USCS)**

Sep 10, 2007 | Figure A1

# LOG OF BORING S1

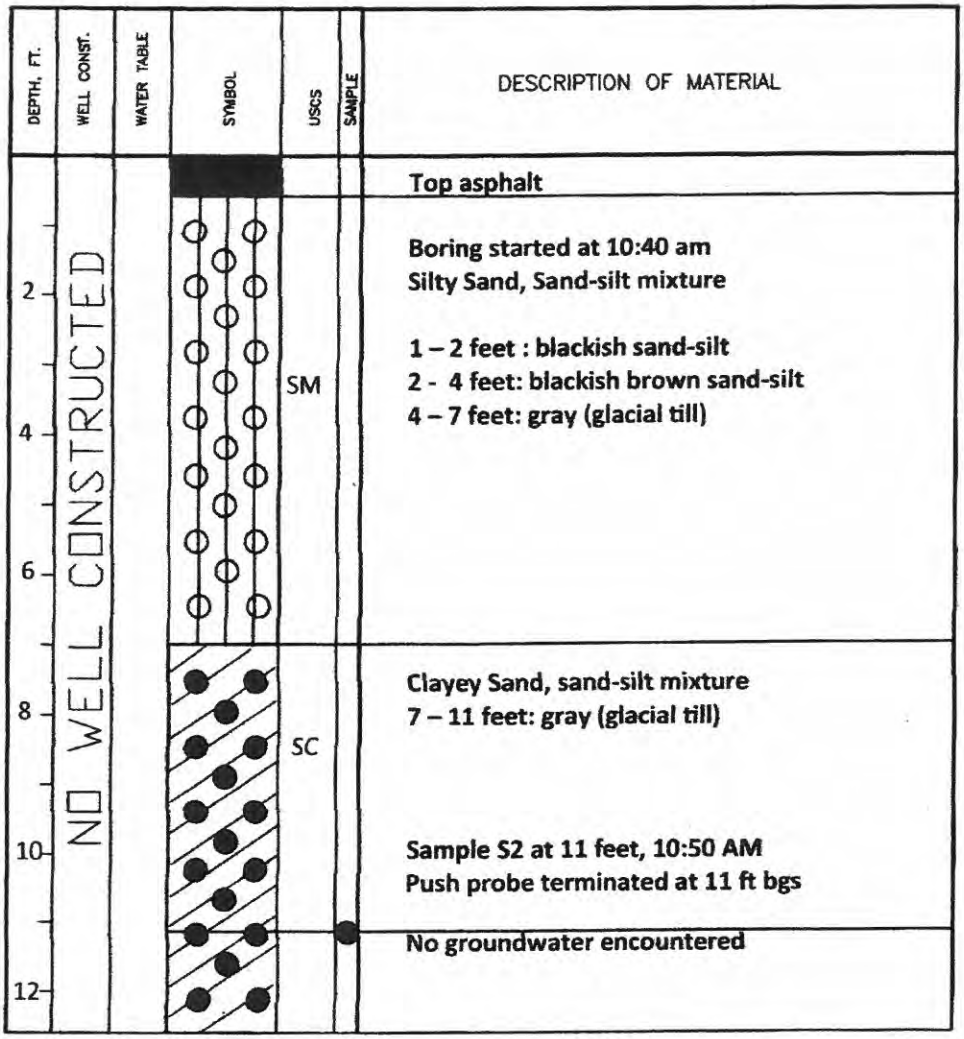



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9528 226th PL NE Redmond, WA 98053

**Sunny's Deli Mart**
10545 SE Carr Road
Renton, WA 98055

**September 10, 2007** | **Figure A2**

# LOG OF BORING S2

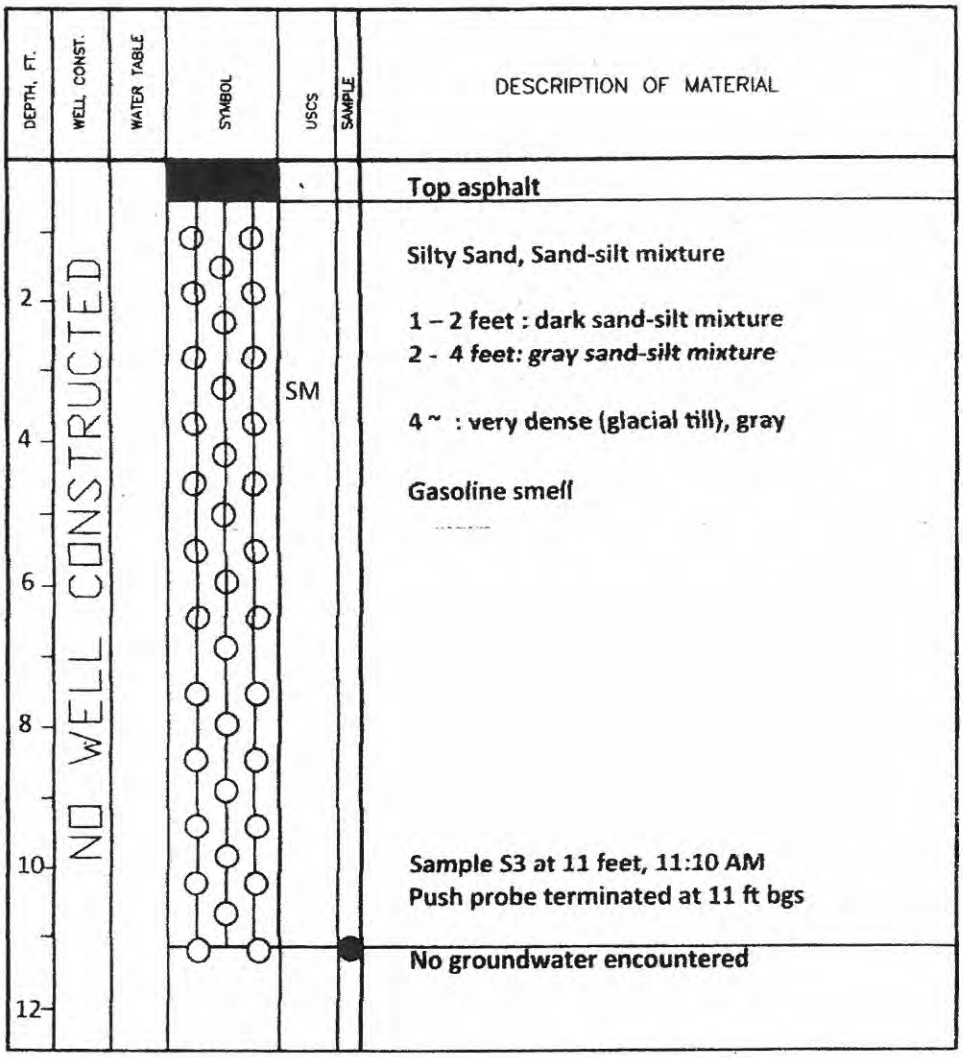



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**Sunny's Deli Mart**
10545 SE Carr Road
Renton, WA 98055

September 10, 2007 | Figure A3

# LOG OF BORING S3

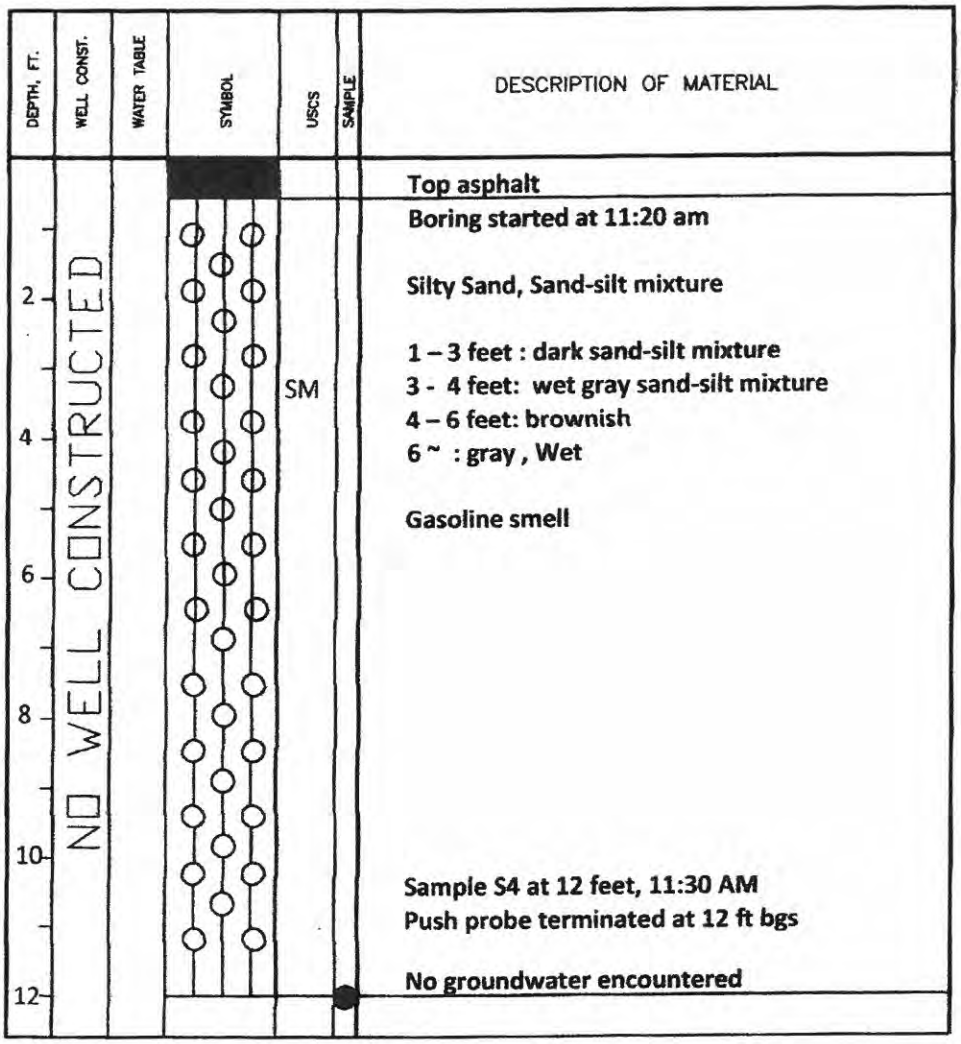



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10545 SE Carr Road
Renton, WA 98055

September 10, 2007 | Figure A4

# LOG OF BORING S4

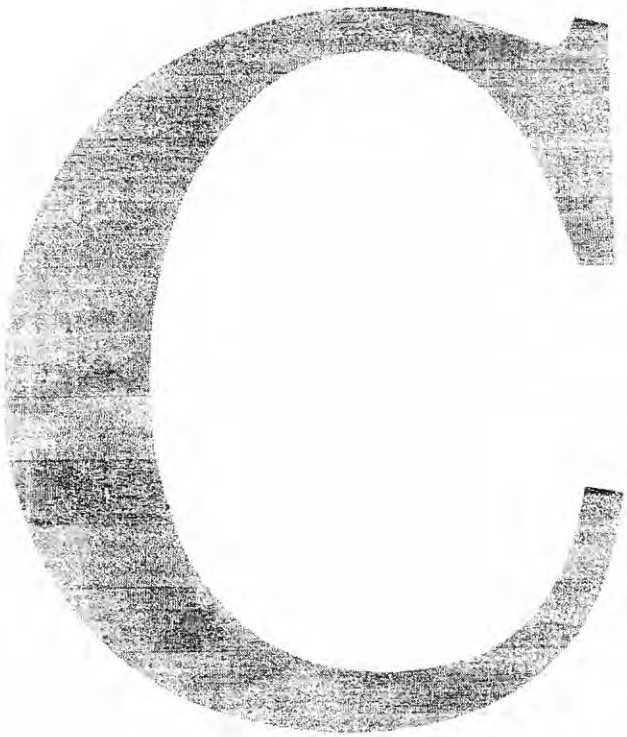



ENVITECH.LLC
www.envitechnology.com
support@envitechnology.com
tel.425.890.3517 fax.425.898.8236
9528 226th PL NE Redmond, WA 98053

**Sunny's Deli Mart**
10545 SE Carr Road
Renton, WA 98055

September 10, 2007 | Figure A4

# APPENDIX C. LABORATORY REPORT



Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

| Client ID: | **S1-11** | | | **S2-11** | | |
|---|---|---|---|---|---|---|
| Lab ID: | 09-053-01 | | | 09-053-02 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | **ND** | | 0.020 | **ND** | | 0.020 |
| Toluene | **ND** | | 0.077 | **ND** | | 0.045 |
| Ethyl Benzene | **ND** | | 0.077 | **ND** | | 0.045 |
| m,p-Xylene | **ND** | | 0.077 | **ND** | | 0.045 |
| o-Xylene | **ND** | | 0.077 | **ND** | | 0.045 |
| TPH-Gas | **ND** | | 7.7 | **ND** | | 4.5 |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 79% | | | 83% | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**

Date Extracted: 9-12-07
Date Analyzed: 9-12&13-07

Matrix: Soil
Units: mg/kg (ppm)

| Client ID: | **S3-11** | | | **S4-12** | | |
|---|---|---|---|---|---|---|
| Lab ID: | 09-053-03 | | | 09-053-04 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | **1.1** | | 0.047 | **14** | | 0.089 |
| Toluene | **0.33** | | 0.24 | **0.30** | | 0.089 |
| Ethyl Benzene | **1.7** | | 0.24 | **5.9** | | 0.089 |
| m,p-Xylene | **6.3** | | 0.24 | **2.8** | | 0.089 |
| o-Xylene | **1.7** | | 0.24 | **ND** | **U1** | 0.89 |
| TPH-Gas | **110** | | 24 | **670** | | 8.9 |
| Surrogate Recovery: Fluorobenzene | 98% | | | 94% | | |



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Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0912S2

| | **Result** | Flags | PQL |
|---|---|---|---|
| Benzene | **ND** | | 0.020 |
| Toluene | **ND** | | 0.050 |
| Ethyl Benzene | **ND** | | 0.050 |
| m,p-Xylene | **ND** | | 0.050 |
| o-Xylene | **ND** | | 0.050 |
| TPH-Gas | **ND** | | 5.0 |
| Surrogate Recovery: Fluorobenzene | 90% | | |



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Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

| Lab ID: | 09-060-02 **Original** | 09-060-02 **Duplicate** | **RPD** | **Flags** |
|---|---|---|---|---|
| Benzene | **ND** | **ND** | NA | |
| Toluene | **ND** | **ND** | NA | |
| Ethyl Benzene | **ND** | **ND** | NA | |
| m,p-Xylene | **ND** | **ND** | NA | |
| o-Xylene | **ND** | **ND** | NA | |
| TPH-Gas | **ND** | **ND** | NA | |
| Surrogate Recovery: | | | | |
| Fluorobenzene | 88% | 84% | | |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Gx/BTEX**
**MS/MSD QUALITY CONTROL**

Date Extracted: 9-12-07
Date Analyzed: 9-12-07

Matrix: Soil
Units: mg/kg (ppm)

Spike Level (ppm): 1.93

| Lab ID: | 09-060-01 **MS** | Percent Recovery | 09-060-01 **MSD** | Percent Recovery | **RPD** | **Flags** |
|---|---|---|---|---|---|---|
| Benzene | **1.96** | **101** | **2.02** | **104** | 3 | |
| Toluene | **2.00** | **103** | **2.05** | **106** | 3 | |
| Ethyl Benzene | **2.00** | **104** | **2.06** | **107** | 3 | |
| m,p-Xylene | **2.02** | **105** | **2.08** | **107** | 3 | |
| o-Xylene | **2.03** | **105** | **2.08** | **107** | 2 | |

Surrogate Recovery:
Fluorobenzene 92% 91%



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Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| **Client ID:** | **S4-12** |
| Lab ID: | 09-053-04 |
| Diesel Range: | **ND** |
| PQL: | 28 |
| Identification: | --- |
| Lube Oil Range: | **ND** |
| PQL: | 57 |
| Identification: | --- |
| Surrogate Recovery | |
| o-Terphenyl: | 102% |
| Flags: | Y |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB0911S1 |
| Diesel Range: | **ND** |
| PQL: | 25 |
| Identification: | --- |
| Lube Oil Range: | **ND** |
| PQL: | 50 |
| Identification: | --- |
| Surrogate Recovery | |
| o-Terphenyl: | 113% |
| Flags: | Y |



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Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

**NWTPH-Dx**
**DUPLICATE QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 9-11-07 |
| Date Analyzed: | 9-11-07 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |

| Lab ID: | 09-057-07 | 09-057-07 DUP |
|---|---|---|
| Diesel Range: | **ND** | **ND** |
| PQL: | 25 | 25 |
| RPD: | N/A | |
| Surrogate Recovery | | |
| o-Terphenyl: | 122% | 109% |
| Flags: | Y | Y |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

## % MOISTURE

Date Analyzed: 9-12-07

| Client ID | Lab ID | % Moisture |
|---|---|---|
| S1-11 | 09-053-01 | 34 |
| S2-11 | 09-053-02 | 10 |
| S3-11 | 09-053-03 | 9 |
| S4-12 | 09-053-04 | 12 |



This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

## Table 1. Location, Depth and Type of Samples Collected

| Sample ID | Sample type | Depth (ft) | Compound of concern | Analysis method | Date collected |
|---|---|---|---|---|---|
| S1-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 10:25 am |
| S2-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 10:50 am |
| S3-11 | Soil | 11 | BTEX, TPH-Gas, | NWTPH-Gx/BTEX | Sep 10 2007 11:10 am |
| S4-12 | Soil | 12 | BTEX, TPH-Gas, Diesel, Lube | NWTPH-Gx/BTEX NWTPH-Dx | Sep 10 2007 11:30 am |

# Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Envitech
Project Number: 01070828-1
Project Name: Sunny's Del Mart
Project Manager: Jake Lee
Sampled by: Jake Lee

**Turnaround Request (in working days)**

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

**Laboratory Number:** 09-053

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270C | PAHs by 8270C / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | VPH | EPH | | | | | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S1-11 | 9.10.07 | 10:25 | Soil | 2 | | X | | | | | | | | | | | | | | | | | | X |
| 2 | S2-11 | 9.10.07 | 10:50 | Soil | 2 | | X | | | | | | | | | | | | | | | | | | X |
| 3 | S3-11 | 9.10.07 | 11:10 | Soil | 2 | | X | | | | | | | | | | | | | | | | | | X |
| 4 | S4-12 | 9.10.07 | 11:30 | Soil | 2 | | X | X | | | | | | | | | | | | | | | | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished by | | Envitech | 9.10.07 | 17.35 |
| Received by | | Onsite Env. | 9/10/07 | 1735 |
| Relinquished by | | | | |
| Received by | | | | |
| Relinquished by | | | | |
| Received by | | | | |
| Reviewed by/Date | | Reviewed by/Date | | |

Comments/Special Instructions:

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

**Sunny's Deli Mart**
**10545 SE Carr Road**
**Renton, Washington 98273**

# REMEDIATION WORK PLAN

## PROJECT DESCRIPTION

The objective of this project will be the cleanup of petroleum contaminated soil from the site of the Texaco gasoline service station doing business as Sunny's Deli Mart, located on the Northwest corner of SE Carr Road and 106th Place SE in Renton, Washington. The cleanup method to be employed will be Bio-remediation ( Microbes which feed on hydrocarbons will be introduced into the contaminated areas). This method is non-intrusive and will not interfere with the operation of the business.

## BACKGROUND

In April of 1991, hydrocarbon contamination was discovered on this site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site. (See **Exhibit A**).

In October of 2007, a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. 2 of the boring's **S3** and **S4** produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment.

In November of 2007, a site characterization was performed. 5 boring's were advanced to a depth of 12 feet and all encountered groundwater at 8 to 11 feet. Analytical results indicate that a release of gasoline and the gasoline constituents, Benzene, Toluene, Ethyl benzene and, Xylenes (BTEX) has occurred on the Northwest side of the property. Laboratory analyses of the gasoline and benzene levels indicate the product release occurred several years ago. Monitoring wells were installed in 2 of the boring's. A monitoring well was placed at the lowest point of the site and is identified as MW-1. The other monitoring well was installed up gradient of the area of contamination and will be utilized to inject enhanced microbes and surfactant's into the groundwater. This well will be identified as IP-1.
1 or 2 additional monitoring wells will be installed during the course of this project as required. Locations of the existing and future monitoring wells can be found on the Remediation Site Plan,

## WORK PLAN

**PHASE I:** 4 to 6 boring's will be advanced, and soil and water samples will be analyzed to establish the boundaries of the contamination ( Site Characterization ). Project baseline values will be established from the analytical results.

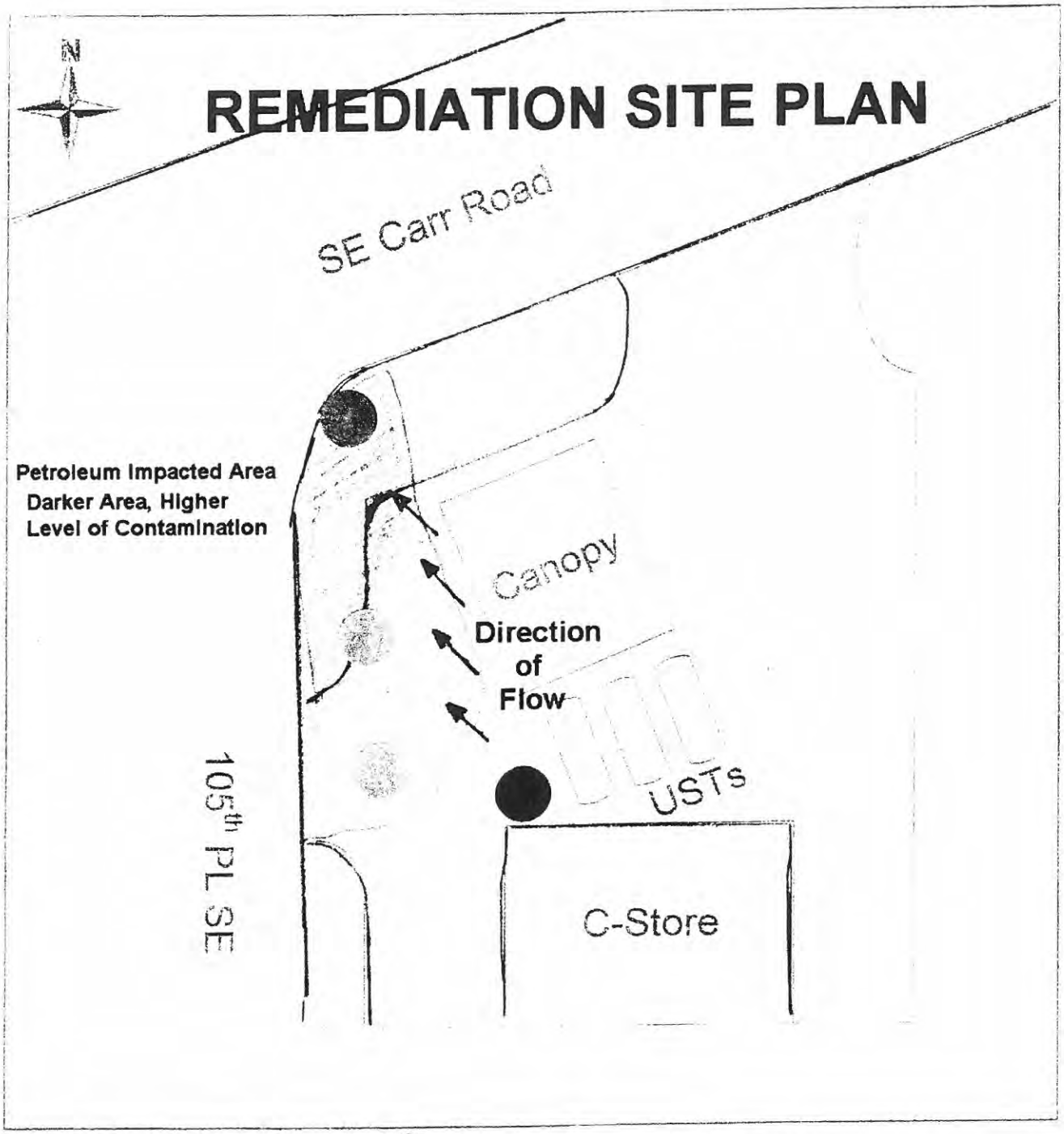
**PHASE II:** A minimum of two (2) monitoring/injection wells will be installed in locations to be determined by the project hydro-geologist.

**PHASE III:** Utilizing the injection wells, enhanced microbes and surfactant's will be injected into the groundwater every two weeks for the first two months. Water samples will be taken from the monitoring well with the highest contamination level prior to each treatment and then once each month until cleanup levels are achieved.

**PHASE IV:** Water samples will be taken once every quarter from each monitoring well and analyzed by the project laboratory. When four consecutive quarters of analyses show no detection of hydrocarbons in the water, a no further action status will be sought from WDOE.(See example of a no further action letter in Exhibit B.

*Robert Rodman* BSME
Environmental Consultant
*Donald Balmer* LG
Hydrogeologist

# REMEDIATION SITE PLAN




Monitoring Well MW-1

Injection Point IP-1

Future Monitoring Well Locations

# Exhibit A

LEAKING UNDERGROUND STORAGE TANKS (LUSTLIST
2/15/2005

| COUNTY | CITY | FS-ID | SITE_ID | RELEASE ID | SITE NAME | ALTERNATE_NAME | STREET | ZIP | LATITUDE |
|---|---|---|---|---|---|---|---|---|---|
| King | | | | | | | | | |
| | Renton | | | | | | | | |
| | | 58499353 | 6089 | 1487 | SOUND FORD INC | SOUND FORD RENTON | 750 RAINIER AVE S | 980553203 | 47.473212 |
| | | 58499353 | 6089 | 1487 | SOUND FORD INC | SOUND FORD RENTON | 750 RAINIER AVE S | 980553203 | 47.473212 |
| | | 55231872 | 6333 | 1816 | SUNNY'S DELI MART | ERNIE'S DELI | 10545 SE CARR RD | 98055 | 47.44437 |
| | | 55231872 | 6333 | 1816 | SUNNY'S DELI MART | ERNIE'S DELI | 10545 SE CARR RD | 98055 | 47.44437 |
| | | 96572525 | 6799 | 521951 | INDY LUBE | FORMULA ONE SERVICE | 100 RAINIER AVE S | 980552044 | 47.482882 |
| | | 96572525 | 6799 | 521951 | INDY LUBE | FORMULA ONE SERVICE | 100 RAINIER AVE S | 980552044 | 47.482882 |
| | | 36726432 | 6887 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 36726432 | 6887 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 36726432 | 6887 | 477304 | KING COUNTY PUBLIC WORKS ROAD | KING CO DEPT OF CONST & I | 155 MONROE AVE NE BLDG A | 980564101 | 47.485952 |
| | | 27778869 | 6890 | 2162 | RENTON 1 | CAR WASH ENTERPRISES RE | 621 RAINIER AVE S | 980552410 | 47.474922 |
| | | 27778869 | 6890 | 2162 | RENTON 1 | CAR WASH ENTERPRISES RE | 621 RAINIER AVE S | 980552410 | 47.474922 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 4474679 | 6898 | 4727 | BROWN BEAR CAR WASH | CAR WASH ENTERPRISES RE | 77 RAINIER AVE S | 98055 | 47.483052 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 61614156 | 7667 | 2260 | GULL 205 | GULL 205 | 3800 NE FOURTH | 980564107 | 47.488322 |
| | | 79233831 | 7688 | 361891 | TUKWILA GULL #240 | GULL 240 | 15640 WEST VALLEY HWY | 98055 | 47.461641 |
| | | 79233831 | 7688 | 361891 | TUKWILA GULL #240 | GULL 240 | 15640 WEST VALLEY HWY | 98055 | 47.461641 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 3238112 | 7725 | 1578 | GULL 1201 | GULL 1201 | 509 SOUTH GRADY WAY | 980553211 | 47.47365 |
| | | 60178828 | 7842 | 5543 | SEARS ROEBUCK & COMPANY | SEARS SVC CTR OLD RENTO | 359 RENTON CENTER WAY S.W. | 980552393 | 47.476392 |
| | | 60178828 | 7842 | 5543 | SEARS ROEBUCK & COMPANY | SEARS SVC CTR OLD RENTO | 359 RENTON CENTER WAY S.W. | 980552393 | 47.476392 |

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

*Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000*

February 6, 2004

Marlyn Kottsick
Robert Rodman
19136 Viking Way MW
Poulsbo, WA 98370

Dear Mr. Kottsick & Mr. Rodman:

Re: No Further Action/Independent Remedial Action NW0905
Tri Arc Electric/Puget Investments Property 640 South Spokane Street, Seattle, WA

Thank you for submitting the results of your independent remedial action(s) for review by the State of Washington Department of Ecology (Ecology). Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act (MTCA).

Ecology's Toxics Cleanup Program has reviewed the following information regarding the Tri Arc Electric property, located at 640 Spokane Street, Seattle, WA:

1. Phase II Environmental Site Assessment, March, 1995
2. Independent Remedial Cleanup Action Report, April, 2002
3. Letter from Ecology, dated 11/14/02 and
4. Summary of Groundwater testing December, 2003.

The reports listed above will be kept in the Central Files of the Northwest Regional Office (NWRO) of Ecology for review by appointment only. Appointments can be made by calling Central Records at the NWRO at (425) 649-7190 or -7239.

Based upon the information in the reports listed above, Ecology has determined that, at this time, the release of Total Petroleum Hydrocarbons (diesel & gasoline range) into the soil & groundwater no longer poses a threat to human health or the environment.

Therefore, Ecology is issuing this determination that no further remedial action is necessary at this site under MTCA, chapter 70.105D RCW.

# *ROBERT M. RODMAN*
# *ENVIRONMENTAL CONSULTANT*

**BSME, LICENCED UST SITE SUPERVISOR, CERTIFIED ENVIRONMENTAL SITE ASSESSOR**
**CERTIFIED REGULATORY COMPLIANCE SPECIALIST**

**15513 Cedar Grove Road NE, Poulsbo, Washington 98370**
**Phone/Fax: (360) 779-6911**
**E-Mail:** robertmr1@earthlink.net


## Environmental Services Agreement

**PARTIES**

*This agreement, is made this* **9th** *day of* **November, 2007**

*between*: **Kyoung Hwangpo**
*Hereinafter called "Client"*

*and*: **Robert M. Rodman dba: Robert M. Rodman Environmental**
*Hereinafter called "Consultant"*

**PROJECT DESCRIPTION**

*Client engages Consultant to provide services in connection with;*

**Remediation of petroleum contamination at, Sunny's Deli Mart 10545 SE Carr Road, Renton, Washington 98055**

**SCOPE OF SERVICES**

*Consultant agrees to perform services as follows:*

**Service A: Perform a Site Characterization to determine extent of contamination.**

**Service B: Prepare a remediation plan and meet with Washington State Dept. of Ecology (WDOE).**

**Service C: Retain a drilling company, and supervise placement and drilling of injection/monitoring wells, and collect soil and water samples to establish baseline values.**

**Service D: Obtain, prepare and apply microbe treatment to property.**

**Service E: Perform quarterly water sampling and treatment until cleanup has been accomplished.**

**Service F: Prepare final report for submission to WDOE and perform any actions requested by WDOE to obtain a no further action status.**

**COMPENSATION**

*Client agrees to compensate Consultant for such services as follows*

**$ 5,000 dollars (Five Thousand Dollars ) to be paid at start of project. This will be the Consultants fee paid in full.**
**Client will be responsible for drilling costs (approximately $4,000 for total project), laboratory analyses ($60 per sample, approximately $3000 for total project), microbe treatment ( $400), WDOE reviewing fees (approximately $500), and 8 gallons of gasoline and round trip ferry fare ($20 in wintertime, $28 in summer) per Consultants visit.**

*Client and Consultant acknowledge that each has read and agrees to the scope of work and terms of compensation described by this document.*

*Client:*

*Date:*

*Consultant:*
Robert M. Rodman
*Date:*

ESN NORTHWEST | Environmental Services Network

November 5, 2007

**On-Site Sample Collection for Robert Rodman Consulting**
**Renton, Washington**
**Carr Rd & 105th Place SE**

ESN will mobilize a Direct Push Truck to the project site to collect soil and water from 6 borings to 15 feet. The project is expected to take 1 day.

Direct Push Truck:

| | | | | | |
|---|---|---|---|---|---|
| Day Rate (1 Operator, 9 Hr) | $0 | x | 0 | = | $0 |
| Day Rate (2 Operators, 9 Hr) | $1,500 | x | 1 | = | $1,500 |
| 1/2 Day Rate (5 Hrs) | $0 | x | 0 | = | $0 |
| Overtime | $250 | x | 0 | = | $0 |
| Mobe/Demobe/Fuel | $0 | x | 0 | = | $0 |
| Start Cards (Water Samples) | $15 | x | 6 | = | $90 |
| Start Cards (Well) | $60 | x | 0 | = | $0 |
| Concrete Coring | $30 | x | 0 | = | $0 |
| Liner ($1/ft) | $1 | x | 90 | = | $90 |
| Drums (16 Gallon) | $50 | x | 1 | = | $50 |
| Drums (55 Gallon) | $70 | x | 0 | = | $0 |
| PVC Screen ($5/ft) | $5 | x | 0 | = | $0 |
| PVC Riser ($3/ft) | $3 | x | 0 | = | $0 |
| Estimated Total | | | | | $1,730 |

Optional Items (If Needed):

| | | | | | |
|---|---|---|---|---|---|
| Well Materials | $290 | x | 1 | = | $290 |
| Start Card (Well) | $60 | x | 1 | = | $60 |
| Drum | $70 | x | 1 | = | $70 |
| Total | | | | | $420 |

Additional days, if needed, will be at the same day rates. All utilities must be located and holes cleared by the client.

Anisa Harnden

Anisa Harnden, Drilling Manager

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.ESN-USA.com* E-Mail: *info@esnnw.com*

# REMEDIATION WORK PLAN
# for
# Sunny's Deli Mart
# &
# Texaco
# 10545 SE Carr Road
# Renton, Washington 98055
# WDOE SITE ID # 6333


**PREPARED BY**

***ROBERT M. RODMAN***
***ENVIRONMENTAL CONSULTANT***
***BSME, Licensed Site Supervisor, Certified Environmental Site Assessor***
***Certified Regulatory Compliance Specialist***
***15513 Cedar Grove Road NE, Poulsbo, Washington 98370***
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**November 2007**

**Sunny's Deli Mart**

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055
# REMEDIATION WORK PLAN

## PROJECT DESCRIPTION

The objective of this project will be the cleanup of petroleum contaminated soil from the site of the Texaco gasoline service station doing business as Sunny's Deli Mart, located on the Northwest corner of SE Carr Road and 106th Place SE in Renton, Washington. The cleanup method to be employed will be Bio-remediation ( Microbes which feed on hydrocarbons will be introduced into the contaminated areas). This method is non-intrusive and will not interfere with the operation of the business.

## BACKGROUND

In April of 1991, hydrocarbon contamination was discovered on this site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site.

In October of 2007, a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. Two of the boring's, identified as S3 and S4, produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment.

In November of 2007, a site characterization was performed. Nine boring's were advanced to a depth of 10 to12 feet and all encountered groundwater at 8 to 11 feet. Analytical results indicate that a release of gasoline and the gasoline constituents, Benzene, Toluene, Ethyl benzene and, Xylenes (BTEX) has occurred on the Northwest side of the property. Monitoring wells were installed in 2 of the boring's. A monitoring well was placed at the lowest point of the site and is identified as MW-1. The other monitoring well was installed in the area of the highest contamination levels and is identified as MW-2.
Two injection points (IP) were installed and will be utilized to inject enhanced microbes and surfactant's into the groundwater and soil. One IP was installed at the Northwest corner of the convenience store up gradient of the area of contamination is identified as IP-1. The second IP was installed Southeast and up gradient of the dispenser islands and area of contamination and will be identified as IP-2.
1 or 2 additional monitoring wells and or IP's will be installed during the course of this project as required. Locations of the existing boring's, monitoring wells, and IP's can be found on the **Remediation Site Plan**,

## WORK PLAN

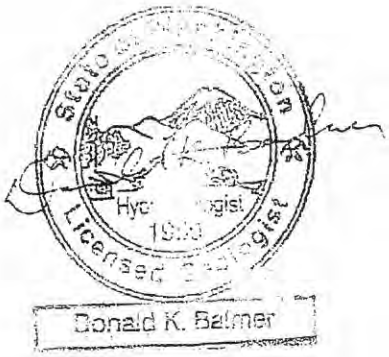
**PHASE I:** The monitoring wells will be pumped out and the water properly disposed of by Marine Vacuum Services of Seattle. Recharge rates will be monitored and logged and whether or not the ground water on the site is perched (contained by hardpan or clay) should be able to be determined.

**PHASE II:** Utilizing the injection points, enhanced microbes and surfactant's purchased from Blue Stripe Distributing under the brand name "Superbugs" will be injected into the groundwater every two weeks for the first two months. Water samples will be taken from the monitoring well with the highest contamination level prior to each treatment and then once each month until cleanup levels are achieved. Any additional monitoring wells or injection points will be determined by the project hydro-geologist. Once analytical results from the monitoring wells are below Department of Ecology (WDOE) cleanup levels, Phase III will begin.

**PHASE III:** Water samples will be taken once every quarter from each monitoring well and analyzed by the project laboratory. When four consecutive quarters of analyses show no detection of hydrocarbons in the water, a no further action (NFA) status will be sought from WDOE.

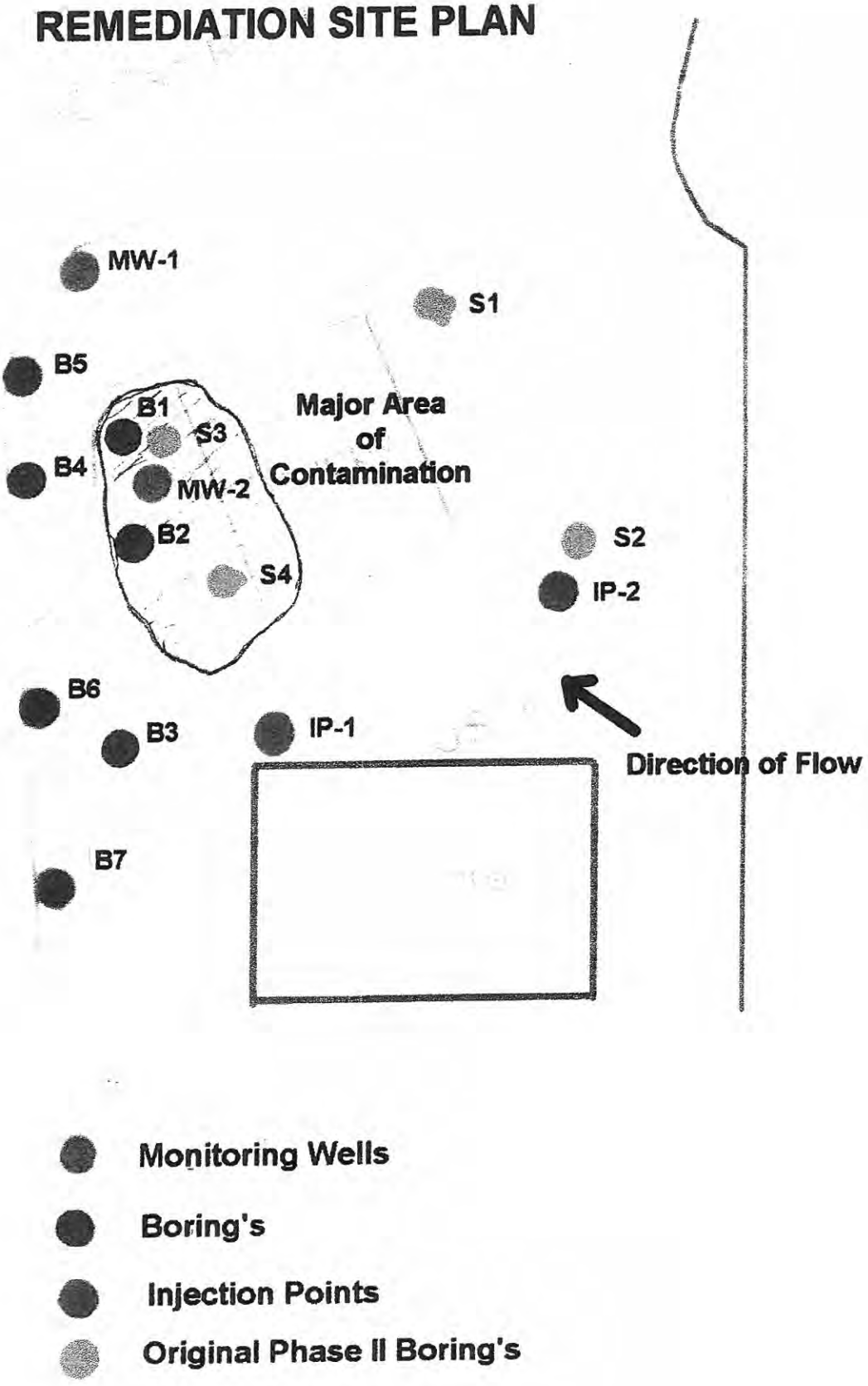
Estimated time line till NFA is 18 months.
Estimated total cost of project is $20,000 (Twenty Thousand Dollars)

*Robert M. Rodman* BSME
*Donald Balmer* RG



# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington

## REMEDIATION SITE PLAN



# SITE CHARACTERIZATION

**For**

# Sunny's Deli Mart
# &
# Texaco

## 10545 SE Carr Road
## Renton, Washington 98055

## WDOE SITE ID # 6333


PREPARED BY

***ROBERT M. RODMAN B.S.M.E and DONALD BALMER L.G., RHG***
***ENVIRONMENTAL CONSULTANTS***
***15513 Cedar Grove Road NE, Poulsbo, Washington 98370***
Phone/Fax: (360) 779-6911


**November 2007**

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055

## Introduction

This report summarizes the results of a Site Characterization performed in November of 2007 at Sunny,s Deli Mart, a Texaco gasoline station and convenience store located at 10545 SE Carr Road in Renton, Washington. The property is located on the Southeast corner of the intersection of SE Carr Road and 105$^{th}$ Place SE (see **Figure 1**).

## Background

In April of 1991, hydrocarbon contamination was discovered on this site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site. (See Exhibit A).

In October of 2007 a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. 2 of the boring's, identified as S3 and S4 produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment.

## Characterization Activities

In November of 2007, a site characterization, as required by WAC 173-340-450, was performed at this site. Part of this characterization was the installation of 2 monitoring wells. Including the monitoring wells, a total of 9 boring's were advanced to a depth of 10 to 12 feet utilizing a truck-mounted Direct-Push drilling rig. The soil boring locations are shown in **Figure 2**.
During drilling, soil samples were collected at four-foot intervals using a 1.5-inch diameter sampler driven into the soil at the head of the probe. Upon completion of the drilling, all soil boring's were backfilled with bentonite chips. The collected soil samples were field-screened using a Multi-RAE Photo-Ionization Detector (PID) for the presence of volatile organic compounds. Selected soil samples from each boring were collected for laboratory analysis. All soil samples were collected with stainless steel disposable spoons and contained in pre-sterilized glass jars and stored in plastic bags. Each sample was sealed and labeled and placed in an ice chest with synthetic ice. Groundwater was encountered in each boring at a depth of approximately 8 to 12 feet. Groundwater was sampled from the boring's using a peristaltic pump. The borings were pumped to reduce turbidity prior to sampling. The water samples were then collected in clean, laboratory-supplied, glass containers. Each sample was sealed and labeled and placed in an ice chest with synthetic ice. All samples were then transported to ESN Northwest Laboratories in Olympia, Washington for analysis. Samples were analyzed for Total Petroleum Hydrocarbons in the gasoline range by Method NWTPH-Gx and for the constituents Benzene, Ethylbenzene, Toluene, and Xylenes (BTEX) by Method 8021B.

## Site Hydrogeological Characteristics

The soil conditions encountered in the seven boring locations generally consisted of slightly silty to silty sand with occasional gravel. The material was typical of river flood-plain alluvium.
Groundwater was encountered in all of the boring locations. The water table occurred at a depth between 8 to 12 feet at each location. The occurrence of shallow groundwater is believed to be fairly uniform across the area, with the direction of movement in the vicinity of the site to the Northwest.

## Findings

Analysis and interpretation of the data generated during the field investigation and laboratory testing is presented in the following sections. The analytical results are compared with regulatory limits for any hydrocarbons identified in the soil and groundwater.

## Soil

All boring's were advanced to a depth of 10 to 12 feet. Soil samples were selected from the water table zone interface (8 to 12 feet) for laboratory analysis. The soil sample identified as B1-12 contained gasoline and benzene exceeding the MTCA Method A cleanup level. The soil sample identified as B2-12 contained benzene exceeding the MTCA Method A cleanup level, and the sample identified as B3-12 contained benzene at .04 parts per million (ppm) which is .01 ppm above the cleanup level of .03 ppm.. The soil sample identified as MW-2-4 contained gasoiline, benzene, and xylenes above the MTCA Method A cleanup levels. The soil sample identified as MW-2-8 contained benzene above the MTCA Method A cleanup levels.

The laboratory analytical results for the boring soil samples are listed in **Table of Analytical Results**, and the laboratory report is presented in **Appendix A**.

### Groundwater

Nine groundwater samples were collected from the 7 boring's and 2 monitoring wells for analysis of Total Petroleum Hydrocarbons (TPH) in the gasoline range with BTEX constituents to evaluate potential gasoline release impacts.

The analyzed groundwater samples from B1, B2, B3, and MW-2 all contained one or more detectable levels of gasoline or BTEX at concentrations exceeding the MTCA Method A cleanup levels. The laboratory analytical results for the groundwater are listed in **Table of Analytical Results**, and the laboratory report is presented in **Appendix A**.

## CONCLUSIONS

Based on the results of this assessment, the following conclusions have been developed.

Based on the analysis of samples from the soil boring's and monitoring wells, the groundwater Northwest (down gradient) of the station's UST's and pump islands contains concentrations of gasoline and BTEX that exceed the MTCA Method A cleanup levels. These results indicate that a release of gasoline product may have occurred from the on-site UST's or piping in the vicinity of the USTs. The release likely occurred near the water table or migrated downward to the water table without spreading laterally through the soil. The released gasoline is dissolving into the groundwater and moving Northwest from the UST location. The low concentrations of BTEX indicate that the gasoline is relatively old. A limited amount of soil appears to have been impacted in the areas tested, and most of this is soil interfacing with the groundwater. The majority of the contaminated water appears to be perched (retained by hardpan or clay) in the area where the excavations for two 10,000 gallon, and two 8,000 gallon UST's were removed in 1990.

An Independent Remedial Action Plan will be developed to address the most cost effective and least intrusive method to mitigate the groundwater contamination on the site.

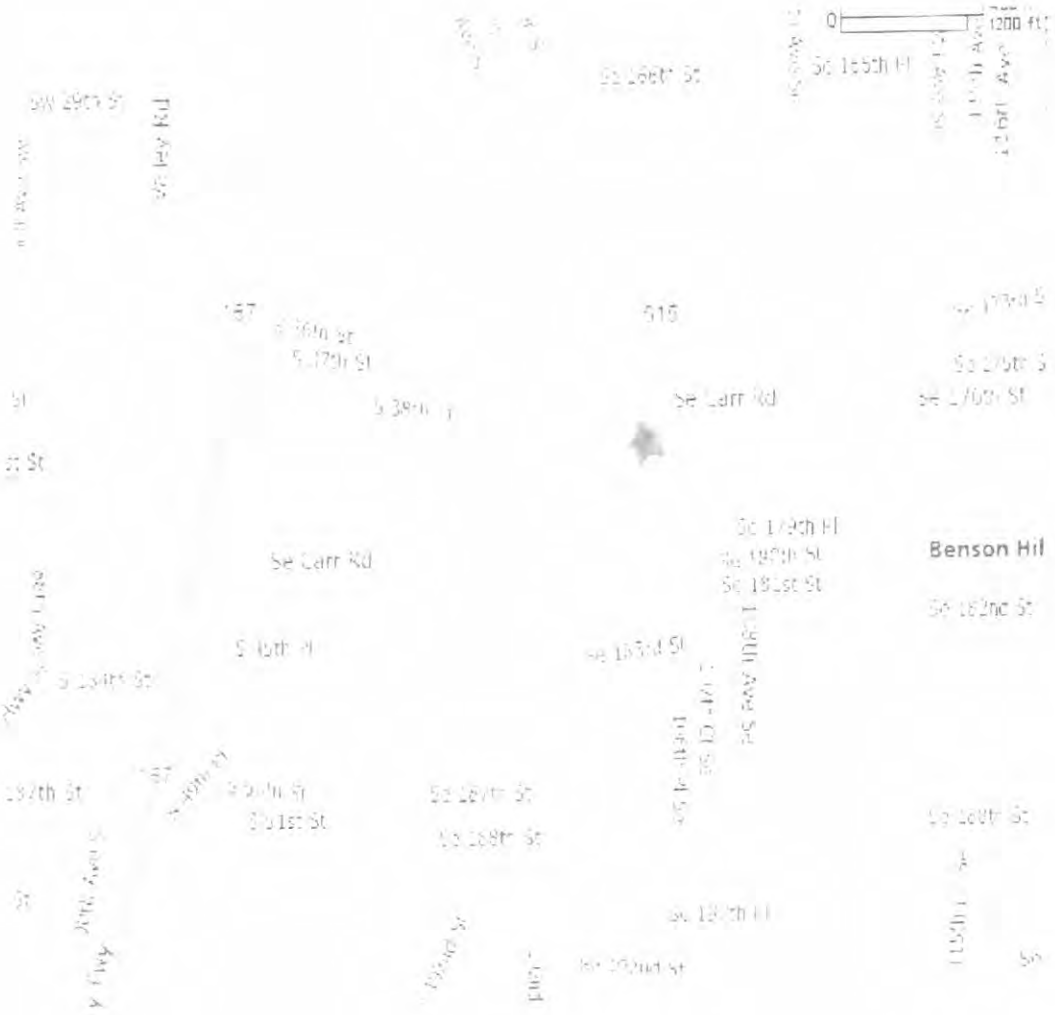
Procedures used for this site characterization are consistent with those outlined in the Washington Department of Ecology (WDOE) publication, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, revised edition, October, 1992.

***Robert Rodman BSME***

***Donald Balmer L.G.***

**Environmental Consultants**

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055




**SITE LOCATION** **FIGURE 1**

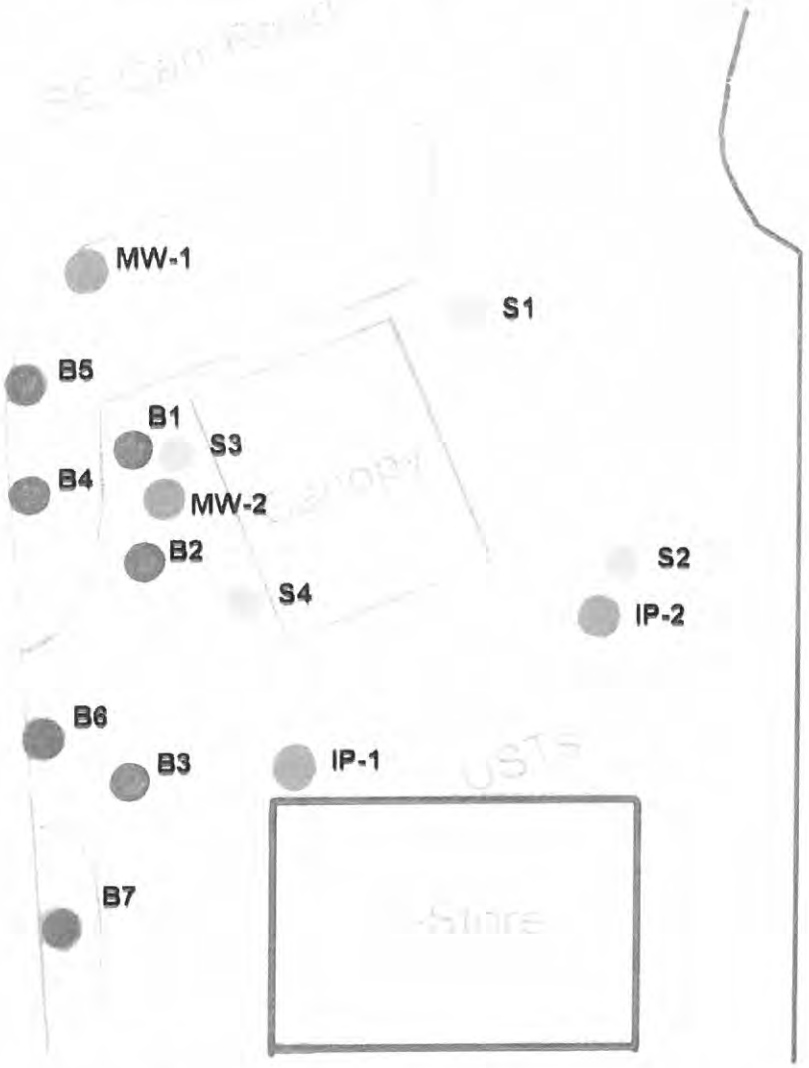
# SUNNY'S DELI MART

## TABLE of ANALYTICAL RESULTS

| BORING ID | SAMPLE TYPE | DEPTH IN FEET | GASOLINE | BENZENE | TOLUENE | ETHYL BENZENE | XYLENES |
|---|---|---|---|---|---|---|---|
| S1 | SOIL | 11 | ND | ND | ND | ND | ND |
| S2 | SOIL | 11 | ND | ND | ND | ND | ND |
| S3 | SOIL | 11 | ***110 ppm** | ***1.1 ppm** | .33 ppm | 1.7 ppm | 6.3 ppm |
| S4 | SOIL | 12 | ***670 ppm** | ***14 ppm** | .30 ppm | 5.9 ppm | 2.8 ppm |
| B1 | SOIL | 12 | ***110 ppm** | ***.18 ppm** | .07 ppm | 2.4 ppm | 2.6 ppm |
| B1 | WATER | | ***26000 ppb** | ***2400 ppb** | 55 ppb | ***2800 ppb** | ***2200 ppb** |
| B2 | SOIL | 12 | 25 ppm | ***1.3 ppm** | .06 ppm | .17 ppm | .26 ppm |
| B2 | WATER | | ***24000 ppb** | ***3600 ppb** | 46 ppb | ***2400 ppb** | 760 ppb |
| B3 | SOIL | 12 | 12 ppm | ***.04 ppm** | ND | ND | ND |
| B3 | WATER | | ***2000 ppb** | ***220 ppb** | **3.6 ppb** | **4.9 ppb** | **22 ppb** |
| B4 | SOIL | 12 | ND | ND | ND | ND | ND |
| B4 | WATER | | ND | ND | ND | ND | ND |
| B5-4 | SOIL | 4 | ND | ND | ND | ND | ND |
| B5-8 | SOIL | 8 | ND | ND | ND | ND | ND |
| B5-10 | SOIL | 10 | ND | ND | ND | ND | 1.1 ppm |
| B5-W | WATER | | ND | ND | ND | ND | ND |
| B6-4 | SOIL | 4 | ND | ND | ND | ND | 1.1 ppm |
| B6-8 | SOIL | 6 | ND | ND | ND | ND | ND |
| B6-12 | SOIL | 12 | ND | ND | ND | ND | ND |
| B6-W | WATER | | 250 ppb | ND | ND | ND | 8.0 ppb |
| B7-4 | SOIL | 4 | ND | ND | ND | ND | ND |
| B7-8 | SOIL | 6 | ND | ND | ND | ND | ND |
| B7-12 | SOIL | 12 | ND | ND | ND | ND | ND |
| B7–W | WATER | | 780 ppb | ***42 ppb** | 12 ppb | 300 ppb | 200 ppb |
| MW-1 | SOIL | 10 | ND | ND | ND | ND | ND |
| MW-1-W | WATER | | ND | ND | ND | ND | ND |
| MW-2-4 | SOIL | 4 | ***100 ppm** | ***0.55 ppm** | 0.11 ppm | 4.9 ppm | ***100 ppm** |
| MW-2-8 | SOIL | 8 | ND | ***0.89 ppm** | ND | 4.1 ppm | ND |
| MW-2-W | WATER | | ***1700 ppb** | ***99 ppb** | 37 ppb | ***880 ppb** | 850 ppb |

**ND = No Detection / ppm = parts per million / ppb = parts per billion / *= above cleanup levels**

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington




## BORING LOCATIONS

- Monitoring Wells
- Boring's
- Injection Points
- Original Phase II Boring's

**Figure 2**

**Sunny's Deli Mart**
**10545 SE Carr Road**
**Renton, Washington 98055**

# APPENDIX A

## Laboratory Analytical Results

# Sunny's Deli Mart

Date of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828-1

## NWTPH-Gx/BTEX

| | | |
|---|---|---|
| Date Extracted: | 9-12-07 | |
| Date Analyzed: | 9-12-07 | |
| Matrix: Soil | | |
| Units: mg/kg (ppm) | | |
| Client ID: | S1-11 | S2-11 |
| Lab ID: | 09-053-01 | 09-053-02 |

| | Result | Flags | PQL | Result | Flags | PQL |
|---|---|---|---|---|---|---|
| Benzene | ND | | 0.020 | ND | | 0.020 |
| Toluene | ND | | 0.077 | ND | | 0.045 |
| Ethyl Benzene | ND | | 0.077 | ND | | 0.045 |
| m,p-Xylene | ND | | 0.077 | ND | | 0.045 |
| o-Xylene | ND | | 0.077 | ND | | 0.045 |
| TPH-Gas | ND | | 7.7 | ND | | 4.5 |
| Surrogate Recovery | | | | | | |
| Fluorobenzene | 79% | | | 83% | | |

# Sunny's Deli Mart

Data of Report: September 20, 2007
Samples Submitted: September 10, 2007
Laboratory Reference: 0709-053
Project: 01070828.1

## NWTPH-Gx/BTEX

| | | | | | | |
|---|---|---|---|---|---|---|
| Date Extracted | 9-12-07 | | | | | |
| Date Analyzed | 9-12&13-07 | | | | | |
| Matrix: Soil | | | | | | |
| Units: mg/kg (ppm) | | | | | | |
| Client ID: | S3-11 | | | S4-12 | | |
| Lab ID: | 09-053-03 | | | 09-053-04 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | 1.1 | | 0.047 | 14 | | 0.089 |
| Toluene | 0.33 | | 0.24 | 0.30 | | 0.089 |
| Ethyl Benzene | 1.7 | | 0.24 | 5.9 | | 0.089 |
| m,p Xylene | 6.3 | | 0.24 | 2.8 | | 0.089 |
| o-Xylene | 1.7 | | 0.24 | ND | U1 | 0.89 |
| TPH-Gas | 110 | | 24 | 670 | | 8.9 |
| Surrogate Recovery | | | | | | |
| Fluorobenzene | 98% | | | 94% | | |

# Sunny's Deli Mart

ESN NW BELLEVUE CHEMISTRY LABORATORY
Tel (425) 957-9872 Fax (425) 957-9904

| | |
|---|---|
| ESN Job Number | 071163.0 |
| Client | Bob Rodman |
| Client Job Name | Sunny's Deli |
| Client Job Number | |

**NWTPH-Gx / BTEX (8260)**

Analytical Results

| NWTPH-Gx, mg/kg | | MTH BLK | LCS | B1 12' | B2 12' | B3 12' | MS | MSD | RPD |
|---|---|---|---|---|---|---|---|---|---|
| Matrix | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| Date extracted | Reporting | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Date analyzed | Limits | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Gasoline | 5.0 | nd | 105% | 110 | 25 | 12 | | | |
| Benzene | 0.02 | nd | 108% | 0.18 | 1.3 | 0.04 | 111% | 109% | 2% |
| Toluene | 0.05 | nd | 113% | 0.07 | 0.08 | nd | 101% | 99% | 2% |
| Ethylbenzene | 0.05 | nd | | 2.4 | 0.17 | nd | | | |
| Xylenes | 0.05 | nd | | 2.8 | 0.25 | nd | | | |
| Surrogate recoveries: | | | | | | | | | |
| Dibromofluoromethane | | 135% | 133% | 118% | 117% | 119% | 114% | 114% | |
| Toluene d8 | | 107% | 107% | 108% | 111% | 104% | 107% | 108% | |
| 4-Bromofluorobenzene | | 102% | 101% | 100% | 103% | 100% | 99% | 96% | |

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
Soil values based on wet weight
Results reported on dry weight basis
Acceptable Recovery limits: 64% TO 135%
Acceptable RPD limit: 35%

# Sunny's Deli Mart

FSN NW BELLEVUE CHEMISTRY LABORATORY
Tel (425) 957-0832 Fax (425) 957-9904

| | |
|---|---|
| FSN Job Number | 071128-3 |
| Client | Rob Rodman |
| Client Job Name | Sunny's Deli |
| Client Job Number | |

NWTPH-Gx / BTEX (8260)

Analytical Results

| NWTPH-Gx, µg/l | | MTH BLK | LCS | B1 | B2 | B3 | MS | MSD | RPD |
|---|---|---|---|---|---|---|---|---|---|
| Matrix | Water | Water | Water | Water | Water | Water | Water | Water | |
| Date extracted | Reporting | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Date analyzed | Limits | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | 11/24/07 | |
| Gasoline | 100 | nd | 105% | 26,000 | 24,000 | 2,000 | | | |
| Benzene | 1.0 | nd | 106% | 2,400 | 3,600 | 220 | 98% | 95% | 3% |
| Toluene | 1.0 | nd | 112% | 55 | 46 | 3.6 | 109% | 109% | 0% |
| Ethylbenzene | 1.0 | nd | | 2,800 | 2,400 | 4.9 | | | |
| Xylenes | 1.0 | nd | | 2,200 | 760 | 22 | | | |
| Surrogate recoveries | | | | | | | | | |
| Dibromofluoromethane | | 138% | 133% | 112% | 111% | 114% | 114% | 117% | |
| Toluene-d8 | | 107% | 107% | 108% | 109% | 107% | 107% | 108% | |
| 4-Bromofluorobenzene | | 102% | 101% | 102% | 99% | 102% | 104% | 106% | |

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
I - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

**Sunny's Deli Mart**

**ESN NORTHWEST CHEMISTRY LABORATORY**

SUNNY'S DELI PROJECT
Renton, Washington
Bob Redman

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98506
(360) 459-8670 (360) 459-3432 fax
info@esnnw.com

**Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8021B) in Soil**

| Sample Number | Date Analyzed | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylenes (mg/kg) | Gasoline (mg/kg) | Surrogate Recovery (%) |
|---|---|---|---|---|---|---|---|
| Method Blank | 1/21/2009 | nd | nd | nd | nd | nd | 110 |
| LCS | 1/21/2009 | 102% | 96% | 100% | 100% | — | 93 |
| B5-4 | 1/21/2009 | nd | nd | nd | nd | nd | 116 |
| B5-8 | 1/21/2009 | nd | nd | nd | nd | nd | 95 |
| B5-10 | 1/21/2009 | nd | nd | nd | 1.8 | nd | 100 |
| B6-4 | 1/21/2009 | nd | nd | nd | 1.9 | nd | 84 |
| B6-8 | 1/21/2009 | nd | nd | nd | nd | nd | 92 |
| B6-12 | 1/22/2009 | nd | nd | nd | nd | nd | 95 |
| B7-4 | 1/22/2009 | nd | nd | nd | nd | nd | 92 |
| B7-4 Dup | 1/22/2009 | nd | nd | nd | nd | nd | 101 |
| B7-8 | 1/22/2009 | nd | nd | nd | nd | nd | 98 |
| B7-12 | 1/22/2009 | nd | nd | nd | nd | nd | 94 |
| MW-2-4 | 1/22/2009 | 0.55 | 0.11 | 4.9 | 9.6 | 1400 | 93 |
| MW-2-8 | 1/22/2009 | 0.089 | nd | 4.1 | nd | nd | 98 |
| Method Detection Limits | | 0.02 | 0.05 | 0.05 | 0.05 | 10 | |

"—" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene) & LCS: 65% TO 135%

Sunny's Deli Mart

## ESN NORTHWEST CHEMISTRY LABORATORY

SUNNY'S DELI PROJECT
Renton, Washington
Bob Redman

ESN Northwest
1730 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (866) 459-3432 Fax
lab@esnnw.com

**Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8021B) in Water**

| Sample Number | Date Analyzed | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Xylenes (ug/L) | Gasoline (ug/L) | Surrogate Recovery (%) |
|---|---|---|---|---|---|---|---|
| Method Blank | 1/23/2008 | nd | nd | nd | nd | nd | 90 |
| LCS | 1/23/2008 | 102% | 96% | 101% | 110% | --- | 93 |
| B5-W | 1/23/2008 | nd | nd | nd | nd | nd | 68 |
| B6-W | 1/23/2008 | nd | nd | nd | **8.0** | **250** | 100 |
| B7-W | 1/23/2008 | **42** | **12** | **300** | **200** | **780** | 104 |
| MW-2-W | 1/23/2008 | **99** | **37** | **800** | **850** | **1700** | 72 |
| Method Detection Limits | | 1.0 | 1.0 | 1.0 | 3.0 | 100 | |

"nd" Indicates not detected at the listed detection limits
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Fluorobenzene) & LCS: 63% TO 139%

# REMEDIATION WORK PLAN
# for
# Sunny's Deli Mart
# &
# Texaco
# 10545 SE Carr Road
# Renton, Washington 98055
## WDOE SITE ID # 6333


**PREPARED BY**

***ROBERT M. RODMAN***
***ENVIRONMENTAL CONSULTANT***
***BSME, Licensed Site Supervisor, Certified Environmental Site Assessor***
***Certified Regulatory Compliance Specialist***
***15513 Cedar Grove Road NE, Poulsbo, Washington 98370***
***Phone/Fax: (360) 779-6911***


**November 2007**

**Sunny's Deli Mart**

# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington 98055
# REMEDIATION WORK PLAN

## PROJECT DESCRIPTION

The objective of this project will be the cleanup of petroleum contaminated soil from the site of the Texaco gasoline service station doing business as Sunny's Deli Mart, located on the Northwest corner of SE Carr Road and 106th Place SE in Renton, Washington. The cleanup method to be employed will be Bio-remediation ( Microbes which feed on hydrocarbons will be introduced into the contaminated areas). This method is non-intrusive and will not interfere with the operation of the business.

## BACKGROUND

In April of 1991, hydrocarbon contamination was discovered on this site and was reported to the Washington State Department of Ecology (WDOE). The WDOE assigned release identification number 1816, and site identification number 6333 to the site.

In October of 2007, a Phase II Environmental Site Assessment was performed, 4 boring's were advanced to depths from 11 to 12 feet. Two of the boring's, identified as S3 and S4, produced soil samples which exceeded WDOE cleanup levels for gasoline and the gasoline constitute Benzene. No groundwater samples were taken during this assessment.

In November of 2007, a site characterization was performed. Nine boring's were advanced to a depth of 10 to12 feet and all encountered groundwater at 8 to 11 feet. Analytical results indicate that a release of gasoline and the gasoline constituents, Benzene, Toluene, Ethyl benzene and, Xylenes (BTEX) has occurred on the Northwest side of the property. Monitoring wells were installed in 2 of the boring's. A monitoring well was placed at the lowest point of the site and is identified as MW-1. The other monitoring well was installed in the area of the highest contamination levels and is identified as MW-2.
Two injection points (IP) were installed and will be utilized to inject enhanced microbes and surfactant's into the groundwater and soil. One IP was installed at the Northwest corner of the convenience store up gradient of the area of contamination is identified as IP-1. The second IP was installed Southeast and up gradient of the dispenser islands and area of contamination and will be identified as IP-2.
1 or 2 additional monitoring wells and or IP's will be installed during the course of this project as required. Locations of the existing boring's, monitoring wells, and IP's can be found on the **Remediation Site Plan**,

# Sunny's Deli Mart

## WORK PLAN

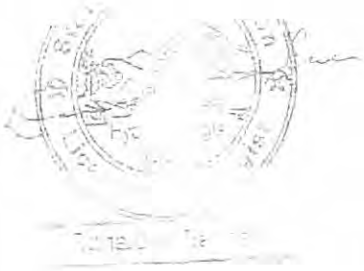
**PHASE I:** The monitoring wells will be pumped out and the water properly disposed of by Marine Vacuum Services of Seattle. Recharge rates will be monitored and logged and whether or not the ground water on the site is perched (contained by hardpan or clay) should be able to be determined.

**PHASE II:** Utilizing the injection points, enhanced microbes and surfactant's purchased from Blue Stripe Distributing under the brand name "Superbugs" will be injected into the groundwater every two weeks for the first two months. Water samples will be taken from the monitoring well with the highest contamination level prior to each treatment and then once each month until cleanup levels are achieved. Any additional monitoring wells or injection points will be determined by the project hydro-geologist. Once analytical results from the monitoring wells are below Department of Ecology (WDOE) cleanup levels, Phase III will begin.

**PHASE III:** Water samples will be taken once every quarter from each monitoring well and analyzed by the project laboratory. When four consecutive quarters of analyses show no detection of hydrocarbons in the water, a no further action (NFA) status will be sought from WDOE.

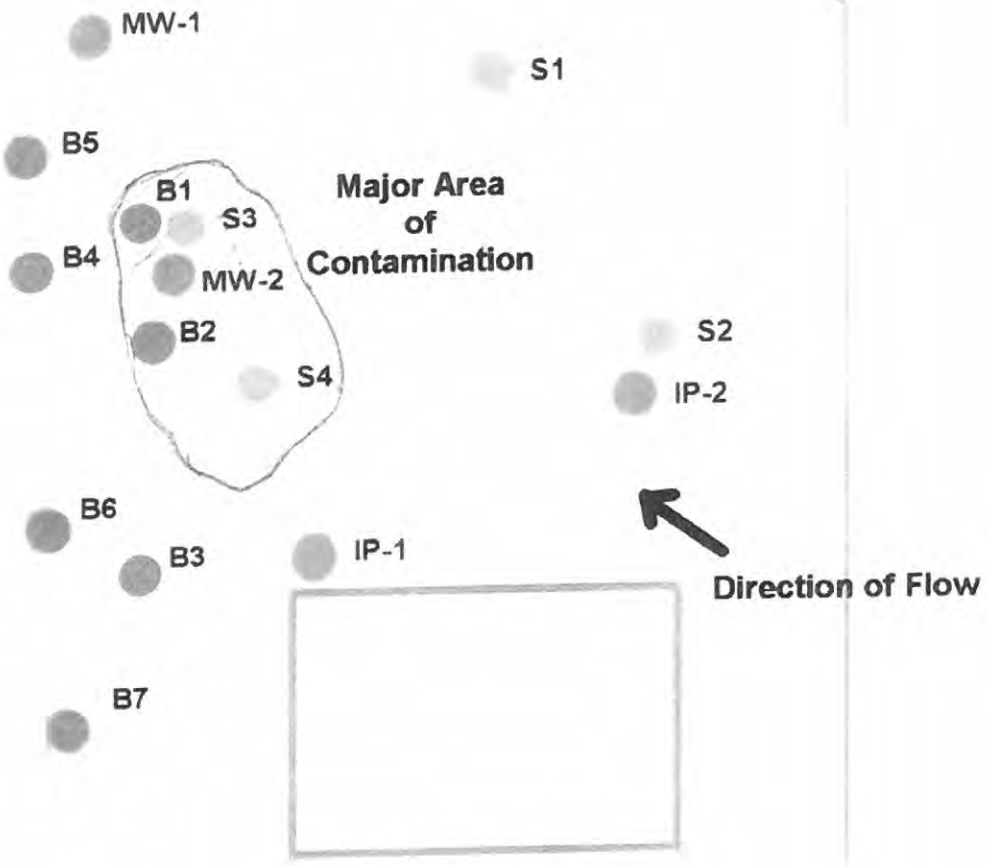
Estimated time line till NFA is 18 months.
Estimated total cost of project is $20,000 (Twenty Thousand Dollars)

*Robert M. Rodman* BSME
*Donald Balmer* RG



# Sunny's Deli Mart
# 10545 SE Carr Road
# Renton, Washington

## REMEDIATION SITE PLAN



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1-800-767-5859
Fax (615) 758-5859

Sat. 2400

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

## Report Summary

Friday July 09, 2010

Report Number: L466362
Samples Received: 06/26/10
Client Project:

Description: Sunnys Deli Mart

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

*Laboratory Certification Numbers*

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

July 09, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L466362-01

Date Received : June 26, 2010
Description : Sunnys Deli Mart

Site ID :

Sample ID : WELL 1 8 FT

Project # :

Collected By : Regan Hardy
Collection Date : 06/24/10 10:05

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 0.34 | 0.10 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Benzene | 0.036 | 0.00050 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Toluene | BDL | 0.0050 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Ethylbenzene | 0.00084 | 0.00050 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Total Xylene | BDL | 0.0015 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Methyl tert-butyl ether | 0.020 | 0.0010 | mg/l | NWTPHGX | 07/04/10 | 1 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 101. | | % Rec. | NWTPHGX | 07/04/10 | 1 |
| a,a,a-Trifluorotoluene(FID) | 104. | | % Rec. | NWTPHGX | 07/04/10 | 1 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

July 09, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L466362-02

Date Received : June 26, 2010
Description : Sunnys Deli Mart

Site ID :

Sample ID : WELL 2 8.5 FT

Project # :

Collected By : Regan Hardy
Collection Date : 06/24/10 10:20

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Lead | 0.40 | 0.025 | mg/l | 6010B | 07/03/10 | 5 |
| Gasoline Range Organics-NWTPH | 6.8 | 1.0 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Benzene | 3.9 | 0.050 | mg/l | NWTPHGX | 07/07/10 | 100 |
| Toluene | BDL | 0.050 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Ethylbenzene | 0.014 | 0.0050 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Total Xylene | 0.086 | 0.015 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Methyl tert-butyl ether | 0.15 | 0.010 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 101. | | % Rec. | NWTPHGX | 07/04/10 | 10 |
| a,a,a-Trifluorotoluene(FID) | 104. | | % Rec. | NWTPHGX | 07/04/10 | 10 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Page 10

REPORT OF ANALYSIS

July 09, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L466362-03

Date Received : June 26, 2010
Description : Sunnys Deli Mart

Site ID :

Sample ID : WELL 3 8 FT

Project # :

Collected By : Regan Hardy
Collection Date : 06/24/10 10:34

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 29. | 1.0 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Benzene | 2.8 | 0.050 | mg/l | NWTPHGX | 07/07/10 | 100 |
| Toluene | 0.12 | 0.050 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Ethylbenzene | 3.0 | 0.050 | mg/l | NWTPHGX | 07/07/10 | 100 |
| Total Xylene | 0.21 | 0.015 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Methyl tert-butyl ether | 0.25 | 0.010 | mg/l | NWTPHGX | 07/04/10 | 10 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 98.4 | | % Rec. | NWTPHGX | 07/04/10 | 10 |
| a,a,a-Trifluorotoluene(FID) | 101. | | % Rec. | NWTPHGX | 07/04/10 | 10 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

July 09,2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L466362-04

Date Received : June 26, 2010
Description : Sunnys Deli Mart

Site ID :

Sample ID : WELL 4 9.5 FT

Project # :

Collected By : Regan Hardy
Collection Date : 06/24/10 11:25

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | BDL | 0.10 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Benzene | BDL | 0.00050 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Toluene | BDL | 0.0050 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Ethylbenzene | BDL | 0.00050 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Total Xylene | BDL | 0.0015 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Methyl tert-butyl ether | BDL | 0.0010 | mg/l | NWTPHGX | 07/08/10 | 1 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 104. | | % Rec. | NWTPHGX | 07/08/10 | 1 |
| a,a,a-Trifluorotoluene(FID) | 111. | | % Rec. | NWTPHGX | 07/08/10 | 1 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

July 09,2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L466362-05

Date Received : June 26, 2010
Description : Sunnys Deli Mart

Site ID :

Sample ID : WELL 4 9 FT

Project # :

Collected By : Regan Hardy
Collection Date : 06/24/10 11:17

| Parameter | Dry Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Total Solids | 82.8 | | % | 2540G | 07/02/10 | 1 |
| Gasoline Range Organics-NWTPH | BDL | 0.60 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Benzene | BDL | 0.0030 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Toluene | BDL | 0.030 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Ethylbenzene | BDL | 0.0030 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Total Xylene | BDL | 0.0090 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Methyl tert-butyl ether | BDL | 0.0060 | mg/kg | NWTPHGX | 07/02/10 | 5 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 98.4 | | % Rec. | NWTPHGX | 07/02/10 | 5 |
| a,a,a-Trifluorotoluene(FID) | 100. | | % Rec. | NWTPHGX | 07/02/10 | 5 |

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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The reported analytical results relate only to the sample submitted
Reported: 07/09/10 16:11 Printed: 07/09/10 16:11

Summary of Remarks For Samples Printed
07/09/10 at 16:11:40

TSR Signing Reports: 358
R5 - Desired TAT

Sample: L466362-01 Account: LRENVRID Received: 06/26/10 09:00 Due Date: 07/02/10 00:00 RPT Date: 07/09/10 16:11
NWTPHGXBTEX includes MTBE
Sample: L466362-02 Account: LRENVRID Received: 06/26/10 09:00 Due Date: 07/02/10 00:00 RPT Date: 07/09/10 16:11
NWTPHGXBTEX includes MTBE
Sample: L466362-03 Account: LRENVRID Received: 06/26/10 09:00 Due Date: 07/02/10 00:00 RPT Date: 07/09/10 16:11
NWTPHGXBTEX includes MTBE
Sample: L466362-04 Account: LRENVRID Received: 06/26/10 09:00 Due Date: 07/02/10 00:00 RPT Date: 07/09/10 16:11
NWTPHGXBTEX includes MTBE
Sample: L466362-05 Account: LRENVRID Received: 06/26/10 09:00 Due Date: 07/02/10 00:00 RPT Date: 07/09/10 16:11
NWTPHGXBTEX includes MTBE

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Est. 1970

L & R Environmental Land Farms
Ryan Hardy
PO Box 65

Buhl, ID 83634

Quality Assurance Report
Level II

L466362

July 7, 2010

## Laboratory Blank

| Analyte | Result | Units | % Rec | Limit | Batch | Date Analyzed |
|---|---|---|---|---|---|---|
| Total Solids | < .1 | % | | | WG486315 | 07/02/10 |
| Benzene | < .0005 | mg/kg | | | WG486494 | |
| Ethylbenzene | < .0005 | mg/kg | | | WG486494 | 07/02/10 |
| Methyl tert-butyl ether | < .005 | mg/kg | | | WG486494 | |
| Toluene | < .005 | mg/kg | | | WG486494 | |
| Gasoline Range Organics-NWTPH | < .1 | mg/kg | | | WG486494 | 07/02/10 |
| Total Xylene | < .0015 | mg/kg | | | WG486494 | |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 104.6 | 59-128 | WG486494 | |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 102.5 | 54-144 | WG486494 | 07/02/10 |
| Lead | < .005 | mg/l | | | WG486451 | |
| Benzene | < .0005 | mg/l | | | WG486800 | |
| Ethylbenzene | < .0005 | mg/l | | | WG486800 | |
| Methyl tert-butyl ether | < .005 | mg/l | | | WG486800 | 07/04/10 |
| Toluene | < .005 | mg/l | | | WG486800 | |
| Gasoline Range Organics-NWTPH | < .1 | mg/l | | | WG486800 | |
| Total Xylene | < .0015 | mg/l | | | WG486800 | 07/04/10 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 103.7 | 62-128 | WG486800 | |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 100.4 | 55-122 | WG486800 | 07/04/10 |
| Benzene | < .0005 | mg/l | | | WG487094 | |
| Ethylbenzene | < .0005 | mg/l | | | WG487094 | |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 111.1 | 62-128 | WG487094 | 07/07/10 |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 104.9 | 55-122 | WG487094 | |
| Benzene | < .0005 | mg/l | | | WG487414 | 07/08/10 |
| Ethylbenzene | < .0005 | mg/l | | | WG487414 | |
| Methyl tert-butyl ether | < .005 | mg/l | | | WG487414 | |
| Toluene | < .005 | mg/l | | | WG487414 | 07/08/10 |
| Gasoline Range Organics-NWTPH | < .1 | mg/l | | | WG487414 | |
| Total Xylene | < .0015 | mg/l | | | WG487414 | 07/08/10 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 110.2 | 62-128 | WG487414 | 07/08/10 |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 104.0 | 55-122 | WG487414 | 07/08/10 |

## Duplicate

| Analyte | Units | Result | Duplicate | RPD | Limit | Ref Samp | Batch |
|---|---|---|---|---|---|---|---|
| Total Solids | % | 90.0 | 93.7 | 3.67 | 5 | L466359-01 | WG486315 |
| Lead | mg/l | 0 | 0 | 0 | 20 | L466451-03 | WG486451 |

## Laboratory Control Sample

| Analyte | Units | Known Val | Result | % Rec | Limit | Batch |
|---|---|---|---|---|---|---|
| Total Solids | % | 50 | 50.0 | 100. | 85-115 | WG486315 |
| Benzene | mg/kg | .05 | 0.0509 | 102. | 76-122 | WG486494 |
| Ethylbenzene | mg/kg | .05 | 0.0533 | 107. | 78-115 | WG486494 |
| Methyl tert-butyl ether | mg/kg | .05 | 0.0509 | 102. | 57-145 | WG486494 |
| Toluene | mg/kg | .05 | 0.0521 | 104. | 76-114 | WG486494 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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L & R Environmental Land Farms
Ryan Hardy
PO Box 65

Huna, ID 83634

Quality Assurance Report
Level II

L466362

Laboratory Control Sample

| Analyte | Units | Known Val | Result | % Rec | Limits | RPD |
|---|---|---|---|---|---|---|
| Total Xylene | mg/kg | .15 | 0.156 | 104. | 81-118 | |
| a,a,a-Trifluorotoluene(PID) | | | | 100.1 | 54-144 | |
| Gasoline Range Organics-NWTPH | mg/kg | 5.5 | 4.95 | 89.9 | 67-135 | |
| a,a,a-Trifluorotoluene(FID) | | | | 108.4 | 59-129 | |
| Lead | mg/l | 1.13 | 1.14 | 101. | 85-115 | |
| Benzene | mg/l | .05 | 0.0476 | 95.1 | 79-114 | |
| Ethylbenzene | mg/l | .05 | 0.0480 | 96.0 | 80-116 | |
| Methyl tert-butyl ether | mg/l | .05 | 0.0469 | 93.9 | 64-125 | |
| Toluene | mg/l | .05 | 0.0470 | 94.0 | 79-112 | |
| Total Xylene | mg/l | .15 | 0.144 | 96.1 | 84-118 | |
| a,a,a-Trifluorotoluene(FID) | | | | 101.9 | 62-128 | |
| a,a,a-Trifluorotoluene(PID) | | | | 98.18 | 55-122 | |
| Gasoline Range Organics-NWTPH | mg/l | 5.5 | 5.17 | 94.0 | 70-124 | |
| a,a,a-Trifluorotoluene(FID) | | | | 109.9 | 62-128 | |
| a,a,a-Trifluorotoluene(PID) | | | | 100.6 | 55-122 | |
| Benzene | mg/l | .05 | 0.0491 | 98.1 | 79-114 | |
| Ethylbenzene | mg/l | .05 | 0.0531 | 106. | 80-116 | |
| a,a,a-Trifluorotoluene(PID) | | | | 103.9 | 55-122 | |
| Benzene | mg/l | .05 | 0.0505 | 101. | 79-114 | |
| Ethylbenzene | mg/l | .05 | 0.0522 | 104. | 80-116 | |
| Methyl tert-butyl ether | mg/l | .05 | 0.0537 | 107. | 64-125 | |
| Toluene | mg/l | .05 | 0.0500 | 100. | 79-112 | |
| Total Xylene | mg/l | .15 | 0.151 | 101. | 84-118 | |
| a,a,a-Trifluorotoluene(PID) | | | | 103.0 | 55-122 | |
| Gasoline Range Organics-NWTPH | mg/l | 5.5 | 4.27 | 77.6 | 70-124 | |
| a,a,a-Trifluorotoluene(FID) | | | | 81.20 | 62-128 | |

Laboratory Control Sample Duplicate

| Analyte | Units | Result | Ref | %Rec | Limit | RPD | Limit |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | mg/kg | 4.89 | 4.95 | 89.0 | 67-135 | 1.07 | 20 |
| a,a,a-Trifluorotoluene(FID) | | | | 107.9 | 59-129 | | |
| Benzene | mg/kg | 0.0495 | 0.0509 | 99.0 | 76-113 | 2.86 | 20 |
| Ethylbenzene | mg/kg | 0.0525 | 0.0533 | 105. | 78-115 | 1.47 | 20 |
| Methyl tert-butyl ether | mg/kg | 0.0488 | 0.0509 | 98.0 | 37-145 | 4.23 | 20 |
| Toluene | mg/kg | 0.0513 | 0.0521 | 102. | 76-114 | 1.59 | 20 |
| Total Xylene | mg/kg | 0.158 | 0.156 | 105. | 81-118 | 1.34 | 20 |
| a,a,a-Trifluorotoluene(PID) | | | | 100.2 | 54-144 | | |
| Benzene | mg/l | 0.0557 | 0.0476 | 111. | 79-114 | 15.8 | 20 |
| Ethylbenzene | mg/l | 0.0562 | 0.0480 | 113. | 80-116 | 15.7 | 20 |
| Methyl tert-butyl ether | mg/l | 0.0563 | 0.0469 | 113. | 64-125 | 18.5 | 20 |
| Toluene | mg/l | 0.0557 | 0.0470 | 111. | 79-112 | 17.0 | 20 |
| Total Xylene | mg/l | 0.168 | 0.144 | 112. | 84-118 | 15.6 | 20 |
| a,a,a-Trifluorotoluene(FID) | | | | 103.5 | 62-128 | | |
| a,a,a-Trifluorotoluene(PID) | | | | 99.72 | 55-122 | | |
| Gasoline Range Organics-NWTPH | mg/l | 5.83 | 5.17 | 106. | 70-124 | 12.1 | 20 |
| a,a,a-Trifluorotoluene(FID) | | | | 111.8 | 62-128 | | |
| a,a,a-Trifluorotoluene(PID) | | | | 101.8 | 55-122 | | |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Tax I.D. 62-0
Est. 197

L & R Environmental Land Farms
Ryan Hardy
PO Box 65

Kuna, ID 83634

Quality Assurance Report
Level II

L466362

July 09,

Laboratory Control Sample Duplicate

| Analyte | Units | Result | Ref | %Rec | Limit | RPD | Limit | Batch |
|---|---|---|---|---|---|---|---|---|
| Benzene | mg/l | 0.0478 | 0.0491 | 96.0 | 79-114 | 2.68 | 20 | WG48 |
| Ethylbenzene | mg/l | 0.0512 | 0.0531 | 102. | 80-116 | 3.61 | 20 | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.7 | 55-122 | | | WG48 |
| Benzene | mg/l | 0.0489 | 0.0505 | 98.0 | 79-114 | 3.19 | 20 | WG48 |
| Ethylbenzene | mg/l | 0.0503 | 0.0522 | 100. | 80-116 | 3.74 | 20 | WG48 |
| Methyl tert-butyl ether | mg/l | 0.0517 | 0.0537 | 103. | 64-125 | 3.89 | 20 | WG48 |
| Toluene | mg/l | 0.0486 | 0.0500 | 97.0 | 79-112 | 2.87 | 20 | WG48 |
| Total Xylene | mg/l | 0.146 | 0.151 | 97.0 | 84-118 | 3.79 | 20 | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.6 | 55-122 | | | WG48 |
| Gasoline Range Organics-NWTPH | mg/l | 4.35 | 4.27 | 79.0 | 70-124 | 1.92 | 20 | WG48 |
| a,a,a-Trifluorotoluene(FID) | | | | 80.71 | 62-128 | | | WG48 |

Matrix Spike

| Analyte | Units | MS Res | Ref Res | TV | % Rec | Limit | Ref Samp | Batch |
|---|---|---|---|---|---|---|---|---|
| Benzene | mg/kg | 0.0449 | 0.000860 | .05 | 88.0 | 32-137 | L466345-01 | WG48 |
| Ethylbenzene | mg/kg | 0.0419 | 0 | .05 | 83.8 | 10-150 | L466345-01 | WG48 |
| Methyl tert-butyl ether | mg/kg | 0.0504 | 0 | .05 | 101. | 24-151 | L466345-01 | WG48 |
| Toluene | mg/kg | 0.0443 | 0 | .05 | 88.5 | 20-142 | L466345-01 | WG48 |
| Total Xylene | mg/kg | 0.126 | 0 | .15 | 84.2 | 16-141 | L466345-01 | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | | 98.27 | 54-144 | | WG48 |
| Gasoline Range Organics-NWTPH | mg/kg | 4.46 | 0 | 5.5 | 81.1 | 55-109 | L466345-01 | WG48 |
| a,a,a-Trifluorotoluene(FID) | | | | | 108.2 | 59-128 | | WG48 |
| Lead | mg/l | 1.14 | 0 | 1.13 | 101. | 75-125 | L466321-09 | WG48 |
| Benzene | mg/l | 0.0515 | 0.000620 | .05 | 102. | 35-147 | L466345-09 | WG48 |
| Ethylbenzene | mg/l | 0.0542 | 0 | .05 | 108. | 39-141 | L466345-09 | WG48 |
| Methyl tert-butyl ether | mg/l | 0.0513 | 0 | .05 | 102. | 37-147 | L466345-09 | WG48 |
| Toluene | mg/l | 0.0612 | 0 | .05 | 122. | 35-148 | L466345-09 | WG48 |
| Total Xylene | mg/l | 0.159 | 0 | .15 | 106. | 33-151 | L466345-09 | WG48 |
| a,a,a-Trifluorotoluene(FID) | | | | | 102.6 | 62-128 | | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | | 98.67 | 55-122 | | WG48 |
| Gasoline Range Organics-NWTPH | mg/l | 4.16 | 0 | 5.5 | 75.6 | 58-122 | L466345-09 | WG48 |
| a,a,a-Trifluorotoluene(FID) | | | | | 106.0 | 62-128 | | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | | 98.62 | 55-122 | | WG48 |
| Benzene | mg/l | 0.0558 | 0.00170 | .05 | 108. | 35-147 | L467039-01 | WG48 |
| Ethylbenzene | mg/l | 0.0589 | 0.00100 | .05 | 116. | 39-141 | L467039-01 | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | | 102.6 | 55-122 | | WG48 |
| Benzene | mg/l | 0.0572 | 0 | .05 | 114. | 35-147 | L467219-04 | WG48 |
| Ethylbenzene | mg/l | 0.0615 | 0 | .05 | 123. | 39-141 | L467219-04 | WG48 |
| Methyl tert-butyl ether | mg/l | 0.0563 | 0 | .05 | 113. | 37-147 | L467219-04 | WG48 |
| Toluene | mg/l | 0.0591 | 0 | .05 | 118. | 35-148 | L467219-04 | WG48 |
| Total Xylene | mg/l | 0.178 | 0 | .15 | 119. | 33-151 | L467219-04 | WG48 |
| a,a,a-Trifluorotoluene(PID) | | | | | 103.7 | 55-122 | | WG48 |
| Gasoline Range Organics-NWTPH | mg/l | 4.55 | 0.0503 | 5.5 | 81.9 | 58-122 | L467081-10 | WG48 |
| a,a,a-Trifluorotoluene(FID) | | | | | 78.36 | 62-128 | | WG48 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

L & R Environmental Land Farms
Ryan Hardy
PO Box 65

Nuna, ID 83634

Quality Assurance Report
Level II

L466362

July 26, 2010

Matrix Spike Duplicate

| Analyte | Units | MSD | Ref | %Rec | Limit | RPD | Limit | Ref Samp | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | mg/kg | 0.0473 | 0.0449 | 93.0 | 32-137 | 5.39 | 39 | L466345-01 | WG486394 |
| Ethylbenzene | mg/kg | 0.0438 | 0.0419 | 87.7 | 10-150 | 4.48 | 44 | L466345-01 | WG486394 |
| Methyl tert-butyl ether | mg/kg | 0.0527 | 0.0504 | 105. | 24-151 | 4.44 | 38 | L466345-01 | WG486394 |
| Toluene | mg/kg | 0.0463 | 0.0443 | 92.6 | 20-142 | 4.59 | 42 | L466345-01 | WG486394 |
| Total Xylene | mg/kg | 0.131 | 0.126 | 87.0 | 16-141 | 3.28 | 46 | L466345-01 | WG486394 |
| a,a,a-Trifluorotoluene(PID) | | | | 99.16 | 54-144 | | | | WG486394 |
| Gasoline Range Organics-NWTPH | mg/kg | 4.11 | 4.46 | 74.7 | 55-109 | 8.27 | 20 | L466345-01 | WG486394 |
| a,a,a-Trifluorotoluene(FID) | | | | 106.3 | 59-128 | | | | WG486394 |
| Lead | mg/l | 1.07 | 1.14 | 94.7 | 75-125 | 6.33 | 20 | L466221-09 | WG486381 |
| Benzene | mg/l | 0.0483 | 0.0515 | 95.3 | 35-147 | 6.44 | 20 | L466345-09 | WG486407 |
| Ethylbenzene | mg/l | 0.0503 | 0.0542 | 101. | 39-141 | 7.41 | 20 | L466345-09 | WG486407 |
| Methyl tert-butyl ether | mg/l | 0.0506 | 0.0513 | 101. | 37-147 | 1.53 | 20 | L466345-09 | WG486407 |
| Toluene | mg/l | 0.0504 | 0.0612 | 101. | 35-148 | 19.4 | 20 | L466345-09 | WG486407 |
| Total Xylene | mg/l | 0.147 | 0.159 | 98.3 | 33-151 | 7.67 | 20 | L466345-09 | WG486407 |
| a,a,a-Trifluorotoluene(FID) | | | | 103.0 | 62-128 | | | | WG486407 |
| a,a,a-Trifluorotoluene(PID) | | | | 99.16 | 55-122 | | | | WG486407 |
| Gasoline Range Organics-NWTPH | mg/l | 5.27 | 4.16 | 95.8 | 58-122 | 23.6* | 20 | L466345-09 | WG486407 |
| a,a,a-Trifluorotoluene(FID) | | | | 108.2 | 62-128 | | | | WG486407 |
| a,a,a-Trifluorotoluene(PID) | | | | 100.3 | 55-122 | | | | WG486407 |
| Benzene | mg/l | 0.0544 | 0.0558 | 105. | 35-147 | 2.47 | 20 | L467037-01 | WG486407 |
| Ethylbenzene | mg/l | 0.0570 | 0.0589 | 112. | 39-141 | 3.23 | 20 | L467037-01 | WG486407 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.6 | 55-122 | | | | WG486407 |
| Benzene | mg/l | 0.0543 | 0.0572 | 108. | 35-147 | 5.19 | 20 | L467219-09 | WG486414 |
| Ethylbenzene | mg/l | 0.0583 | 0.0615 | 116. | 39-141 | 5.38 | 20 | L467219-09 | WG486414 |
| Methyl tert-butyl ether | mg/l | 0.0548 | 0.0563 | 110. | 37-147 | 2.76 | 20 | L467219-09 | WG486414 |
| Toluene | mg/l | 0.0557 | 0.0591 | 111. | 35-148 | 5.91 | 20 | L467219-09 | WG486414 |
| Total Xylene | mg/l | 0.168 | 0.178 | 112. | 33-151 | 5.80 | 20 | L467219-09 | WG486414 |
| a,a,a-Trifluorotoluene(PID) | | | | 103.1 | 55-122 | | | | WG486414 |
| Gasoline Range Organics-NWTPH | mg/l | 4.06 | 4.55 | 73.0 | 58-122 | 11.4 | 20 | L467091-20 | WG486511 |
| a,a,a-Trifluorotoluene(FID) | | | | 82.03 | 62-128 | | | | WG486511 |

Batch number /Run number / Sample number cross reference

WG486315: R1274504: L466362-05
WG486494: R1274531: L466362-05
WG486451: R1275711: L466362-02
WG486800: R1275948: L466362-01 02 03
WG487094: R1279849: L466362-02 03
WG487414: R1280908: L466362-04

* Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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L & R Environmental Land Farms
Ryan Hardy
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Kuna, ID 83634

Quality Assurance Report
Level II

July 03, 2014

L466362

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

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Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

# Report Summary

Tuesday October 26, 2010

Report Number: L485355
Samples Received: 10/22/10
Client Project:

Description:

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

*Laboratory Certification Numbers*

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

October 26, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L485355-04

Date Received : October 22, 2010
Description :

Site ID :

Sample ID : SUNNYS WELL 1

Project # :

Collected By : Ryan Hardy
Collection Date : 10/21/10 07:00

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 0.80 | 0.10 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Benzene | 0.0011 | 0.00050 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Toluene | BDL | 0.0050 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Ethylbenzene | 0.0020 | 0.00050 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Total Xylene | BDL | 0.0015 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Methyl tert-butyl ether | 0.0013 | 0.0010 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 103. | | % Rec. | NWTPHGX | 10/25/10 | 1 |
| a,a,a-Trifluorotoluene(FID) | 98.3 | | % Rec. | NWTPHGX | 10/25/10 | 1 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 10/26/10 13:42 Printed: 10/26/10 13:43

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REPORT OF ANALYSIS

October 26, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L485355-05

Date Received : October 22, 2010
Description :

Site ID :

Sample ID : SUNNYS WELL 2

Project # :

Collected By : Ryan Hardy
Collection Date : 10/21/10 06:30

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 2.5 | 2.0 | mg/l | NWTPHGX | 10/25/10 | 20 |
| Benzene | 2.3 | 0.010 | mg/l | NWTPHGX | 10/25/10 | 20 |
| Toluene | 0.014 | 0.0050 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Ethylbenzene | 0.019 | 0.00050 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Total Xylene | 0.077 | 0.0015 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Methyl tert-butyl ether | 0.062 | 0.0010 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 97.8 | | % Rec. | NWTPHGX | 10/24/10 | 1 |
| a,a,a-Trifluorotoluene(FID) | 95.6 | | % Rec. | NWTPHGX | 10/25/10 | 20 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 10/26/10 13:42 Printed: 10/26/10 13:43

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REPORT OF ANALYSIS

October 26, 2010

Ryan Hardy
L & R Environmental Land Farms
PO Box 65
Kuna, ID 83634

ESC Sample # : L485855-08

Date Received : October 22, 2010
Description :

Site ID :

Sample ID : SUNNYS WELL 3

Project # :

Collected By : Ryan Hardy
Collection Date : 10/21/10 07:10

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 22. | 10. | mg/l | NWTPHGX | 10/25/10 | 100 |
| Benzene | 3.5 | 0.050 | mg/l | NWTPHGX | 10/25/10 | 100 |
| Toluene | 0.11 | 0.050 | mg/l | NWTPHGX | 10/24/10 | 10 |
| Ethylbenzene | 4.3 | 0.050 | mg/l | NWTPHGX | 10/25/10 | 100 |
| Total Xylene | 0.13 | 0.015 | mg/l | NWTPHGX | 10/24/10 | 10 |
| Methyl tert-butyl ether | 0.20 | 0.010 | mg/l | NWTPHGX | 10/24/10 | 10 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 100. | | % Rec. | NWTPHGX | 10/24/10 | 10 |
| a,a,a-Trifluorotoluene(FID) | 97.3 | | % Rec. | NWTPHGX | 10/25/10 | 100 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 10/26/10 13:42 Printed: 10/26/10 13:43

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REPORT OF ANALYSIS

October 26, 2010

Ryan Hardy
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PO Box 65
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ESC Sample # : L485355-07

Date Received : October 22, 2010
Description :

Site ID :

Sample ID : SUNNYS WELL 4

Project # :

Collected By : Ryan Hardy
Collection Date : 10/21/10 07:30

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 3.3 | 0.10 | mg/l | NWTPHGX | 10/25/10 | 1 |
| Benzene | 0.046 | 0.00050 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Toluene | BDL | 0.0050 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Ethylbenzene | 0.17 | 0.00050 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Total Xylene | 0.013 | 0.0015 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Methyl tert-butyl ether | 0.0095 | 0.0010 | mg/l | NWTPHGX | 10/24/10 | 1 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 101. | | % Rec. | NWTPHGX | 10/24/10 | 1 |
| a,a,a-Trifluorotoluene(FID) | 92.3 | | % Rec. | NWTPHGX | 10/25/10 | 1 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 10/26/10 13:42 Printed: 10/26/10 13:43

Summary of Remarks For Samples Printed
10/26/10 at 13:43:08

TSR Signing Reports: 358
R5 - Desired TAT

Sample: L485355-01 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-02 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-03 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-04 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-05 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-06 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42
Sample: L485355-07 Account: LRENVRID Received: 10/22/10 09:00 Due Date: 10/29/10 00:00 RPT Date: 10/26/10 13:42

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L & R Environmental Land Farms
Ryan Hardy
PO Box 65

Kuna, ID 83634

Quality Assurance Report
Level II

L485355

October 29, 2010

## Laboratory Blank

| Analyte | Result | Units | % Rec | Limit | Batch | Date and Time |
|---|---|---|---|---|---|---|
| Benzene | < .0005 | mg/l | | | WG504825 | 10/23/10 13:54 |
| Ethylbenzene | < .0005 | mg/l | | | | |
| Methyl tert-butyl ether | < .005 | mg/l | | | | |
| Toluene | < .0015 | mg/l | | | | |
| Total Xylene | | % Rec. | 97.43 | 62-128 | | |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 101.0 | 55-122 | | |
| a,a,a-Trifluorotoluene(PID) | | | | | | |
| Benzene | < .0005 | mg/l | | | WG505006 | 10/25/10 14:13 |
| Ethylbenzene | < .0005 | mg/l | | | | |
| Methyl tert-butyl ether | < .005 | mg/l | | | | |
| Toluene | < .005 | mg/l | | | | |
| Gasoline Range Organics-NWTPH | < .1 | mg/l | | | | |
| Total Xylene | < .0015 | mg/l | | | | |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 98.29 | 62-128 | | |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 103.4 | 55-122 | | |

## Laboratory Control Sample

| Analyte | Units | Known Val | Result | % Rec | Limit | Batch |
|---|---|---|---|---|---|---|
| Benzene | mg/l | .05 | 0.0448 | 89.7 | 79-114 | WG504825 |
| Ethylbenzene | mg/l | .05 | 0.0445 | 88.9 | 80-116 | |
| Methyl tert-butyl ether | mg/l | .05 | 0.0392 | 78.4 | 64-125 | |
| Toluene | mg/l | .05 | 0.0428 | 85.5 | 79-112 | |
| Total Xylene | mg/l | .15 | 0.132 | 88.0 | 84-118 | |
| a,a,a-Trifluorotoluene(FID) | | | | 96.78 | 62-128 | |
| a,a,a-Trifluorotoluene(PID) | | | | 102.4 | 55-122 | |
| Benzene | mg/l | .05 | 0.0484 | 96.8 | 79-114 | WG505006 |
| Ethylbenzene | mg/l | .05 | 0.0516 | 103. | 80-116 | |
| Methyl tert-butyl ether | mg/l | .05 | 0.0468 | 93.6 | 64-125 | |
| Toluene | mg/l | .05 | 0.0510 | 102. | 79-112 | |
| Total Xylene | mg/l | .15 | 0.158 | 105. | 84-118 | |
| a,a,a-Trifluorotoluene(FID) | mg/l | 5.5 | 5.11 | 100.8 | 62-128 | |
| Gasoline Range Organics-NWTPH | | | | 93.0 | 70-124 | |
| a,a,a-Trifluorotoluene(PID) | | | | 91.20 | 62-128 | |

## Laboratory Control Sample Duplicate

| Analyte | Units | Result | Ref | %Rec | Limit | RPD | Limit | Batch |
|---|---|---|---|---|---|---|---|---|
| Benzene | mg/l | 0.0465 | 0.0448 | 93.0 | 79-114 | 3.63 | 20 | WG504825 |
| Ethylbenzene | mg/l | 0.0451 | 0.0445 | 90.0 | 80-116 | 1.31 | 20 | |
| Methyl tert-butyl ether | mg/l | 0.0422 | 0.0392 | 84.0 | 64-125 | 7.42 | 20 | |
| Toluene | mg/l | 0.0440 | 0.0428 | 88.0 | 79-112 | 2.74 | 20 | |
| Total Xylene | mg/l | 0.138 | 0.132 | 88.0 | 84-118 | 0.440 | 20 | |
| a,a,a-Trifluorotoluene(FID) | | | | 97.43 | 62-128 | | | |
| a,a,a-Trifluorotoluene(PID) | | | | 101.1 | 55-122 | | | |
| Benzene | mg/l | 0.0489 | 0.0484 | 98.0 | 79-114 | 0.960 | 20 | WG505006 |
| Ethylbenzene | mg/l | 0.0515 | 0.0516 | 103. | 80-116 | 0.230 | 20 | |
| Methyl tert-butyl ether | mg/l | 0.0467 | 0.0468 | 93.0 | 64-125 | 0.320 | 20 | |
| Toluene | mg/l | 0.0509 | 0.0510 | 102. | 79-112 | 0.260 | 20 | |
| Total Xylene | mg/l | 0.157 | 0.158 | 104. | 84-118 | 0.770 | 20 | |
| a,a,a-Trifluorotoluene(FID) | | | | 100.4 | 55-122 | | | |
| Gasoline Range Organics-NWTPH | mg/l | 4.99 | 5.11 | 91.0 | 70-124 | 2.53 | 20 | WG505006 |
| a,a,a-Trifluorotoluene(PID) | | | | 89.29 | 62-128 | | | |

' Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Ryan Hardy
PO Box 65

Nyssa, ID 83634

Quality Assurance Report
Level II

November 04,

L485355

Matrix Spike

| Analyte | Units | MS Res | Ref Res | TV | % Rec | Limit | Ref Samp | Batch |
|---|---|---|---|---|---|---|---|---|
| Benzene | mg/l | 0.0410 | 0.00240 | .05 | 77.3 | 35-147 | L485355-01 | WG504 |
| Ethylbenzene | mg/l | 0.0394 | 0.00180 | .05 | 75.0 | 39-141 | L485355-01 | WG504 |
| Methyl tert-butyl ether | mg/l | 0.0379 | 0 | .05 | 75.8 | 37-147 | L485355-01 | WG504 |
| Toluene | mg/l | 0.0439 | 0.0110 | .05 | 65.8 | 35-148 | L485355-01 | WG504 |
| Total Xylene | mg/l | 0.118 | 0.00750 | .15 | 73.6 | 33-151 | L485355-01 | WG504 |
| a,a,a-Trifluorotoluene(FID) | | | | | 96.62 | 62-128 | | WG504 |
| a,a,a-Trifluorotoluene(PID) | | | | | 100.2 | 55-122 | | WG504 |
| Benzene | mg/l | 0.0480 | 0.00110 | .05 | 95.7 | 35-147 | L485355-04 | WG505 |
| Ethylbenzene | mg/l | 0.0539 | 0.00200 | .05 | 104. | 39-141 | L485355-04 | WG505 |
| Methyl tert-butyl ether | mg/l | 0.0465 | 0.00130 | .05 | 90.5 | 37-147 | L485355-04 | WG505 |
| Toluene | mg/l | 0.0514 | 0 | .05 | 103. | 35-148 | L485355-04 | WG505 |
| Total Xylene | mg/l | 0.159 | 0 | .15 | 106. | 33-151 | L485355-04 | WG505 |
| a,a,a-Trifluorotoluene(PID) | | | | | 100.7 | 55-122 | | WG505 |
| Gasoline Range Organics-NWTPH | mg/l | 8.96 | 0.800 | 5.5 | 93.8 | 58-122 | L485355-04 | WG505 |
| a,a,a-Trifluorotoluene(FID) | | | | | 93.69 | 62-128 | | WG505 |

Matrix Spike Duplicate

| Analyte | Units | MSD | Ref | %Rec | Limit | RPD | Limit | Ref Samp | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | mg/l | 0.0439 | 0.0410 | 82.9 | 35-147 | 6.65 | 20 | L485355-01 | WG504 |
| Ethylbenzene | mg/l | 0.0422 | 0.0394 | 80.7 | 39-141 | 7.02 | 20 | L485355-01 | WG504 |
| Methyl tert-butyl ether | mg/l | 0.0420 | 0.0379 | 83.9 | 37-147 | 10.1 | 20 | L485355-01 | WG504 |
| Toluene | mg/l | 0.0447 | 0.0439 | 67.3 | 35-148 | 1.69 | 20 | L485355-01 | WG504 |
| Total Xylene | mg/l | 0.125 | 0.118 | 78.4 | 33-151 | 5.83 | 20 | L485355-01 | WG504 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.90 | 62-128 | | | | WG504 |
| a,a,a-Trifluorotoluene(PID) | | | | 101.7 | 55-122 | | | | WG504 |
| Benzene | mg/l | 0.0493 | 0.0490 | 96.4 | 35-147 | 0.730 | 20 | L485355-04 | WG505 |
| Ethylbenzene | mg/l | 0.0536 | 0.0539 | 103. | 39-141 | 0.520 | 20 | L485355-04 | WG505 |
| Methyl tert-butyl ether | mg/l | 0.0475 | 0.0465 | 92.3 | 37-147 | 1.93 | 20 | L485355-04 | WG505 |
| Toluene | mg/l | 0.0507 | 0.0514 | 101. | 35-148 | 1.37 | 20 | L485355-04 | WG505 |
| Total Xylene | mg/l | 0.158 | 0.159 | 105. | 33-151 | 0.900 | 20 | L485355-04 | WG505 |
| a,a,a-Trifluorotoluene(PID) | | | | 100.9 | 55-122 | | | | WG505 |
| Gasoline Range Organics-NWTPH | mg/l | 9.10 | 8.96 | 96.4 | 58-122 | 2.30 | 20 | L485355-04 | WG505 |
| a,a,a-Trifluorotoluene(FID) | | | | 92.74 | 62-128 | | | | WG505 |

Batch number /Run number / Sample number cross reference

WG504835: R1441271: L485355-01 02 05 06 07
WG505006: R1443530: L485355-01 02 03 04 05 06 07

* Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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D & R Environmental Land Farms
Ryan Hardy
PO Box 65

Kuna, ID 83634

Quality Assurance Report
Level II

L485355

October 7,

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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February 2, 2012

PROPERTY OWNER
Sunny's Deli Mart
10545 SE Carr Rd
Renton, WA 98055

**Re: No Further Action (NFA) Determination associated with Leaking Underground Storage Tank (LUST) Site:**

- Site Name: Sunny's Deli Mart
- Property Address: 10545 SE Carr Rd, Renton, WA 98055
- Facility/Site No.: 55231872
- LUST ID: 1816

Dear Property Owner:

Based on the historical information in our files and the last documents submitted to us on 12/22/1992, the Washington State Department of Ecology (Ecology) has determined that the Sunny's Deli Mart site has met the substantive requirements for cleanup under the Model Toxics Control Act (MTCA) regulation Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA").

The MTCA regulation sets strict cleanup standards for sites in Washington State to ensure that the quality of the cleanup is appropriate and is protective of human health and the environment. Depending on the site circumstances and location, one of the three cleanup criteria established under MTCA is used to assess the quality of the cleanup remedy. These are:

- **Method A Cleanup levels**: Used in simple sites with few contaminants of concern (COCs). The Method A cleanup levels consist of a list of the most common hazardous substances for soil and groundwater. The Method A Cleanup levels are very strict, and if met, they allow the property to be used for unrestricted land use.
- **Method B Cleanup levels**: These cleanup levels are established using applicable state and federal laws and the risk assessment equations and other requirements defined in MTCA. Method B is used in more complex sites where the COCs are not included within the set criteria listed on the Method A tables.

- **Method C Cleanup levels**: Method C uses the same risk assessment equations and other requirements defined in MTCA but also require a full site-specific risk assessment and an Terrestrial Ecological Evaluation (TEE). Method C is used in industrial sites, when Methods A and C are technically unattainable or lower that background concentrations, and when a significant threat to human health or the environment has been identified.

After a site meets the criteria for soil and groundwater (if applicable), the cleanup is considered to be complete and an NFA letter can be issued.

According to our records, you have conducted cleanup independently and your site meets the Method A Cleanup levels.

- LUST ID No.: 1816,
- Release Notification Date: 4/18/1990,
- Contaminants of Concern: Gas, BTEX,
- Soil is affected: Yes,
- Groundwater is affected: No.

Based on this information, **Ecology has determined that no further remedial action is necessary at the Property to clean up contamination associated with the LUST. This determination is made only for impacts associated to releases from LUST No. 1816.** Based on this opinion, Ecology will update the status of remedial action at the Site on our database of hazardous waste sites and will initiate the process of removing the Site from our lists of hazardous waste sites, including (if applicable):

- Hazardous Sites List.
- Confirmed and Suspected Contaminated Sites List.
- Leaking Underground Storage Tank List.

Removing your site from these lists may include a public notice and/or a public comment period. Based on the comments received, Ecology will either remove the Site from the applicable lists or withdraw this opinion.

Please understand that this opinion does not settle liability with the state. Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Change the boundaries of the Site.
- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

**In addition, this opinion does not constitute a determination of substantial equivalence.** To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. See RCW 70.105D.080 and WAC 173-340-545.

Lastly, the state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. See RCW 70.105D.030(1)(i).

If you have any questions about this opinion, please contact me by e-mail at russ.olsen@ecy.wa.gov or by phone at (425) 649-7038.

Sincerely,

Russell E. Olsen, MPA
Voluntary Cleanup Unit Supervisor
Northwest Regional Office
Toxics Cleanup Program

SF: sf

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**CONSULTANTS, INC.**

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February 3, 2017

JN 16568A

Aamir Stations, LLC
607 Southwest Grady Way
Renton, Washington 98057

Attention: Soyam Vahora

Subject: **Transmittal Letter**
**Phase 1 Environmental Site Assessment**
Sunny's Deli and Gas
10545 Southeast Carr Road
Renton, Washington

Dear Mr. Vahora:

Geotech Consultants, Inc. is pleased to present the results of our recently completed Phase 1 Environmental Site Assessment for the subject property. Our work was completed in accordance with our proposal, which is dated December 6, 2016. Please find the assessment attached.

We appreciate this opportunity to be of service to you on this project. If you have any questions, or if we may be of additional service, please contact us.

Respectfully submitted,

Timothy A. Johnson
Licensed Geologist
Environmental Project Manager

TAJ/MRM:mw

**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**
**Sunny's Deli and Gas**
**10545 Southeast Carr Road**
**Renton, Washington**

**Submitted by:**

**GEOTECH CONSULTANTS, INC.**




**Timothy A. Johnson**
**Licensed Geologist**

**Marc McGinnis, P.E.**
**Principal**

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Attachment A MapPro Environmental Data Report and ASTM Radius Maps

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**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**
**Sunny's Deli and Gas**
**10545 Southeast Carr Road**
**Renton, Washington**

## 1.0 EXECUTIVE SUMMARY

**NOTICE: THE EXECUTIVE SUMMARY IS PROVIDED SOLELY FOR PURPOSES OF OVERVIEW. ANY PARTY WHO RELIES ON THIS REPORT MUST READ THE FULL REPORT. THE EXECUTIVE SUMMARY OMITS A NUMBER OF DETAILS, ANY ONE OF WHICH COULD BE CRUCIAL TO THE PROPER APPLICATION OF THIS REPORT.**

The irregular-shaped site is located on the southeastern corner of the intersection of Southeast Carr Road with 10th Place Southeast in Renton, Washington. The Vicinity Map, Plate 1, illustrates the general location of the site. Land use in the surrounding area is characterized by a mix of apartment buildings and retail buildings.

The subject property is currently part of a single tax parcel, 322305-9237 that covers approximately 19,602-square feet (0.45-acre). The property is currently developed with a prefabricated steel building occupied by Sunny's Deli and Convenience Store. Additional improvements include three 12,000-galon underground storage tanks (USTs), two pump islands that dispense Texaco branded gasoline, a steel canopy, and asphalt and concrete paving.

Our historical research, which included review of aerial photographs, Kroll maps, and King County Assessor's Office records, indicates that the property was part of a larger parcel that was developed with a house and barn in 1913. These buildings were reportedly torn down in 1953 prior to construction of a self service car wash in 1969. The car wash added two underground storage tanks (USTs) and two pump islands in 1972. It appears that the original car wash building was converted to a deli and convenience store in about 1972. The current canopy, pump islands, and three 12,000-gallon USTs were installed in 1990.

Applied Geotechnology, Incorporated (AGI) completed a preliminary assessment of soil near six underground storage tanks (USTs) removed in April 1990 and also observed installation of three new tanks and distribution system (existing) at that time. AGI reported that two soil samples were collected from the new tank cavity by representatives of Reinhard Distributing Company, the property owner and submitted for analysis. One of the samples, a composite sample from the west, north, and east walls reportedly had 2,200 parts per million (ppm) of gasoline-range petroleum hydrocarbons. AGI reportedly monitored excavation of the new tank cavity and of a test pit reportedly excavated approximately 25 feet northwest of the new tank cavity. AGI field screened soil at the limits of the excavation and from the test pit and reported that "hydrocarbon contamination remains in areas of the new tank cavity west wall, west half of the north wall and the test pit." According to AGI, only three soil samples were collected and submitted for laboratory analysis, but no maps or sketches showing where the samples were collected or where the test pit was located were included with the report. AGI reported that perched groundwater was present at a depth of 11 to 12 feet below ground surface in the tank cavity and "had a slight sheen and moderate hydrocarbon odor." No samples were collected of the perched groundwater. Based upon the conditions AGI observed, it appears that AGI installed a vapor extraction system (VES) west of the new tank excavation.

In a report dated November 6, 1992, AGI reported that the VES operated between September 28, 1990 and September 30, 1992. AGI reported for the periods that the VES operated, 60 gallons of gasoline was removed from the subsurface at the subject property. On October 27, 1992 AGI

observed drilling of three borings in areas where they thought contaminated soil was likely to exist. Two of the borings exhibited field indications of hydrocarbons. Soil samples were obtained from all three borings and submitted to a laboratory for analysis. No groundwater was reportedly encountered in any of the three borings that were drilled to as much as 23 feet below existing grade. Contaminated soil was reported from the boring drilled through the backfill placed in the area where three of the six USTs were removed in 1990. It was AGI's opinion that less than 500 cubic yards of hydrocarbon contaminated soil existed in the former UST cavity.

AGI prepared a report in December 1992 that described the excavation and treatment of approximately 650 cubic yards of petroleum contaminated soil from the area where three USTs were removed in 1990. An additional approximately 150 cubic yards of petroleum contaminated soil was reportedly removed from the area north of the former UST cavity. The excavation reportedly ranged between 11 to 15 feet below existing ground surface. No groundwater was reportedly encountered during the soil excavation. Seven discrete and four composite soil samples were obtained from the limits of the excavation and submitted for laboratory analysis. None of the samples reportedly had concentrations of gasoline-range hydrocarbons or benzene, toluene, ethylbenzene, or xylenes (BTEX) greater than applicable cleanup levels for soil. AGI reported that approximately 650 cubic yards of excavated soil was treated on-site using screening, a method AGI described as "enhanced aeration". Approximately 150 cubic yards of soil was reportedly shipped off-site to another property owned by Reinhardt Distributing Company. Composite soil samples from the 650 cubic yards of soil treated on-site were analyzed and AGI reported based upon a statistical analysis were in compliance with applicable cleanup levels. The 650 cubic yards of treated soil was placed back into the excavation then 150 cubic yards of clean, imported granular fill was placed on top of the treated soil to backfill the excavation.

In October 2007, a Phase 2 was completed by Envitech, LLC (Envitech) for a previous property owner, Mr. Kyoungho Hwangpo. Envitech observed drilling of four borings using a truck-mounted direct push drill. Two borings were drilled in the inferred up-gradient position relative to the current UST location, distribution piping, and pump islands and two borings were drilled in the inferred down-gradient position relative to the current UST location, distribution piping, and pump islands The soil obtained from all four borings was field screened using a photoionization device (PID) to assess for organic vapors. No groundwater was reportedly encountered in any of the four borings drilled to a reported maximum depth of 12 feet below existing ground surface, however the soil was identified as wet on one of the boring logs. One soil sample from each boring was submitted for laboratory analysis for petroleum hydrocarbons and BTEX. The two borings located down-gradient relative to the USTs and distribution piping/pump islands had concentrations of gasoline-range hydrocarbons and benzene greater than applicable cleanup levels. Envitech recommended additional subsurface sampling and testing to determine the extent of the petroleum impacted soil. Envitech also recommended that a copy of the report should be provided to the Washington Department of Ecology (WDOE) to comply with Model Toxics Control Act (MTCA) regarding discovery of contaminated soil.

A site characterization was completed in November 2007 by Rodman and Balmer Consultants based in Poulsbo, Washington. A truck-mounted direct push drill rig was used to drill nine borings generally located toward the west of the existing tanks and pump islands. Groundwater was reportedly encountered at approximately 8 to 12 feet below existing grade. Monitoring wells were installed in two of the nine borings. Soil and groundwater samples were collected and analyzed for gasoline-range petroleum hydrocarbons and BTEX constituents. Soil with concentrations of gasoline-range hydrocarbons and/or benzene exceeding cleanup levels was reported in five of the nine borings. Contaminated groundwater was also reported five of the nine borings. The

contaminated soil and groundwater was generally located to the west of the tanks and pump islands.

Rodman and Balmer Consultants prepared a two page remediation work plan for Sunny's Deli Mart dated November 2007. The work plan was divided into three phases. Phase 1 was described as pumping out the monitoring wells then monitoring recharge rates to apparently determine whether the groundwater was ephemeral. Phase 2 of the plan included injecting commercially purchased "enhanced microbes and surfactants" into two injection points that were apparently installed after the site characterization study. The microbes were to be injected every two weeks for the first month. Phase 3 was ongoing collection and analysis of groundwater samples from the monitoring wells and analyzed by a laboratory. The consultants estimated that a No Further Action could be obtained in approximately 18 months. No documents were provided for our review from the two consultants responsible for the remediation plan describing how many injections and what was injected into the subsurface, or the results of the periodic sampling and analysis.

Based upon our interviews and information provided by Mr. Allen Nicholson, it appears that the two consultants stopped working on the site and the remediation effort was passed off to another consultant, Mr. Regan Hardy of L&R Corrosion Services in 2010. Mr. Hardy stated that their involvement was generally limited to injecting bacteria then collecting groundwater samples for analysis. We were provided a progress report showing four sampling events on a table of results. The last treatment and laboratory analysis of groundwater apparently occurred in April 2015 and showed concentrations of gasoline-range hydrocarbons and benzene greater than cleanup levels in two of the four monitoring wells. The groundwater was also analyzed for diesel-range hydrocarbons and the results showed that all four wells had concentrations of diesel greater than cleanup levels. According to Mr. Hardy, the source of the diesel was not due to a release on-site but from an off-site source. He did not have groundwater elevations that could show flow direction or chromatograms to assist possible age dating the release. Apparently no additional treatment or sampling has been completed since April 2015.

In February 2012, the WDOE apparently acting under the reportedly cleaned up (RCU) program for sites that in the 1990s reported leaking underground storage tanks and completed some cleanup actions without the WDOE's review or oversight, reviewed the 1990 and 1992 reports and issued a determination of no further action (NFA). However, it appears that the former property owner did not follow the recommendation in the Envitech Phase 2 report prepared in 2007 and provide copies of the report to the WDOE that showed soil and groundwater contamination remained on the site. It is our opinion that once the WDOE receives the 2007 and later reports it will rescind the NFA and place the site on the leaking underground storage tank list.

We completed a Tier 1 Vapor Encroachment Screening (VES) in accordance with ASTM E2600-15 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* to determine whether a vapor encroachment condition (VEC) exists by reviewing environmental records specified by the standard. Several sites with contaminated soil or groundwater lie within ASTM specified minimum search radii. These sites are located north and northeast of the subject property. Based upon these findings we could not conclusively rule out that a VEC exists. Since a VEC could not be conclusively ruled out during the Tier 1 screening, we completed a Tier 2 VES and it appears that none of the sites are within the ASTM specified 100 foot critical distance of the subject property. According to the most recent groundwater sampling and analysis report, contaminated groundwater was reported in all four monitoring wells located in the parking area north and northwest of the subject property. The reported concentrations have not been differentiated into components reported in the proposed *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* Notwithstanding the

absence of fractionalization, it is our opinion that the there is a potential for vapors generated from the contaminated groundwater beneath the subject property to migrate into the building through more permeable buried utility corridors or more permeable fill soils above or within the glacial till soil.

This assessment revealed no controlled recognized environmental condition (CRECs). However we identified one ASTM historical recognized environmental concern (HRECs) and three on-site ASTM recognized environmental conditions (RECs) associated with the subject property.

1. The HREC is the NFA determination issued by the WDOE in 2012. The NFA was apparently issued without benefit of review of information from the 2007 Phase 2 Site Assessment prepared by Envitech. It is our opinion that the 2007 report and subsequent documents regarding the remediation efforts should be provided to the WDOE. It is likely once the reports are provided to the WDOE, the WDOE will rescind the NFA determination.

2. A discrepancy exists between the number of USTs reportedly removed by AGI, six in 1990 with WDOE documents and information in a 1992 report prepared by AGI, seven. Geophysical assessments would be necessary to attempt to locate any of the original USTs that may remain at the site.

3. Contaminated soil and groundwater were identified in 2007, and between 2007 and 2015 other environmental consultants have been injecting bacteria and surfactants in an effort to remediate groundwater. However in 2015, in addition to the known gasoline and benzene contamination in two monitoring wells, diesel-range hydrocarbons were discovered in all four monitoring wells. The source of the diesel contamination has not been conclusively determined at this time. It is our opinion additional study in the form of borings along with sampling and analysis of groundwater from the existing monitoring wells would be required at this time to document existing soil and groundwater conditions

4. Due to the presence of contaminated groundwater beneath the subject property, no studies have been completed documenting soil gas conditions beneath the site.

While not defined as a REC by ASTM, three potential environmental concerns were identified associated with the subject property.

1. Based upon the reported 1969 date of construction and 1988 renovation of the building on the subject property, asbestos may be present in materials of construction in the structures built prior to 1984. Puget Sound Clean Air Agency (PSCAA), Regulation III, Article 4 Asbestos Control Standards requires the completion of an asbestos survey prior to renovation or issuance of a demolition permit.

2. Again, based on the reported construction 1969 date of the structure, it is possible that lead-based paint (LBP) may be present. If plans for the building include renovation or demolition, we recommend notifying the appropriate contractor of the potential for LBP and following Occupational Safety and Health Administration (OSHA) standards during the activities.

3. If the monitoring wells located on the subject property are no longer needed, they will have to be lawfully abandoned by a licensed well driller in accordance with

applicable regulations WAC 173-160. The required paperwork will have to be submitted by the licensed well driller to the WDOE following abandonment. The wells can't simply be removed by excavation during redevelopment unless the well driller is present to observe and document the removal and filling of the bore hole with bentonite or cement.

A discussion of the scope of our work, our site observations, and our conclusions are contained in this report.

## 2.0 INTRODUCTION

This report presents the results of our Phase 1 Environmental Site Assessment of tax parcel number 322305-9237, addressed 10545 Southeast Carr Road in Renton, Washington, the property.

### 2.1 Special Terms and Conditions

The property dimensions used in this report were obtained from our review of King County Assessor's Office public information and estimation of the area using tools on the King County Assessor's Office IMAP web site. This Phase 1 does include a review of available radon testing results prepared by local utility companies and governmental agencies, but does not include site-specific radon testing or sampling. The level of effort regarding the identification of asbestos-containing materials (ACM) and potential lead-based paint (LBP) should be considered a reconnaissance and should not be confused with an asbestos or lead survey. The scope of services for our review of this site also did not include wetland delineation, an assessment of biological contaminants, including but not limited to molds, mildew, bacterial contamination, etc. A Phase 1 Environmental Site Assessment should not be mistaken for a regulatory compliance audit. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be given the opportunity to review the findings, re-evaluate the conclusions of this report, and provide amendments as required.

### 2.2 Purpose and Scope of Work

The purpose of an environmental assessment is to satisfy one of the requirements to qualify for the innocent landowner defense in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): that is, to make "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." Our scope of work and the limitations of our study are consistent with American Society for Testing and Materials (ASTM) Designation E1527-13: *Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process.* The objective of a Phase 1 assessment is to minimize potential future liability for environmental problems by demonstrating that at the time this report was prepared, the owner, holder, or buyer had no knowledge or reason to know that any hazardous substance had been released or disposed on, in, or at the property. An additional objective of the Phase 1 assessment is to identify potential contamination sources. A copy of the User Questionnaire is included with this report on the compact disc as Appendix A. The User Questionnaire and other documents on the compact disc are in Adobe pdf format and require Adobe Acrobat 11.0 or higher to view the documents. Should you require a copy of the Acrobat Reader, a free copy can be downloaded at www.adobe.com.

The goal of the processes established by the ASTM is to identify recognized environmental conditions. The term "recognized environmental conditions" means *the* presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (*1*) due to any *release* to the *environment*; (*2*) under conditions indicative of a *release* to the *environment*; or (*3*) under conditions that pose a *material threat* of a future *release* to the *environment*. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate governmental agencies.

The purpose of conducting a vapor encroachment screening (VES) is to identify a vapor encroachment condition (VEC) which is the presence or likely presence of chemicals of concern (COC) vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater either on or near the target property. Our scope of work and the limitations of our study are consistent with American Society for Testing and Materials (ASTM) Designation E2600-15: *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*. The objective of a VES is to reduce, but not eliminate, uncertainty regarding whether or not a VEC exists in connection with a property.

Our study included:

- A review of the chronology of ownership and site history, using county assessor records, archival property record cards, historical maps, interviews and aerial photography as primary resources. An attempt was made to identify possible former industries or uses presenting some probability of generating waste, which may have included dangerous or hazardous substances, as defined by state and federal laws and regulations.

- A reconnaissance of the property to look for evidence of potential contamination in the form of soil stains; odors, vegetation stress, discarded drums, or discolored water.

- The acquisition and review of available reports and other documentation pertaining to the subject property or nearby sites.

- A review of a search by MapPro Environmental Data, (MapPro) of available state and federal government records. MapPro reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527-13 and the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 2600-15. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property.

## 3.0 SITE DESCRIPTION AND RECONNAISSANCE

### 3.1 Location and Legal Description

The subject property is located on the southeast corner of the intersection of Southeast Carr Road with 105$^{th}$ Place Southeast in Renton, Washington. The irregular-shaped property covers approximately 19,602-square feet (0.45-acre). The Vicinity Map, Plate 1, illustrates the general location of the site. The King County Assessor's Office documents indicate that the tax parcel is

situated in the northwest quarter of Section 32, Township 23 North, Range 5 East, Willamette Meridian, in King County, Washington. The tax identification number of the tax parcel, as recorded by the King County Assessor's Office, is 322305-9237. The short legal description of the subject parcel as reported by the King County Assessor's Office is:

N 290 FT OF W 150 FT OF E 1/2 OF E 1/2 OF W 1/2 OF NE 1/4 OF NW 1/4 LESS POR NLY OF SLY MGN OF CARR RD # SH 515 LESS CO RD

## 3.2 Site and Vicinity Characteristics

A licensed geologist from our firm visited the site on December 13, 2016 to observe on-site conditions and land use practices in the surrounding area. Mr. Allen Nicholson, with Windermere Real Estate provided access to the subject property. The subject property is developed with a prefabricated steel structure with two fuel dispenser pump islands. With the exception of two areas along the western and northwestern property boundaries covered with beauty bark, the property not covered by the building is covered with asphalt. Access to the property is provided from Southeast Carr Road to the north and 105th Place Southeast from the west. Land use in the immediate vicinity of the subject property is characterized by retail commercial developments and multi-family apartment buildings.

### 3.2.1 Site Improvements

The property is currently developed with a building reportedly constructed in 1969 that encloses approximately 1,440-square feet. Additional improvements include asphalt surfaced parking and driveways; three 12,000-gallon underground storage tanks (USTs), a canopy, and two pump islands with four dispensers. The property is generally level with the adjoining streets. Water service to the property is provided by the Soos Creek Water and Sewer District. Storm and sanitary sewer services are also provided by the Soos Creek Water and Sewer District.

### 3.2.2 Building Materials

The following table presents information obtained from review of King County Assessors' records and our observation made during our reconnaissance regarding building materials.

| ***Address*** | ***Materials of Construction/Observations*** |
|---|---|
| 10545 Southeast Carr Road | 1,440-square feet, single story prefabricated building reportedly built 1969. Painted wood and metal trim exterior. Wood-frame interior partition walls, covered with drywall, concrete floors, covered with 12-inch square ceramic tiles or vinyl tiles. 2' x 4' suspended ceiling tiles, fluorescent and incandescent lights, electric heat pump. |

### 3.2.3 Current Uses of Property

At the time of our site reconnaissance, the building was occupied by a Sunny's Deli and convenience store with Texaco brand gasoline sales. No automobile repair is performed on the property. A detail business operates beneath a canopy located immediately west of the building.

During our site reconnaissance, we observed four monitoring wells that were installed near the current pump island and tank hold area. The approximate locations of the monitoring wells are shown on the Site Detail Plan, Plate 3. More information about the monitoring wells and subsurface investigations can be found in **Section 4.1**.

Acknowledging the majority of the site is covered by the foot-print of the building or paving at the time of our site visit, we did not observe any major stains, odors, or unusual vegetative conditions that might indicate the potential presence of hazardous contamination on the subject property.

### 3.2.4 Current Uses of Adjoining Properties

Land use in the site vicinity is characterized by characterized by multi-family apartment buildings, a fast food restaurant, and retail and commercial buildings. Adjoining properties share a common property boundary or are separated by street or right-of-way. More specifically, the property is bordered as follows:

**North:** Southeast Carr Road defines the northern property boundary. Across this five-lane road is a small building currently occupied by Dream Home Real Estate. Farther to the north is the Summerhill Apartment complex.

**East:** To the immediate east is an approximate 10 foot tall rockery wall then a one-story commercial building occupied by the North Benson Clinic.

**South:** The subject property is bordered to the south by an approximate 10 foot tall rockery wall then a one-story Fred Meyer retail department store. The Fred Meyer has a fuel station located approximately 550 feet southeast of the subject property.

**West:** Immediately west of the subject property is 105$^{th}$ Place Southeast. Across this road is a Kentucky Fried Chicken restaurant.

We did not observe any obvious signs of improper storage or disposal practices of hazardous waste on any of the neighboring sites that would negatively impact the subject property during our reconnaissance. We did not observe any monitoring wells on the adjoining properties from public sidewalks or alleys.

## 3.3 Hazardous Materials

### 3.3.1 Storage Tanks and Containers

At the time of our site visit on December 13, 2016 we looked for evidence of underground storage tanks (USTs), such as vent lines or fill pipes or aboveground storage tanks (ASTs), tank stands, or small diameter copper piping on the subject parcel. The property is an active gasoline station, and according to WDOE *UST Site Inspection* record dated March 19, 2014, the site has one 12,000-gallon USTs and two 10,000-gallon USTs and double-wall piping. All three of the tanks reportedly contained unleaded gasoline. A WDOE *UST Site Inspection* record dated March 17, 2011

identified that the capacity of two of the USTs was 10,000 gallons and each contained unleaded gasoline. The capacity of the third UST was reportedly 6,000-gallons and the tank stored diesel fuel. A discrepancy also exists between the WDOE *UST Site Inspection* records and information reported on the most recent *UST Tightness Testing Checklist* completed by Northwest Tank & Environmental Services on August 26, 2014. On the 2014 checklist, all three USTs reportedly stored unleaded gasoline and the individual capacity is reported to be 12,000-gallons. The piping is also reportedly single wall construction.

A current tank license (A3783) is prominently displayed on the building. The three tanks were reportedly installed in November 1990. These tanks replaced the original six USTs that were installed in 1972. The approximate locations of the current and former USTs are shown on Plate 3, Site Detail Plan.

Leak detection and inventory control are provided by a Veeder Root TLS 250 system (tank leak detection and inventory control). The most recent testing of the UST system on file at the WDOE occurred in August 2014. The tanks, tank monitoring equipment, impact valves, lines, and leak detection equipment all passed the tests. The station is registered with the Puget Sound Clean Air Agency (PSCAA). Two violations of PSCAA Regulations were issued on November 3, 2016 for operating defective Stage 2 equipment and failure to conduct annual compliance tests. On November 8, 2016 Northwest Environmental Solutions, Incorporated completed testing required under a PSCAA violation issued on November 3, 2016. According to the checklist prepared by Northwest Environmental Solutions, Incorporated, all of the tests required by PSCAA had been completed and the equipment passed and the Stage 2 equipment was repaired.

A WDOE *UST Notice of Non-Compliance* was issued on March 17, 2011 for failing to properly monitor tanks and/or piping for releases. A note on the violation indicated that in April 2009 the facility was cited for a similar violation. During our site reconnaissance the site operator Mr. Youn Park provided access to the documents he had on-site. The available information was limited to the PSCAA violation and the subsequent Northwest Environmental Solutions, Incorporated testing and repair document.

### 3.3.2 Asbestos-Containing Materials

Asbestos gained widespread use in the 1930s, 1940s, and 1950s for fireproofing, for thermal insulation, and to enhance strength, and has been used in over 3,000 types of insulation: in "popcorn" ceiling texture, in vinyl flooring, in plaster and drywall compounds, in mastics and adhesives, in cement board siding, and in roofing.

The knowledge that exposure to asbestos fibers can cause harm to humans became widespread between about 1955 and 1975. Diseases linked to asbestos exposure include asbestosis, a scarring of the lung tissue; lung cancer; and mesothelioma, a cancer of the lining of the chest and abdominal cavity. The EPA banned the use of asbestos in some applications in 1973, and the EPA had announced a gradual ban on most remaining uses to take effect by 1989. The building materials industry, responding to public pressure about health concerns and in compliance with the gradual EPA ban, had phased out using asbestos in materials of construction by the early 1980's. It has been our experience that the standard of practice for the industry is to consider buildings constructed after 1984 to have a low potential for asbestos-containing materials.

However, in 1991, the EPA ban on asbestos was overturned. Building materials imported from Canada or other areas outside the United States may still contain asbestos.

A detailed inspection of the interior of the structure was not part of this report. Based on 1969 completion date of the structure and 1988 renovation, it is our opinion that there is a potential for asbestos to be present in building materials. The materials we observed inside the building appeared to be in generally good condition. Current Washington State Department of Labor and Industry regulations require sampling and analysis of materials for the presence of asbestos when renovation or demolition activities occur.

### 3.3.3 Lead-Based Paint

Until the 1960's, paint containing 30 to 40 percent lead was commonly used on the interior and exterior surfaces of buildings. Exposure to particles of lead-based paint (LBP), either through inhalation or through ingestion, has been found to cause a variety of adverse human health effects. Children are particularly sensitive to these effects, and chronic exposure to lead can cause learning difficulties, mental retardation, and delayed neurological and physical development. In 1977, the Consumer Products Safety Commission banned consumer use of paint products that contain lead in excess of 0.06 percent. The current LBP standard, as defined by the Lead-Based Paint Poisoning Prevention Act and the Department of Housing and Community Development Act, Title 10, is any paint or other surface coating that contains lead in excess of 1.0 milligrams per square centimeter or 0.5 percent by weight (5,000 parts per million).

Based on the 1969 construction date of the original building, it is our opinion that there is a potential that the original paint used contains lead in excess of 0.5 percent by weight. We do not know to what extent the original structure was incorporated into the renovation that appeared to occur in 1988. None of the interior or exterior areas we observed exhibited peeling or chipped paint.

### 3.3.4 PCBs

Prior to 1979, polychlorinated biphenyls (PCBs) were widely used in electrical equipment, such as transformers, capacitors, switches, fluorescent light ballasts, and voltage regulators, owing to their excellent cooling properties. In 1976, the EPA initiated the regulation of PCBs through the Toxic Substances Control Act (TSCA). These regulations generally control the use, manufacture, storage, documentation, and disposal of PCBs. The EPA eventually banned PCB use in 1978, and the adoption of amendments to TSCA under Public Law 94-469 in 1979 prohibited any further manufacturing of PCBs in the United States.

We observed fluorescent lights in the building. Based on the age of the building, any original fluorescent light ballasts may contain PCBs. Fluorescent light ballasts typically do not pose a threat to human health or the environment. The only likely threat would come in the event that one of the sealed ballasts ruptured. When removing or replacing bulbs the light ballasts should be checked for labeling addressing PCB content. If there is no indication of PCB content, the light ballasts should be assumed to contain PCBs and properly disposed.
We did not observe any main service electrical transformers on the subject property.

### 3.3.5 Waste Generation and Disposal

Solid waste is collected by Republic Services. The Texaco Station does not have a hazardous waste generator number. We observed three, sealed 55-gallon drums located on a paved area exterior to the eastern side of the building. The labels on the drums were illegible but drums were easily moved suggesting they were not full.

## 3.4 Other Conditions of Concern

Radon is a naturally occurring, highly mobile, chemically inert, radioactive gas created through the radioactive decay of uranium and thorium. The potential for the occurrence of radon varies widely and depends on: (1) the concentration of radioactive materials in the underlying bedrock, (2) the relative permeability of soils with respect to gases, and (3) the amount of fracturing or faulting in the surficial materials (EPA, 1987). The EPA has established a concentration for radon of 4 pico-Curies per liter (pC/l) of air as a maximum permissible concentration "action level." According to some studies, the average concentration in homes across the United States is on the order of 1.4 pC/l.

Typically, the Puget Sound area of Washington is underlain by a consolidated thickness of glacial drift and rocks that do not contain radon-forming minerals. The Washington Department of Health, Division of Radiation Protection, published a study listing the King County average as 0.7 pC/l. Based on this information, it is our opinion that the potential for elevated levels of radon at this site is low.

# 4.0 HISTORICAL USE INFORMATION

Sources reviewed for information on site and area development and land use include historical aerial photography, an interview with an individual familiar with the subject property, and the resources of the King County Assessor's Office, the Puget Sound branch of the Washington State Archives, the Bellevue Public Library, and the City of Seattle Department of Construction and Inspections.

## 4.1 Previous Environmental and Geotechnical Investigations

Geotech Consultants, Inc. has not completed environmental or geotechnical engineering studies for the site. We were not provided any previous geotechnical engineering reports for review. We were provided with a copy of a Phase 2 completed by Envitech, LLC (Envitech) in October 2007 for a previous property owner, Mr. Kyoungho Hwangpo. Envitech observed drilling of four borings using a truck-mounted direct push drill. Two borings were drilled in the inferred up-gradient position relative to the current UST location, distribution piping, and pump islands and two borings were drilled in the inferred down-gradient position relative to the current UST location, distribution piping, and pump islands. The soil obtained from all four borings was field screened using a photoionization device (PID) to assess for organic vapors. No groundwater was reportedly encountered in any of the four borings drilled to a reported maximum depth of 12 feet below existing ground surface; however the soil was identified as wet on one of the boring logs. One soil sample from each boring was submitted for laboratory analysis for petroleum hydrocarbons and BTEX. The two borings located down-gradient relative to the USTs and distribution piping/pump islands had concentrations of gasoline-range hydrocarbons and benzene greater than applicable cleanup levels. Envitech recommended additional subsurface sampling and testing to determine

the extent of the petroleum impacted soil. Envitech also recommended that a copy of the report should be provided to the Washington Department of Ecology (WDOE) to comply with Model Toxics Control Act (MTCA) regarding discovery of contaminated soil.

A site characterization was completed in November 2007 by Rodman and Balmer Consultants based in Poulsbo, Washington. A truck-mounted direct push drill rig was used to drill nine borings generally located toward the west of the existing tanks and pump islands. Groundwater was reportedly encountered at approximately 8 to 12 feet below existing grade. Monitoring wells were installed in two of the nine borings. Soil and groundwater samples were collected and analyzed for gasoline-range petroleum hydrocarbons and BTEX constituents. Soil with concentrations of gasoline-range hydrocarbons and/or benzene exceeding cleanup levels was reported in five of the nine borings. Contaminated groundwater was also reported in five of the nine borings. The contaminated soil and groundwater was generally located to the west of the tanks and pump islands.

Rodman and Balmer Consultants prepared a two page remediation work plan for Sunny's Deli Mart dated November 2007. The work plan was divided into three phases. Phase 1 was described as pumping out the monitoring wells then monitoring recharge rates to apparently determine whether the groundwater was ephemeral. Phase 2 of the plan included injecting commercially purchased "enhanced microbes and surfactants" into two injection points that were apparently installed after the site characterization study. The microbes were to be injected every two weeks for the first month. Phase 3 was ongoing collection and analysis of groundwater samples from the monitoring wells and analyzed by a laboratory. The consultants estimated that a No Further Action could be obtained in approximately 18 months. No documents were provided for our review from the two consultants responsible for the remediation plan describing how many injections and what was injected into the subsurface or the results of the periodic sampling and analysis.

We obtained two reports at the Northwestern Regional Office of the WDOE prepared by Applied Geotechnology, Incorporated (AGI). AGI completed a preliminary assessment of soil near the six underground storage tanks (USTs) removed in April 1990 and also observed installation of three new tanks and distribution system (existing) at that time. AGI reported that two soil samples were collected from the new tank cavity by representatives of Reinhard Distributing Company, the property owner and submitted for analysis. One of the samples, a composite sample from the west, north, and east walls reportedly had 2,200 parts per million (ppm) of gasoline-range petroleum hydrocarbons. AGI reportedly monitored excavation of the new tank cavity and a test pit reportedly excavated approximately 25 feet northwest of the new tank cavity. AGI field screened soil at the limits of the excavation and from the test pit and reported that "hydrocarbon contamination remains in areas of the new tank cavity west wall, west half of the north wall and the test pit." According to AGI, only three soil samples were collected and submitted for laboratory analysis, but no maps or sketches showing where the samples were collected or where the test pit was located were included with the report. AGI reported that perched groundwater was present at a depth of 11 to 12 feet below ground surface in the tank cavity and "had a slight sheen and moderate hydrocarbon odor." No samples were collected of the perched groundwater. Based upon the conditions AGI observed, it appears that AGI installed a vapor extraction system (VES) west of the new tank excavation.

In a report dated November 6, 1992, AGI reported that the VES operated between September 28, 1990 and September 30, 1992. AGI reported for the periods that the VES operated, 60 gallons of gasoline was removed from the subsurface at the subject property. On October 27, 1992 AGI observed drilling of three borings in areas where contaminated soil was likely to exist. Two of the borings exhibited field indications of hydrocarbons. Soil samples were obtained from all three

borings and submitted to a laboratory for analysis. No groundwater was reportedly encountered in any of the three borings that were drilled to as much as 23 feet below existing grade. Contaminated soil was reported from the boring drilled through the backfill placed in the area where three USTs were removed in 1990. It was AGI's opinion that less than 500 cubic yards of hydrocarbon contaminated soil existed in the former UST cavity.

AGI prepared a report in December 1992 that described the excavation and treatment of approximately 650 cubic yards of petroleum contaminated soil from the area where three USTs were removed in 1990. An additional approximately 150 cubic yards of petroleum contaminated soil was reportedly removed from the area north of the former UST cavity. The excavation reportedly ranged between 11 to 15 feet below existing ground surface. No groundwater was reportedly encountered during the soil excavation. Seven discrete and four composite soil samples were obtained from the limits of the excavation and submitted for laboratory analysis. None of the samples reportedly had concentrations of gasoline-range hydrocarbons or benzene, toluene, ethylbenzene, or xylenes (BTEX) greater than applicable cleanup levels for soil. AGI reported that approximately 650 cubic yards of excavated soil was treated on-site using screening, a method AGI described as "enhanced aeration". Approximately 150 cubic yards of soil was reportedly shipped off-site to another property owned by Reinhardt Distributing Company. Composite soil samples from the 650 cubic yards of soil treated on-site were analyzed and AGI reported based upon a statistical analysis were in compliance with applicable cleanup levels. The 650 cubic yards of treated soil along with 150 cubic yards of clean, imported granular fill was placed back into excavation.

In February 2012, the WDOE apparently acting under the reportedly cleaned up (RCU) program for sites that in the 1990s reported leaking underground storage tanks and completed some cleanup actions without the WDOE's review or oversight, reviewed the 1990 and 1992 reports and issued a determination of no further action (NFA). However, it appears that the former property owner did not follow the recommendation in the Envitech Phase 2 report prepared in 2007 and provide copies of the report to the WDOE that showed soil and groundwater contamination remained on the site. It is our opinion that once the WDOE receives the 2007 and later reports it will rescind the NFA and place the site on the leaking underground storage tank list. Copies of the previous reports are included with this report as Appendix B: Previous Reports on the compact disc attached to the back cover of this report.

## 4.2 Historical Maps

A Kroll Map dated 1962 shows that the subject property is part of Tax Parcel 322305-9053, a large 5.40 acre parcel apparently owned by Bernard H. Suttle. No buildings are shown on this tax parcel. Bernard H. Suttle also owns the adjoining eastern parcel. Ira Carr is shown as the owner of the adjoining western parcel. A dashed line showing the approximate location of the existing Southeast Carr Road defines the northern property boundary. The surrounding area is generally undeveloped but a few small buildings are shown to the east and northeast of where the subject property is located.

A Kroll Map dated 1974 shows that Tax Parcel 322305-9053 has subdivided into four tax parcels including the subject property, designated as Tax Parcel 322305-9237. The subject property is developed with a building identified as a Serv(ice) Stn. The adjoining southern, eastern, and western parcels are apparently undeveloped. Southeast Carr Road defines the adjoining northern property line. A small triangular parcel is located north of Southeast Carr Road. A road identified as 105$^{th}$ Place Southeast defines the western property boundary. Development in surrounding

area has increased with several buildings shown to the east and northeast of where the subject property is located. One of the buildings at the southwestern corner of the intersection of Southeast Carr Road with 108th Avenue Southeast is identified as a Service Station.

Review of the 1994 U.S.G.S. Topographic Map for the *Renton Quadrangle* appears to show the convenience store building and the canopy for the pump island on the subject property. A large building is shown south of the subject property and a smaller building is shown to the immediate east of the subject property. Southeast Carr Road is immediately north of the subject property and 105th Place Southeast is to the west.

### 4.3 Tax Assessor Records

The King County Assessor's Office lists the current taxpayer of the parent parcel 322305-9237 as Seng, LLC. Sales information reported on the King County web site between 1996 and the present appear in the following table

| Document Date | Seller Name | Buyer Name | Instrument |
|---|---|---|---|
| 3/4/2008 | H22 INC | SENG LLC | Statutory Warranty Deed |
| 2/23/2001 | HYEON YOUNG SOON | H22 INC | Statutory Warranty Deed |
| 1/31/1997 | CHONG MU KIL+ SUNG HWA | HYEON YOUNG SOON | Statutory Warranty Deed |
| 5/24/1996 | PANG TOK H+HYUN S | CHONG MU KIL+SUNG HWA | Statutory Warranty Deed |
| 12/22/1992 | REINHARD ERNEST A | PANG TOK H+HYON S | Warranty Deed |

Additional information obtained from the assessor's office is presented in the following table. The parent parcel that contains the subject property is in **bold typeface**. Adjoining properties share a common property boundary or are separated by street or right-of-way.

| PARCEL NUMBER | ADDRESS & LOCATION | DEVELOPMENT | YEAR DEVELOPED |
|---|---|---|---|
| 322305-9016 | 17605 – 108rd Avenue Southeast Adjoins to South | One-story, masonry department store building, on a 12.50-acre parcel; Fred Meyer Store<br>Free-standing 5 pump gas station | 1988<br>2009 |
| 322305-9053 | 10500 Southeast Carr Road Adjoins to North | One-story, wood-frame office building on a 0.25 acre parcel | 1972 |
| 322305-9063 | 10551 Southeast Carr Road Adjoins to East | Three, 1-story, masonry line retail buildings<br>One-story wood-frame restaurant building, all on a 4.58-acre parcel | 1988, 1989, 1994<br>2014 |
| **322305-9237** | **10545 Southeast Carr Road Subject Property** | **One-story, prefab steel, mini-mart convenience store with Texaco gasoline sales, on a 0.45-acre parcel** | **1969** |
| 322305-9299 | 10433 Southeast Carr Road Adjoins to West | One-story wood-frame restaurant building, on a 1.12-acre parcel | 1995 |

### 4.4 State Archive Records

Following review of the historic property cards it appears that the subject property was segregated from tax parcel 322305-9053 on December 3, 1964. It appears that a self-service car wash was built on the parcel in 1969. Notations on the Assessor's records apparently made in 1972 show that two, 6,000-gallon underground storage tanks were added along with two fuel dispensers. It appears that the current building was renovated in 1988. Copies of the historic Assessor's Office property cards are included with this report on the compact disc as Appendix C.

We also researched Archive records for information on adjoining properties, which appear in the following table:

| PARCEL NUMBER | ADDRESS & LOCATION | DEVELOPMENT | YEAR DEVELOPED |
|---|---|---|---|
| 322305-9016 | 10xxx Southeast Carr Road<br>Adjoins to East | Undeveloped, 4.94-acre parcel | |
| 322305-9040 | 10607 Southeast 176th Street<br>Adjoins to West | One-story, wood-frame house,<br>Chicken coop,<br>Barn | 1928<br>1923<br>1932 |
| 322305-9053 | 10xxx Southeast Carr Road<br>Adjoins to North | Undeveloped 0.25 acre parcel, segregated from tax lot 9016 in 1957<br>One-story, wood-frame office building | <br><br>1972 |
| 322305-9246 | 10551 Southeast Carr Road<br>Adjoins to South | One-story wood-frame house<br>Shack, shed, barn and coop, torn down 1953. | 1913 |

### 4.5 Polk Business Directories

We reviewed Renton and South King County Suburban City directories for 1965, 1970, 1976, and 1983 at the King County Public Library in Bellevue, Washington. There were no listings for 10545 Southeast Carr Road in the 1965, 1970, or 1976 directory. Ernie's Deli and gas at 10545 Southeast Carr Road was recorded in the 1983 directory.

Based upon our review of Polk Business Directories it appears that the address 10545 Southeast Carr Road does have a history of use as a convenience store with gasoline sales that has subjected it to use and or improper disposal of hazardous materials. Contamination was reported to the WDOE in 1992. In 2012, after reviewing two reports dated 1990 and 1992 that were provided to the WDOE in 1992, this site was issued a determination of no further action (NFA). The WDOE has not apparently been made aware of the contamination discovered in 2007.

### 4.6 Title Company Records

A 40-Year Chain of Title Report was not provided for our review. The absence of a 40-Year Chain of Title is a data gap under ASTM. It is our opinion that this data gap does not materially affect our understanding of use or development on the subject property and would not be a REC under ASTM. Based upon our review of historical property cards, it appears that prior to 1969 the subject property was undeveloped. A copy of a Title Report was provided for our review. The report

prepared by CW Title is included with this report as Appendix D on the compact disc attached to the back cover of this report.

The subject property does not appear on a listing of environmental liens maintained by the Washington Department of Ecology.

## 4.7 Aerial Photographs

We reviewed aerial photographs dated 1936, 1954, 1968, 1977, 1981, 1990, 1998, 2002, 2007, 2009, and 2015 Excepting as noted, lot lines, place names, and businesses referred to in the following paragraphs were acquired from review of other sources and do not appear on the aerial photographs. The 1936 photograph was the earliest commercially available photograph. The 1936, 1998, 2002, 2007, and 2015 photographs were available from the King County Assessor's Office and the approximate parcel boundaries are overlain on the photographs. Observations from our review of historical photographs of the site and its surrounding area are summarized as follows:

**1936:** Parcel lines are visible on this photograph. At that time, it appears that the subject property is undeveloped and covered with low growing vegetation and a few scattered trees. The adjoining northern, eastern, and southern properties are undeveloped and the ground surface covered with low growing vegetation with a few scattered trees. West and northwest of the subject property is a farm house and barn, along with several smaller accessory buildings. Southeast Carr Road does not define the northern property boundary at this time. Approximately 200 feet east of the subject property, the roadbed for Southeast 176th Street (currently Southeast Carr Road) turns to the north. An east to west trending dirt driveway connects Southeast 176th Street with a farm house and barn located northwest of the subject property. The surrounding area is best described as rural agricultural with houses and barns on large parcels of land. Orchards surround a house south of Southeast 176th Street and east of 108th Avenue Southeast.

**1954:** Parcel lines are not visible on this photograph making the exact property boundaries difficult to determine. At this time it appears that the subject property may be developed with a long and narrow building, oriented north to south and a smaller square building. The scattered trees visible on the 1936 photograph have been removed and the ground surface appears to be covered with low growing vegetation. It appears that these structures are associated with the farm located to the west-northwest that was shown on the 1936 photograph. A north to south trending dirt driveway appears to define the western property line and follows the current location of 105th Place Southeast. A dirt driveway still connects Southeast 176th Street to the farm house and barn and Southeast Carr Road has not been developed. The surrounding area remains rural agricultural in character.

**1968:** Parcel lines are not visible on this photograph. Southeast Carr Road has been completed immediately to the north of the subject property at this time. The previously developed structures on the subject property have been removed and the subject property is developed with a building identified in other resources as a self-service car wash. The foot-print of the building appears to be smaller than the one currently developed. It does not appear that the parking lot or driveway areas have been paved with asphalt. There are no canopies in the area between the building and Southeast Carr Road. The adjoining northern, eastern, and southern properties

are undeveloped and the ground surface covered with low growing vegetation. Immediately west of the subject property is the narrow dirt road shown on the 1954 photograph. A small building may be present on the adjoining western property. The farm house and barn remain to the northwest of the subject property. North of the adjoining northern property the trees have been removed and the ground surface graded. Foundations for several large buildings are being built. The orchards have been removed east of the subject property and more commercial and retail style buildings have been constructed. Service stations may be present on the northeastern, southeastern, and southwestern corners of the intersection of Southeast Carr Road with 108th Avenue Southeast.

**1977:** Parcel lines are not visible on this photograph. The subject property remains developed with the building present on the 1968 photograph. The parking lot and driveways have been paved with asphalt or concrete. A canopy, smaller than currently developed is located northwest of its current location. A small "L"-shaped building is located near the western property line west of the convenience store building. West of the property line, 105th Place Southeast has been paved but the adjoining western property is undeveloped. The adjoining southern and eastern properties are undeveloped but the ground surface has been graded. The adjoining northern property has been developed with a small building. Farther to the north the existing apartment complex has been completed.

**1981:** Parcel lines are not visible on this photograph. The subject property appears generally similar to what was depicted on the 1977 photograph. Land use and development on the adjoining properties appears to be generally similar to what is depicted on the 1977 photograph.

**1990:** Parcel lines are not visible on this photograph. It appears that the foot-print of the building is nearly the size and shape as currently developed. The canopy has been relocated to its current location and the concrete pad for the USTs is visible between the building and the canopy. Immediately east of the subject property the existing clinic building has been built. An asphalt paved parking lot has been developed immediately south of the subject property for the existing Fred Meyer department store located farther to the south. West of the subject property 105th Place Southeast has been improved and widened farther to the south of the subject property's southern property line. The adjoining western property remains undeveloped and the ground surface is covered with low growing vegetation. The foundations for the existing apartment complex located southwest of the subject property are being built at this time. Commercial development has replaced the residential development along 108th Street Southeast, east of the subject property.

**1998:** Parcel lines are visible on this photograph. Development on the subject property appears to be generally similar to that shown on the 1990 photograph. Land use and development on the adjoining northern, eastern, and southern properties appears to be generally similar to what is depicted on the 1990 photograph. However, west of the subject property has been developed with a building similar to the current restaurant. Farther to the east, the gas station buildings at the southwestern corner and southeastern corner of the intersection of Southeast Carr Road with 108th Street Southeast have been removed and the properties redeveloped with different buildings.

**2002**: Parcel lines are visible on this photograph. Land use and development on the subject property appears to be generally similar to that shown on the 1998 photograph. Land use and development on the adjoining properties appears to be generally similar to what is depicted on the 1998 photograph.

**2007**: Parcel lines are visible on this photograph. Development on the subject property appears to be generally similar to that shown on the 2002 photograph. Land use and development on the adjoining properties appears to generally similar to that depicted on the 2002 photograph.

**2009**: Parcel lines are visible on this photograph. Development on the subject property appears to be generally similar to that shown on the 2007 photograph. Land use and development on the adjoining properties appears to generally similar to that depicted on the 2007 photograph. The gas station at the Fred Meyer building has been constructed approximately 550 feet southeast of the subject property.

**2015:** Parcel lines are visible on this photograph. Development on the subject property appears to be generally similar to that shown on the 2009 photograph. Development on the adjoining properties appears to be similar to what was described on the 2009 aerial photograph.

### 4.8 Interviews

The User Questionnaire was completed by Mr. Soyam Vahora. A copy is included with this report on the compact disc as Appendix A. The User Questionnaire is in Adobe pdf format and requires Adobe Acrobat 11.0 or higher to view the report.

We contacted Mr. Regan Hardy of L & R Corrosion Services regarding the cleanup of the contaminated groundwater and soil discovered in 2007. Mr. Hardy said the company he works for took over the cleanup in 2010 and completed three treatments in August 201, April 2011, and April 2015. The treatment consisted of injecting bacteria into the existing groundwater monitoring wells. Mr. Hardy stated they have not completed any more injections since 2015. Mr. Hardy said the discovery of diesel-range hydrocarbons in the groundwater in the April 2015 sampling changed the scope of work since it was their opinion that the diesel was from an off-site source, and not due to an on-site release.

We spoke with Ms. Donna Musa of the WDOE on January 23, 2017 and inquired about the NFA determination issued in 2012. Ms. Musa stated that the NFA was issued to the subject property under the Reportedly Cleaned Up (RCU) program that reviewed available information on file at the WDOE from site owners or operators saying that they cleaned up their site. Generally these sites were cleaned up in the early to mid 1990s when the WDOE did not have a formal process for independent cleanup review such as the Independent Remedial Action Program (IRAP) or Voluntary Cleanup Program (VCP). No WDOE oversight was involved or mandated. The file contents were reviewed by a consultant hired by the WDOE and a recommendation was made that the information in the file supported the attestation that the site was cleaned up. During our review of the file at the WDOE we did not find a copy of the 2007 Phase 2 report that discovered soil and groundwater contamination. The consultant that prepared that report recommended providing a copy of the report to the WDOE to document the discovery of contamination. It does not appear that the WDOE had the benefit of that report when they made their 2012 NFA determination and it is our opinion that once they are made aware of that discovery, the NFA determination will be rescinded.

## 5.0 ENVIRONMENTAL SETTING

### 5.1 Regional Physiographic Conditions

The site is located in the Puget Sound geomorphic province, which consists mainly of glacially deposited sediments. The Puget Sound Lowland is a basin lying between the Cascade Mountains to the east and the Olympic Mountains to the west. More specifically, the site lies on the west side of the Covington Drift Upland, a ridge that trends north-south. The ground surface elevation shown on the King County Assessor's Office Geographic Information System (GIS) map is approximately 370 feet above sea level near the southeastern corner of the subject property line and descends to approximately 350 feet above sea level near the northwestern corner of the subject property. The surrounding area generally slopes down to the south-southeast.

### 5.2 Soil and Geologic Conditions

A published geologic map for the site vicinity suggests that much of the material underlying the northern approximate half of the subject property as undifferentiated stratified drift while the southern approximate half of the subject parcel is glacial till (Mullineaux, 1965). The undifferentiated stratified drift is sand and pebble gravels while the "glacial till is described as a dense, glacially compressed mixture of silt, sand, gravel, and clay.

AGI drilled three borings in October 1992 to a maximum depth of 23 feet below existing ground surface. According to AGI, the borings encountered approximately 6 to 10 feet of fill comprised of losoe to very dense silty sand. Below the fill, AGI reported that dense to very dense silty sand was encountered to the maximum explored depth of 23 feet.

Envitech drilled four borings in September in 2007 to a maximum explored depth of 12 feet below existing ground surface. Soil conditions encountered in these borings appeared to be similar those described by AGI.

Rodman and Balmer Consultants drilled nine borings in November 2007 to a maximum depth of 12 feet below ground surface. The soil conditions described in the report did not appear to match the previous consultant's explorations and was likely a paragraph copied from another report.

### 5.3 Hydrogeologic Conditions

The geologic unit that we assume characterizes the subject site is relatively impermeable; however, localized layers of more permeable, sand and gravel may occur. Based upon local drainage patterns and upon our review of a U.S. Geological Survey map of the area, it is likely that the flow of surface or shallow-seated subsurface, water across the property would be toward the west-northwest. Neither AGI nor Envitech reported encountering groundwater during drilling they completed at the site. However, Rodman and Balmer reportedly encountered groundwater at approximately 8 to 12 feet below existing ground surface during their explorations completed in November 2007. Four monitoring wells have been installed at the subject property and groundwater has been collected and analyzed four times by L & R Corrosion Services. The depth to groundwater was not reported on any of the reports provided for our review. The extent to which underground utility trenches, filling, and excavating in the area may have affected groundwater flow is not known. Perched groundwater may be present in the backfilled excavations from the tank and soil removal in 1992. According to a U.S. EPA Ground Water Handbook, water tables typically

conform to surface topography (Chapter 4, page 78).

## 6.0 RECORDS REVIEW

Geotech Consultants, Inc. utilized software and a database developed and maintained by MapPro Environmental Data (MapPro) to complete a search of available state and federal government records. MapPro reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527-13. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property. The Search Summary Report, Sites Summary Report and ASTM Radius Maps are included with this report as an attachment. The entire *MapPro Environmental Data Report* is included with this report as Appendix E on the compact disc attached to the back cover.

### 6.1 Subject Property

The subject property appears on the Federal Facility Registry System (FRS) listing of sites, a Federally managed database of sites that have reported to or are tracked by Federal, State, or Tribal governments, the State of Washington lists of registered petroleum storage tanks (PST), leaking petroleum storage tanks, suspected and confirmed sites list (SCL), and no further action sites list (NFA). The subject property does not appear on any other of the databases searched by MapPro. Our summary of the file information and other supplied reports and documents appeared in **Section 4.1**.

### 6.2 Federal Records Sources

#### 6.2.1 NPL and Tribal Lands

The National Priorities List (NPL) is the EPA's registry of the nation's worst uncontrolled or abandoned hazardous waste sites. NPL sites are targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLIS) of 1980. No active NPL sites are within approximately one mile of the subject property. No delisted NPL sites are within approximately one-half mile of the subject property.

#### 6.2.2 CERCLIS/CERC-AR/NFRAP

The CERCLIS database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites are either being investigated or have been investigated for participation in the Superfund cleanup program. CERC-AR sites are sites that have no further interest under the Federal Superfund Program based on available information. The EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. The Archive designation is removed and the site is returned to the CERCLIS inventory if more substantive assessment and/or any cleanup work is necessary under the Federal Superfund program. Those sites that have been investigated and removed from the database have been given a status of "No Further Remedial Action Planned" (NFRAP) at the federal level. The NFRAP list of sites compiled by the EPA contains

sites that to the best of the EPA's knowledge, the Superfund program has completed its assessment of a site and has determined that no further steps will be taken to list that site on the NPL.
A review of the EPA's CERCLIS listing reveals no listed sites within approximately one-half mile of the subject property that have been investigated and designated as potentially hazardous, or eligible for participation in the Superfund cleanup program.

### 6.2.3 RCRA CORRACT

The CORRACTS database contains information concerning RCRA facilities that have conducted, or are currently conducting a corrective action. No sites are within a one-mile radius of the subject property.

### 6.2.4 TSD

RCRA TSD sites are facilities permitted by EPA to treat, store, or dispose of hazardous waste. A review of the RCRA-TSD list shows no listed sites within a one-half-mile radius of the subject property.

### 6.2.5 GEN/NON

Our review of the Facility Index System (FINDS) listing, which includes the RCRA Notifiers list, along with our site and area reconnaissance, reveals that Sunny's/Ernie's Deli is not a RCRA generator site (GEN) or RCRA no longer regulated (NON) site.

One RCRA-GEN site and three RCRA-NON businesses are located within an approximate one-eighth of a mile radius from the subject property. The RCRA-GEN site, the CVS Pharmacy at 10712 Southeast Carr Road is located approximately 560 feet northeast of the subject property in an inferred up-gradient position relative to the subject property. No records of enforcement or violations are reported at this time relating to the RCRA-GEN listing. This site has received a NFA determination from the WDOE on October 17, 2014 for a cleanup of soil.

The closest RCRA-NON site is the Dry USA Cleaners Renton at 10575 Southeast Carr Road, was reportedly located approximately 80 feet northeast of the subject property in the adjoining eastern building currently occupied by the North Benson Clinic. The actual location was on the north end of the Fred Meyer department store building, approximately 200 feet southeast of the subject property in inferred cross-gradient positions relative to the subject property. This site has not reported contamination to the WDOE at the time of this writing. The other two RCRA-NON sites have not reported any releases to the WDOE at this time or are located in inferred cross-gradient positions relative to the subject property.

Based upon the distances and absence of reported contamination, or NFA determination, it is our opinion that the potential for the environmental impairment of the property from these listed sites is low.

### 6.2.6 Institutional Controls / Engineering Controls

Our review of the Brownfield Management System (BMS) database, which includes information about sites with Institutional Controls (IC) and Engineering Controls (EC)

revealed no Federal Brownfield sites within one-half of a mile of the subject property. The BMS is designed to assist the EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield Grant Programs.

### 6.2.7 ERNS

The Emergency Response Notification System (ERNS) is a national database that stores information on the sudden or accidental release of hazardous substances, including petroleum, into the environment. The subject property does not appear in the ERNS database of spill response activities.

## 6.3 State Records Sources

### 6.3.1 WDOE and Tribal Lands Petroleum Storage Tanks

A review of the Washington Department of Ecology (WDOE) listing of petroleum underground storage tanks (PSTs) reveals three operational USTs and seven removed USTs on the subject property. Only six USTs are shown on the site plans and report AGI prepared when the original tanks were removed and the three existing USTs were installed in 1990. A 1992 AGI report states seven tanks were removed but the site plan only shows six tanks. Heating oil tanks are not required to be registered with WDOE and would not necessarily appear on this list. Copies of the WDOE UST related documents are included with this report as Appendix F on the compact disc attached to the back cover.

Two PST sites are located within one-eighth of a mile radius of the subject property. The closest PST site is the former Arco station at 17605 Southeast 108th Avenue, approximately 500 feet east of the subject property. This site has reported a release to soil and groundwater to the WDOE when the tanks were removed in 1988. Discussion of this site appears in the following section.

The other PST site is the Fred Meyer fuel station at 17801 – 108th Avenue Southeast, approximately 550 feet southeast and appears to be located in an inferred cross-gradient position. This site has not reported any releases to the WDOE at the time of this writing. Based upon the distance and/or cross-gradient hydraulic position relative to the subject property it is our opinion that the risk posed to the subject property by this PST site is low.

### 6.3.2 WDOE and Tribal Lands Leaking Underground Storage Tank List

A review of the current Leaking Petroleum Underground Storage Tank (LPST) list reveals that five sites within a half-mile radius of the subject property have reported releases of petroleum into the environment. Excluding the subject property, Ernie's Deli, the closest LPST site is the former Arco station at 17605 Southeast 108th Avenue, approximately 500 feet east of the subject property. We reviewed publically available information on the WDOE web site and according to the information on the WDOE web site; this property has reported soil and groundwater contamination. Groundwater flow maps show that the groundwater flow at this eastern property is toward the west-

southwest, placing this property in an up-gradient position relative to the subject site. Monitoring wells were installed down-gradient from the former service station and after several years of sampling and analysis, it appears that contaminated groundwater has not migrated off this site. The WDOE reviewed the work but at the time of this writing has not issued a determination of no further action (NFA). Based upon the distance from this site and that contaminated groundwater has not migrated off this site it is our opinion that the risk posed to the subject property by this LPST site is low. Based upon the known groundwater contamination beneath the subject property, determination of any contribution by this off-site potential source would be difficult and expensive to prove.

None of the other three LPST sites appear to be located within approximately one-eighth of a mile or appears to be in an inferred up-gradient position relative to the subject property. Considering the distance and the cross- to down-gradient positions, it is our opinion that there is a low potential for environmental impairment of the subject property from the reported release at these LPST sites.

### 6.3.3 WDOE and Tribal Lands Hazardous Site Listings

A review of the WDOE State Confirmed & Suspected Contaminated Sites List (SCL) report shows three sites within an approximate one-mile radius of the subject property that have been designated as confirmed hazardous substance sites. Excluding the subject property, Ernie's Deli, the closest SCL site is the former Arco station at 17605 Southeast 108$^{th}$ Avenue, approximately 500 feet east of the subject property. Based upon the distance from this site and that contaminated groundwater has not migrated off this site it is our opinion that the risk posed to the subject property by this SCL site is low. Based upon the known groundwater contamination beneath the subject property, determination of any contribution by this off-site potential source would be difficult and expensive to prove.

The remaining SCL site appears to be located in an inferred down- to cross-gradient position, more than one-quarter of a mile from the subject property, and has been issued no further action (NFA) determination. Considering the distance and/or NFA determinations, it is our opinion that the potential for environmental impairment of the subject property by water-borne contaminants from these potential sources is low.

### 6.3.4 WDOE Covenants Registry

A review of the WDOE Covenants Registry (COV) list of sites with environmental covenants/institutional controls shows no sites within an approximate one-eighth of a mile radius of the subject property that have environmental covenants in-place. COV restrictions can include limits on groundwater use and requirements for notification of any modification that would release any hazardous substance that may remain on the property. Additional requirements exist regarding property transfers and uses of the subject property.

### 6.3.5 WDOE and Tribal Voluntary Cleanup Program Listing

The Voluntary Cleanup Program maintains a list of individuals cleaning up contaminated sites without WDOE oversight. For a fee, WDOE staff will review a Voluntary Cleanup Program (VCP) report and issue a written decision regarding the adequacy of the

cleanup actions taken. If the actions and results are found satisfactory by the WDOE, a site (or cleanup phase) may receive a No Further Action (NFA) decision. Two sites within approximately one-half of a mile have submitted reports for review. The closest VCP site is the former Arco station at 17605 Southeast 108th Avenue, approximately 500 feet east of the subject property. We reviewed publically available information on the WDOE web site and according to the information on the WDOE web site this property has reported soil and groundwater contamination. Groundwater flow maps show that the groundwater flow at this eastern property is toward the west-southwest, placing this property in an up-gradient position relative to the subject site. Monitoring wells were installed down-gradient from the former service station and after several years of sampling and analysis, it appears that contaminated groundwater has not migrated off this site. The WDOE reviewed the work but at the time of this writing has not issued a determination of no further action (NFA). Based upon the distance from this site and that contaminated groundwater has not migrated off this site it is our opinion that the risk posed to the subject property by this site is low.

One other VCP site has been issued NFA determinations through the VCP review process.

Five sites, including the subject property, have been issued NFA determinations either through the VCP or SCL review. We spoke with Ms. Donna Musa of the WDOE on January 23, 2017 and inquired about the NFA determination issued to the subject property in 2012. Ms. Musa stated that the NFA was issued under the Reportedly Cleaned Up (RCU) program that reviewed available information on file at the WDOE from site owners or operators saying that they cleaned up their site. Generally these sites were cleaned up in the early to mid 1990s when the WDOE did not have a formal process for independent cleanup review such as the Independent Remedial Action Program (IRAP) or Voluntary Cleanup Program (VCP). No WDOE oversight was involved or mandated. The file contents were reviewed by a consultant hired by the WDOE and a recommendation was made that the information in the file supported the attestation that the site was cleaned up. During our review of the file at the WDOE we did not find a copy of the 2007 Phase 2 report that discovered soil and groundwater contamination. The consultant that prepared that report recommended providing a copy of the report to the WDOE to document the discovery of contamination. It does not appear that the WDOE had the benefit of that report when they made their 2012 NFA determination and it is our opinion that once they are made aware of that discovery, the NFA determination will be rescinded.

Excluding the subject property, the closest NFA site is the CVS Pharmacy at 17012 Southeast Carr Road is located approximately 560 feet northeast of the subject property in an inferred up-gradient position relative to the subject property. This site has received a NFA determination from the WDOE on October 17, 2014 for a cleanup of soil. Considering that the other sites that have been issued NFA determinations appear to be located in inferred down- to cross-gradient positions, or are more than one-quarter of a mile radius of the subject property, it is our opinion that the potential for environmental impairment of the subject property by water-borne contaminants from these other potential sources is low.

### 6.3.6 WDOE and Tribal Institutional Controls / Engineering Controls

Our review of the Brownfield Management System (BMS) database, which includes information about sites with Institutional Controls (IC) and Engineering Controls (EC) revealed no State Brownfield sites are located within one-half of a mile of the subject property. The BMS is designed to assist the EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield Grant Programs.

### 6.3.7 Unmapped Sites Listings

Sites that have errors, incomplete addresses, or conflicting information, or which do not fit in the address range may not be located accurately. We reviewed the non-geocoded site list and attempted to identify those sites on the list that were near the subject property. Based upon our review of the non-geocoded sites listing, no non-geocoded sites were identified as being located within specified ASTM-search distances from the subject property.

More information about listed sites can be found in the MapPro *Environmental Data* report attached to this report on the compact disk attached to the back cover of this report.

## 6.4 Local Agency Sources

A review of the Seattle-King County Health Department records pertaining to current and abandoned landfills within the county suggests that no abandoned landfills are located within one-half mile of the subject property. A statewide listing of municipal solid waste facilities shows no landfills within a half mile radius of the subject property.

## 6.5 Assumptions and Opinion of Contaminant Mobility and Site Vulnerability

As reported earlier in this report, contaminated groundwater was identified beneath the subject in 2007 and confirmed in sampling and analysis completed in 2015. The WDOE issued an NFA determination in 2012, but apparently was not provided with the reports documenting soil and groundwater contamination identified in 2007 and later. It does not appear that soil gas sampling has been completed at this time, and drilling and sampling beneath the building will be required to determine if the contaminated groundwater is contributing to degraded indoor air quality.

We completed a Tier 1 Vapor Encroachment Screening (VES) in according with ASTM E2600-15 to determine whether a vapor encroachment condition (VEC) exists by reviewing standard environmental records specified by the standard. As depicted on Plate 6, several sites with suspected contaminated soil or groundwater lie within ASTM specified minimum search radii. Based upon these findings we could not conclusively rule out that a VEC exists. Since a VEC could not be conclusively ruled out during the Tier 1 screening, we completed a Tier 2 VES and it appears that no sites are within the ASTM specified 100 foot critical distance of the subject property. Based upon the Tier 2 VES it is our opinion that a VEC can be ruled out. Further assessment of vapor conditions appears relating to these off-site sources does not appear to be warranted at this time.

## 7.0 RESULTS OF INVESTIGATION

We performed a Phase 1 Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice 1527-13, for the single tax parcel number 322305-9237 and addressed 10545 Southeast Carr Road in Renton, Washington, the property. The scope of services included a Vapor Encroachment Screening in conformance with the scope and limitations of ASTM Practice E2600-15. Any exceptions to, or deletions from, this practice are described in **Sections 2.1** and **2.2** of this report.

### 7.1 Findings

This assessment revealed no controlled recognized environmental condition (CRECs). However we identified one ASTM historical recognized environmental concern (HRECs) and two on-site ASTM recognized environmental conditions (RECs) associated with the subject property.

1. The HREC is the NFA determination issued by the WDOE in 2012. The NFA was apparently issued without benefit of review of information from the 2007 Phase 2 Site Assessment prepared by Envitech. It is our opinion that the 2007 report and subsequent documents regarding the remediation efforts should be provided to the WDOE. It is likely once the reports are provided to the WDOE, the WDOE will rescind the NFA determination.

2. A discrepancy exists between the number (six) of USTs reportedly removed by AGI in 1990 with WDOE documents and information in a 1992 report prepared by AGI (seven). Geophysical assessments would be necessary to attempt to locate any of the original USTs that may remain at the site.

3. Contaminated soil and groundwater were identified in 2007. Between 2007 and 2015 other environmental consultants have been injecting bacteria and surfactants in an effort to remediate groundwater. However in 2015, in addition to the known gasoline and benzene contamination in two monitoring wells, diesel-range hydrocarbons were discovered in all four monitoring wells. The source of the diesel contamination has not been conclusively determined at this time. It is our opinion additional study in the form of borings along with sampling and analysis of groundwater from the existing monitoring wells would be required at this time to document existing soil and groundwater conditions

4. Due to the presence of contaminated groundwater beneath the subject property, no studies have been completed documenting soil gas conditions beneath the site.

While not defined as a REC by ASTM, three potential environmental concerns were identified associated with the subject property.

1. Based upon the reported 1969 date of construction and 1988 renovation of the building on the subject property, asbestos may be present in materials of construction in the structures built prior to 1984. Puget Sound Clean Air Agency (PSCAA), Regulation III, Article 4 Asbestos Control Standards requires the completion of an asbestos survey prior to renovation or issuance of a demolition permit.

2. Again, based on the reported construction 1969 date of the structure, it is possible that lead-based paint (LBP) may be present. If plans for the building include renovation or demolition, we recommend notifying the appropriate contractor of the potential for LBP and following Occupational Safety and Health Administration (OSHA) standards during the activities.

3. If the monitoring wells located on the subject property are no longer needed, they will have to be lawfully abandoned by a licensed well driller in accordance with applicable regulations WAC 173-160. The required paperwork will have to be submitted by the licensed well driller to the WDOE following abandonment. The wells can't simply be removed by excavation during redevelopment unless the well driller is present to observe and document the removal and filling of the bore hole with bentonite or cement.

## 7.2 Conclusions and Recommendations

### 7.2.1 ASTM Historical Recognized Condition NFA

We spoke with Ms. Donna Musa of the WDOE on January 23, 2017 and inquired about the NFA determination issued in 2012. Ms. Musa stated that the NFA was issued to the subject property under the Reportedly Cleaned Up (RCU) program. During our review of the file at the WDOE we did not find a copy of the 2007 Phase 2 report that discovered soil and groundwater contamination nor any of the subsequent documents describing the limited remediation effort, or groundwater sampling and analysis.

We recommend providing all reports and studies that have been prepared since 2007 to the WDOE as specified under the Model Toxics Control Act (WAC 173-340-300 (2)).

*Any owner or operator who has information that a hazardous substance has been released to the environment at the owner or operator's facility and may be a threat to human health or the environment shall report such information to the department within ninety days of discovery. Releases from underground storage tanks shall be reported by the owner or operator of the under-ground storage tank within twenty-four hours of release confirmation, in accordance with WAC 173-340-450.*

It is our opinion once the reports are provided to the WDOE, the WDOE will rescind the 2012 NFA determination.

### 7.2.2 On-site ASTM- Recognized Conditions

**Potential UST**

Our review of reports prepared by AGI and WDOE UST records revealed a discrepancy between the six, original USTs AGI reportedly observed being removed in 1990 and the seven original USTs registered with the WDOE and the number of USTs AGI reported in a 1992 report. Direct interviews with AGI or WDOE personnel are not likely to yield conclusive evidence regarding the number of tanks removed or registered in 1969. Determination as to whether a UST remains beneath the subject property would require use of geophysical equipment such as an electromagnetic detector, magnetometer, and/or ground penetrating radar. If a tank is found, excavation or drilling, along with

sampling, and laboratory analysis of soil would be necessary to determine if the use of a tank had any effect on the subsurface soil near the tank.

**Contaminated Soil and Groundwater**

As described earlier, contaminated soil and groundwater were discovered in 2007 and the most recent sampling of groundwater completed in 2015 discovered diesel-range petroleum hydrocarbons in addition to the previously detected gasoline-range hydrocarbons and benzene. The source of the diesel-range hydrocarbons has not been determined at this time. The most recent consultant working on the site, L & R Corrosion Services has suggested that the diesel is from an off-site source but provided no supporting documentation to support this opinion. Additional study in the form of borings/monitoring wells along with sampling and analysis of soil and/or groundwater will be necessary to determine the origin of the diesel-range hydrocarbons found in the 2015 sampling.

**Potential Vapor Intrusion**

As described earlier, contaminated soil and groundwater were discovered in 2007 and the most recent sampling of groundwater completed in 2015 discovered diesel-range petroleum hydrocarbons in addition to the previously detected gasoline-range hydrocarbons and benzene. The concentrations of gasoline- and diesel-range hydrocarbons may be sufficient to cause a vapor intrusion into the convenience store to exist. Unfortunately, laboratory analysis of groundwater completed to date is not the type of analysis useful in attempting to determine whether the petroleum in the groundwater will contribute to a vapor intrusion condition. Specialized analysis fractionating the petroleum into equivalent carbon fractions is required. Sampling beneath the floor of the building would also be required to determine if a vapor intrusion condition exists.

### 7.2.3 ASTM Vapor Encroachment Screening

We completed a Tier 1 Vapor Encroachment Screening (VES) in according with ASTM E2600-15 to determine whether a vapor encroachment condition (VEC) exists by reviewing standard environmental records specified by the standard. As depicted on Plate 6, several sites with suspected contaminated soil or groundwater lie within ASTM specified minimum search radii. Based upon these findings we could not conclusively rule out that a VEC exists. Since a VEC could not be conclusively ruled out during the Tier 1 screening, we completed a Tier 2 VES and it appears that none of the sites are located within the 100 foot critical distance specified by ASTM. Based upon the results of the Tier 2 VES it is our opinion that a VEC can be ruled out. However, further assessment of vapor conditions relating to the subject property does appear to be warranted at this time.

### 7.2.4 Environmental Risk (non-RECs) Concerns

**Asbestos-Containing Materials**

Based upon the reported 1969 construction date of the structure and the 1988 renovation date, asbestos may be present in materials of construction, including but not limited to vinyl flooring and the underlying mastic, suspended ceiling tiles, window putty,

thermal system insulation on the piping system, roofing, etc. In its current and condition, any potential asbestos in the building presents a low threat to human health or the environment. Generally, the potential asbestos is not capable of a release unless disturbed by mechanical means.

All maintenance personnel and employees should be advised of the possible presence of asbestos in the building. If any of these materials are scheduled for removal or disturbance, we recommend taking appropriate precautionary measures at that time. State, federal, and local regulations require the completion of an asbestos survey and the removal and disposal of any asbestos-containing materials by qualified personnel prior to demolition or renovation.
In addition to notifying Washington State Department of Labor and Industries (WAC 296-65-020), the Puget Sound Clean Air Agency (PSCAA), Regulation III, Article 4: Asbestos Control Standards requires the completion of a demolition permit 10 days prior to demolition and an asbestos removal permit 10 days prior to removal procedures.

### Lead-Based Paint

Based on the 1969 construction date of the building on the subject property, it is possible that lead-based paint (LBP) may be present. Adverse human health effects related to LBP generally occur due to (1) the ingestion of paint by small children, or (2) the inhalation of paint particles during removal, renovation, or demolition. A preliminary screening for lead-based paint was completed by Pacific Rim Environmental. The report will be issued under separate cover. If plans for the buildings include renovation or demolition, we recommend notifying the appropriate contractor of the potential for LBP and following Occupational Safety and Health Administration (OSHA) standards during the activities.

### Monitoring Wells

Four monitoring wells were reportedly installed by Rodman and Balmer Consultants; a previous consultant as part of their Phase 2 study in 2007. If these wells are no longer needed, they will have to be lawfully abandoned by a licensed well driller in accordance with applicable regulations WAC 173-160. The required paperwork will have to be submitted by the licensed well driller to the WDOE following abandonment. The wells can't simply be removed by excavation during redevelopment unless the well driller is present to observe and document the removal and filling of the bore hole with bentonite or cement.

## 7.3 Environmental Professional Statement

As required by 40 CFR 312.21(d): We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. A copy of the resume of the engineer that completed the site reconnaissance and prepared the report can be found on the compact disc as Appendix G.

## 7.4 Limitations

This report has been prepared for the exclusive use of Aamir Stations, LLC and its representatives for specific application to this site. This work was performed 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. Our work is in accordance with our Fee Schedule and General Conditions and our proposal, which is dated December 6, 2016.

## 8.0 REFERENCES

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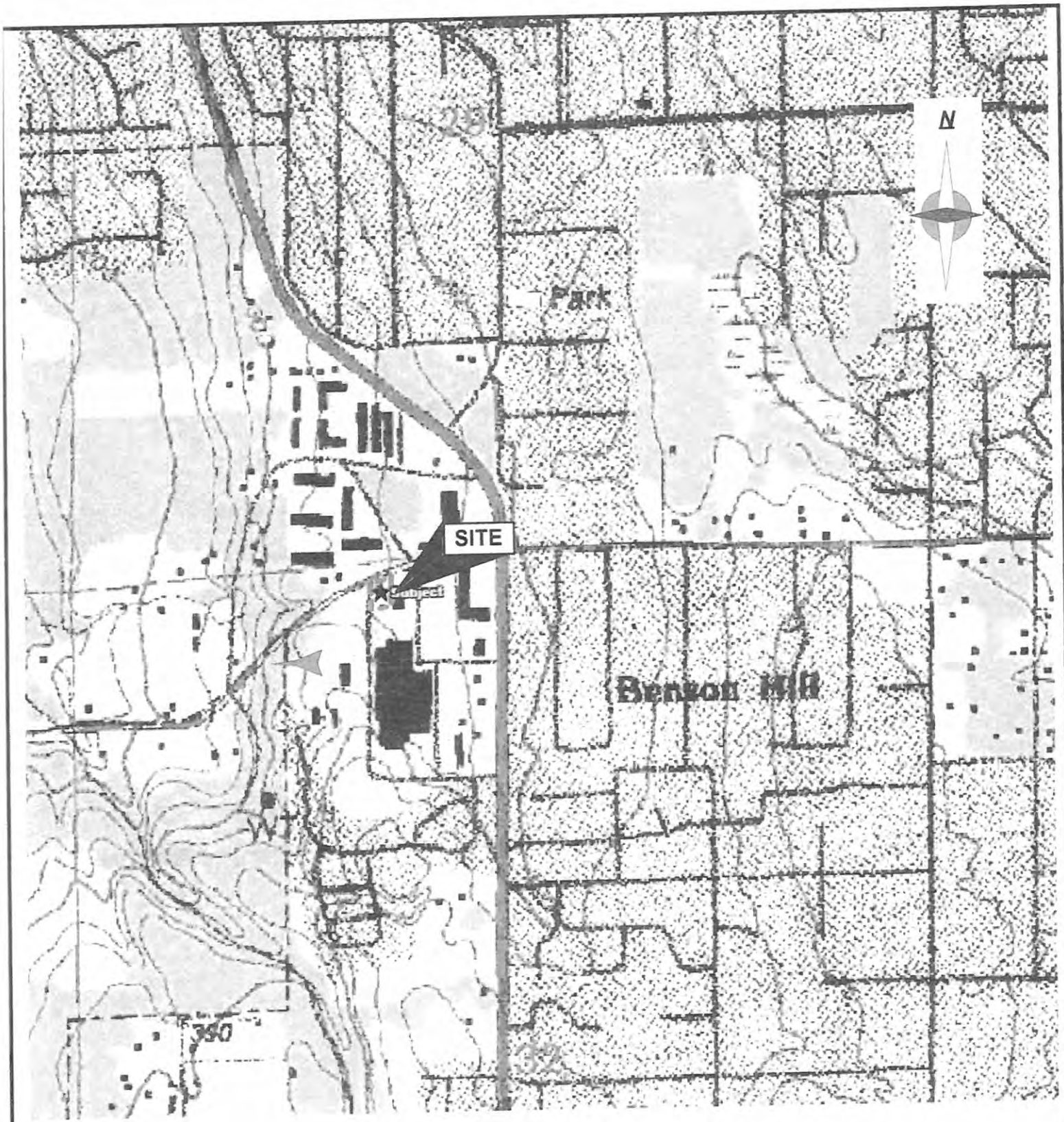
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Rodman, Robert and Balmer, Donald, Environmental Consultants. *Remediation Work Plan for Sunny's Deli Mart & Texaco, 10545 SE Carr Road, Renton, Washington 98055, WDOE Site ID # 6333.* November 2007

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*Inferred Direction of Groundwater Flow*

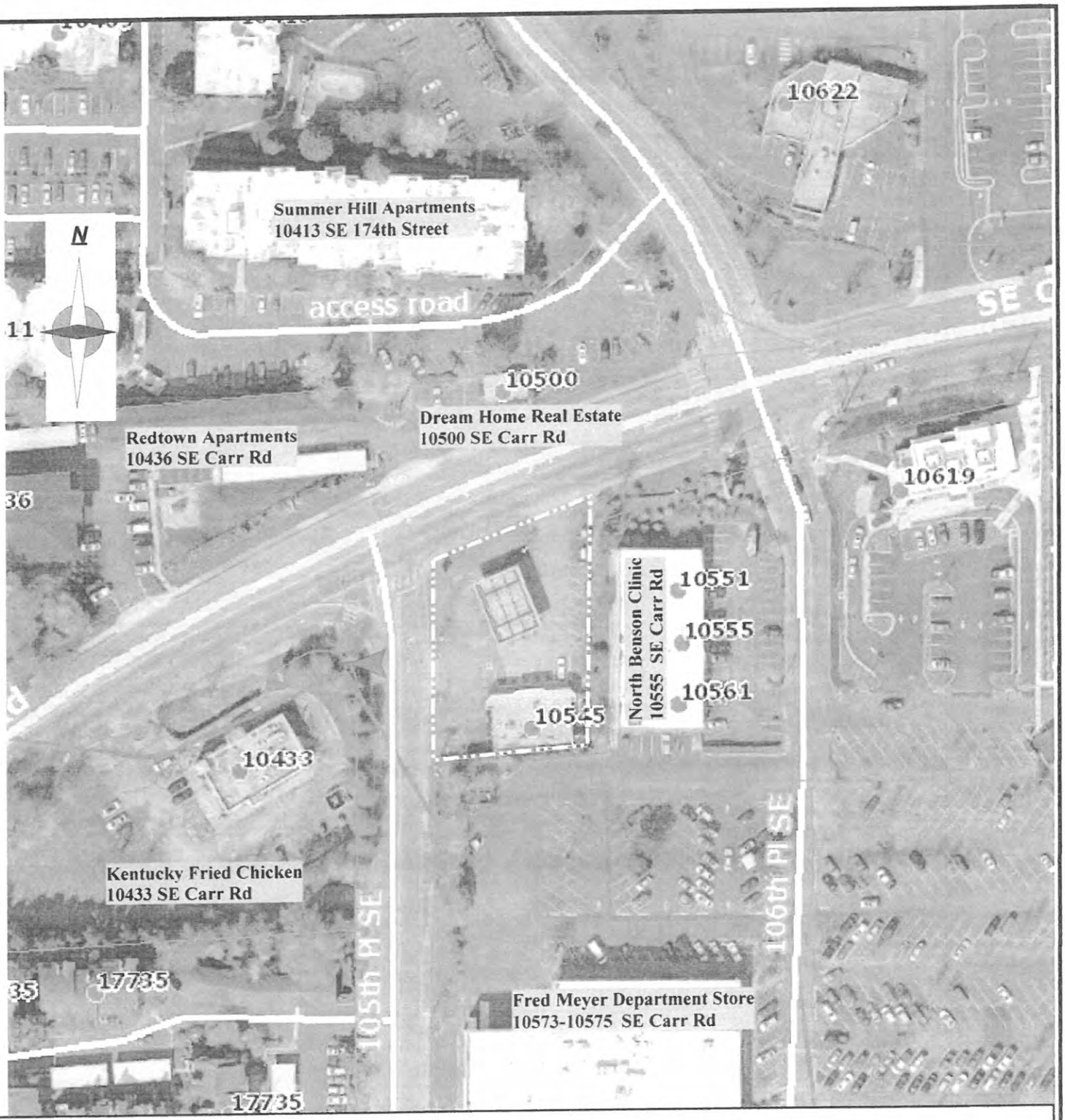
*(Source: U.S. Geologic Survey Digital Map of Renton, Washington Quadrangle)*

GEOTECH
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# VICINITY MAP

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: | Date: | Plate: |
|---|---|---|
| 16568A | February 2017 | 1 |




Approximate Property Boundary

Approximate King County Parcel Line

*Inferred Direction of Groundwater Flow*

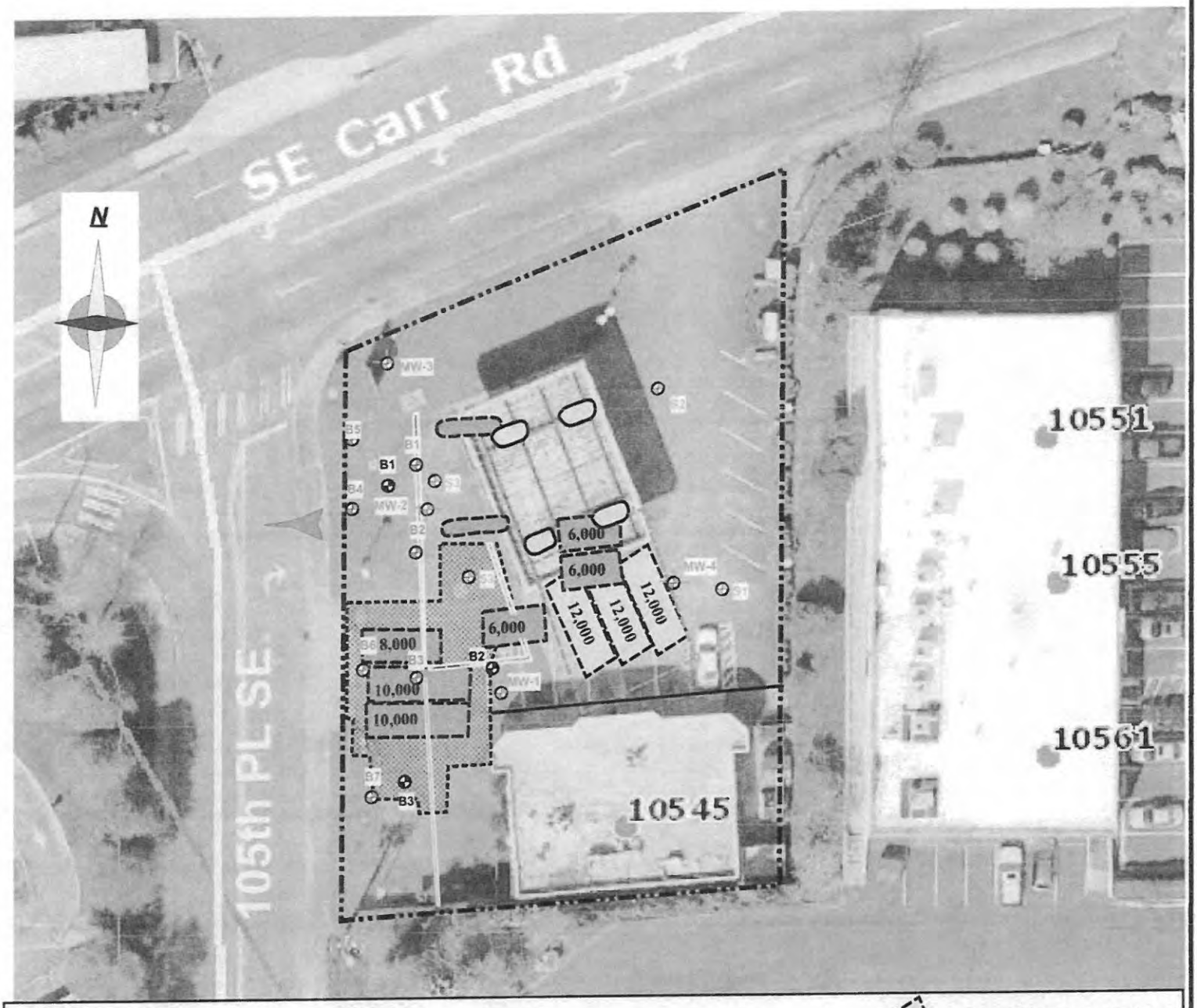
*(Source: U.S. Geologic Survey 2015 Digital Aerial Photograph)*

GEOTECH
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# SITE PLAN

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: | Date: | Plate: |
|---|---|---|
| 16568A | February 2017 | 2 |




**Legend**

- B3 — Approximate Location AGI Boring November 1992
- Approximate Location Envitech Boring October 2007
- B2 — Approximate Location RBEC Boring November 2007
- Approximate Location L&R Corrosion Monitoring Well September 2015
- MW-2
- Approximate Property Boundary
- Approximate King County Parcel Line
- *Inferred Direction of Groundwater Flow*
- 12,000 — Approximate Location Current USTs (capacity) & Dispensers
- 6,000 — Approximate Location Former USTs (capacity) & Dispensers (*May 1990 AGI Report*)
- Approximate Location AGI VES piping, June 1990 (removed)
- Approximate Limits Contaminted Soil Excavation (November *1992 AGI Report*)

*(Source: U.S. Geologic Survey 2015 Digital Aerial Photograph)*

**GEOTECH CONSULTANTS, INC.**

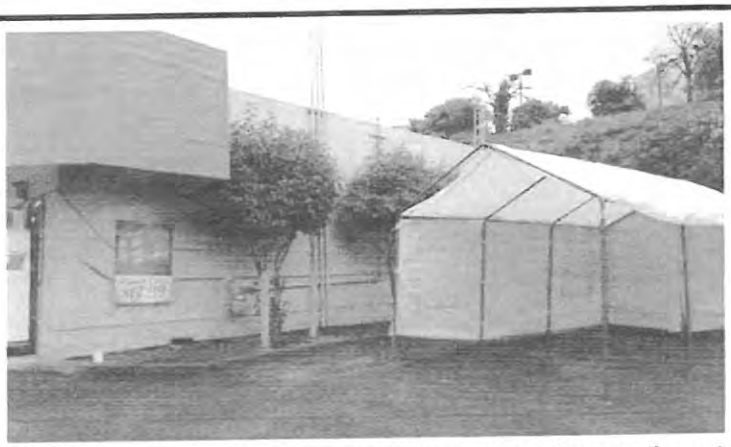
# SITE DETAIL PLAN

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: | Date: | Plate: |
|---|---|---|
| 16568A | February 2017 | 3 |



View of the building on the subject property toward the south. Three USTs are located beneath concrete pad.



View of the west side of the building toward the southeast also showing approximate 10 foot high rockery wall behind the building. Three pipes attached to the building are vent lines for USTs. Canopy is for detail business operated on the site.



View of the canopy and four pump islands located near the north-central portion of the subject property View is toward the west. Three USTs are located beneath concrete pad on the left side of pump islands.



Close-up view of two of the pump islands. View is toward the east showing the approximate 10 foot tall rockery and the adjoining eastern clinic building.



View of the subject property toward the southeast.



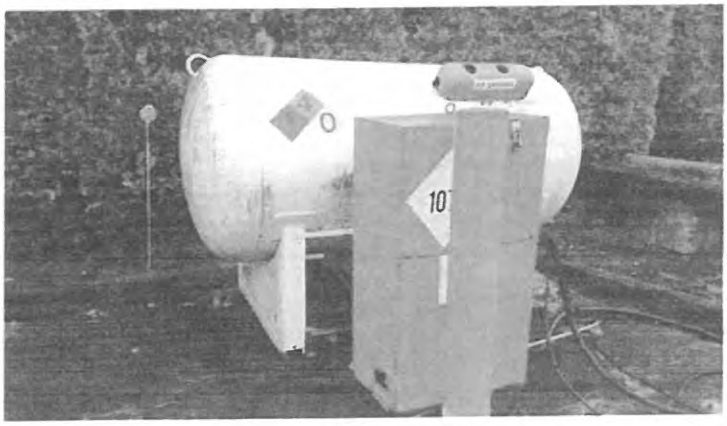
Close-up view of one of four monitoring wells located on the northwestern corner of the subject property.

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# SITE PHOTOGRAPHS

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: 16568A | Date: February 2017 | Plate: 4 |
|---|---|---|



View of the propane tank located near the eastern corner of the subject property.



View of the east side of the building showing small storage buildings and three 55-gallon drums. Drums were mostly empty but not clearly labeled as to contents.



Representative view of the interior area of the building.



Representative view of the storage area inside the building.




View of the tank monitoring equipment in the storage area.



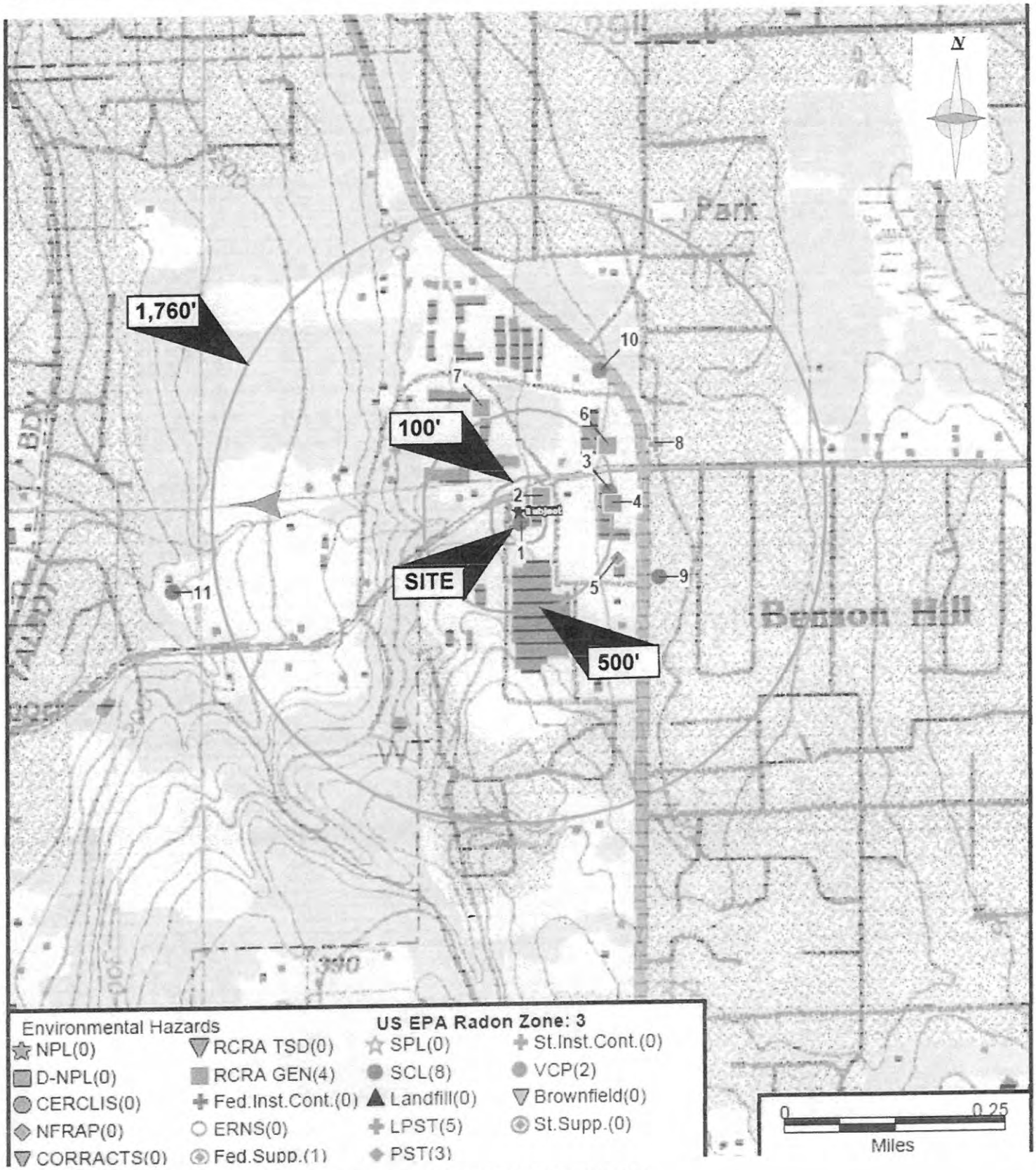

View of the UST license tag affixed to the exterior of the building.

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# SITE PHOTOGRAPHS

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: 16568A | Date: February 2017 | Plate: 5 |
|---|---|---|




Environmental Hazards

| | | | |
|---|---|---|---|
| NPL(0) | RCRA TSD(0) | SPL(0) | St.Inst.Cont.(0) |
| D-NPL(0) | RCRA GEN(4) | SCL(8) | VCP(2) |
| CERCLIS(0) | Fed.Inst.Cont.(0) | Landfill(0) | Brownfield(0) |
| NFRAP(0) | ERNS(0) | LPST(5) | St.Supp.(0) |
| CORRACTS(0) | Fed.Supp.(1) | PST(3) | |

US EPA Radon Zone: 3

PROBABLE DIRECTION OF REGIONAL SHALLOW GROUNDWATER FLOW

GEOTECH
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# ASTM 2600-15 RADIUS MAP

SUNNY'S DELI AND GAS
10545 SOUTHEAST CARR ROAD
RENTON, WASHINGTON

| Job No: | Date: | Plate: |
|---|---|---|
| 16568A | February 2017 | 6 |

## ATTACHMENT A

***MapPro Environmental Data Report***
***ASTM Radius Maps***

# MapPro Environmental Database Report

www.mapproenv.com

## Washington ASTM E1527-13 Polygon Search

Job Number: 1166.1119

Report Date: 12/23/2016

Property Location:

10545 Southeast Carr Road
Renton, WA 98055
King County

Latitude: 47.444575
Longitude: -122.199897

Prepared For:

Geotech Consultants, Inc.
2401 - 10th Avenue East
Seattle, WA 98102

Prepared By:

MapPro Environmental Data, Inc.
P.O. Box 37427
Houston, TX 77237
713-789-0288

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Job Number: 1166.1119

**MapPro Environmental Data** ™

# SUBJECT PROPERTY SUMMARY

**Sunny's Deli Mart - Texaco**
**10545 Southeast Carr Road**
**Renton, WA 98055**
**King County**

Subject property is represented by a polygon w ith an area of approximately 0.001 square miles.
Approximate centroid elevation is 356 ft.
Property Centroid Latitude: 47.4446
Property Centroid Longitude: -122.2
UTM Zone 10
Northing: 5,254,880.02 | Easting: 560,321.73

After performing a search of the government records listed herein, a total of 23 records w ere identifed, representing approximately 11 different sites. One record w as found within the subject property boundaries and is listed as 'on-site.'

**USGS Quadrangle: Renton, 47122-D2**

**The following public lands were found within one mile of the Subject Property Boundary:**

Thomas Teasdale Park (Park)

**Subject Property Boundaries intersect these FEMA Flood Panels and Zones:**

FEMA Flood Panel 53033C0979F Dated 5/16/1995 Zone: X (Outside 500-Year, Not a designated Special Flood Hazard Area)

**King County, WA is located in Radon Zone 3.**

Zone 3 counties are rated by the EPA to have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter).

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Due to the limitations, contraints, inaccuracies and incompleteness of government information and computer mapping data currently available to MapPro Environmental Data, certain conventions have been utilized in preparing the locations of all mapped sites residing in MapPro Environmental Data's databases. No attempt is made to represent the actual areas of the associated property.

Although MapPro Environmental Data uses its best efforts to research the actual location of each site, MapPro Environmental Data does not and cannot w arrant the accuracy of these sites with regard to exact location and size. All authorized users of MapPro Environmental Data's services are signifying an understanding of MapPro Environmental Data's searching and mapping conventions and agree to w aive any and all liability claims associated w ith search and map results show ing incomplete and or inaccurate site locations. YOUR EXCLUSIVE REMEDY AND MAPPRO ENVIRONMENTAL DATA'S ENTIRE LIABILITY, IFANY, FOR ANY CLAIMS, OTHER THAN THOSE WAIVED ABOVE ARISING OUT OF THESE TERMS OF USE AND YOUR USE OF THIS INFORMATION SHALL BE LIMITED TO THE AMOUNT PAID FOR THE DATABASE REPORT GIVING RISE TO THE LIABILITY. IN NO EVENT SHALL MAPPRO ENVIRONMENTAL DATA OR ITS AFFILIATES BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY SPECIAL, PUNITIVE, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THOSE RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT MAPPRO ENVIRONMENTAL DATA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OF THIS DATA.

# DATABASE FINDINGS

**Property Location:** 10545 Southeast Carr Road
Renton, WA 98055, King County

**Site Radius:** Polygon Boundary

## FEDERAL DATABASES

| Database | Date Updated | Search Radius | On-Site | 1/8 | 1/4 | 1/2 | 1.0 | Total |
|---|---|---|---|---|---|---|---|---|
| NPL | 10/2016 | 1.000 | 0 | 0 | 0 | 0 | 0 | 0 |
| D-NPL | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| P-NPL | 10/2016 | 1.000 | 0 | 0 | 0 | 0 | 0 | 0 |
| CERCLIS | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| CERC-AR | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| NFRAP | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| CORRACTS | 10/2016 | 1.000 | 0 | 0 | 0 | 0 | 0 | 0 |
| SEMS-Smelt | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| RCRA TSD | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| RCRA GEN | 10/2016 | 0.125 | 0 | 1 | - | - | - | 1 |
| RCRA NON | 10/2016 | 0.125 | 0 | 3 | - | - | - | 3 |
| ERNS | 09/2016 | 0.000 | 0 | - | - | - | - | 0 |
| FED-BROWNS | 09/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| DEA LABS | 12/2015 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| FRS | 10/2016 | 0.000 | 1 | - | - | - | - | 1 |

## TRIBAL DATABASES

| Database | Date Updated | Search Radius | On-Site | 1/8 | 1/4 | 1/2 | 1.0 | Total |
|---|---|---|---|---|---|---|---|---|
| TRIBAL LPST | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| TRIBAL UST | 10/2016 | 0.125 | 0 | 0 | - | - | - | 0 |

## STATE DATABASES

| Database | Date Updated | Search Radius | On-Site | 1/8 | 1/4 | 1/2 | 1.0 | Total |
|---|---|---|---|---|---|---|---|---|
| WA \| SCL | 10/2016 | 0.500 | 1 | 1 | 0 | 1 | - | 3 |
| WA \| NFA | 10/2016 | 0.500 | 1 | 1 | 2 | 1 | - | 5 |
| WA \| SWLF | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |
| WA \| LPST | 10/2016 | 0.500 | 1 | 1 | 2 | 1 | - | 5 |
| WA \| PST | 10/2016 | 0.125 | 1 | 2 | - | - | - | 3 |
| WA \| COV | 10/2016 | 0.125 | 0 | 0 | - | - | - | 0 |
| WA \| VCP | 10/2016 | 0.500 | 0 | 1 | 1 | 0 | - | 2 |
| WA \| Brownfields | 10/2016 | 0.500 | 0 | 0 | 0 | 0 | - | 0 |

Job Number: 1166.1119

**MapPro Environmental Data** ™

# SITE INVENTORY

| Property And Surrounding Areas (all sites within 1/8 mi) — MapID / Distance / Direction | NPL/D-NPL | CERCLIS | NFRAP/CERC-AR | CORRACTS | RCRA TSD | RCRA GEN/NON | ERNS | Inst. Controls | SPL | SCL | LANDFILL | LPST | PST | VCPs | BROWNFIELD | Fed.&St-Suppl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ERNIES DELI<br>10545 SE CARR RD<br>Renton, WA 98055 — 1 / On-Site | | | | | | | | | | ◆ | | ◆ | ◆ | | | ◆ |
| DRY USA CLEANERS RENTON<br>10575 SE CARR RD<br>Renton, WA 98055 — 2 / 0.015 / NE | | | | | | ◆ | | | | | | | | | | |
| ARCO 4368<br>17605 SE 108TH AVE<br>Renton, WA 98055-6450 — 3 / 0.094 / E | | | | | | | | | | ◆ | | ◆ | ◆ | ◆ | | |
| KITS CAMERAS 1024<br>17621 108TH AVE SE<br>Renton, WA 98055 — 4 / 0.096 / E | | | | | | ◆ | | | | | | | | | | |
| FRED MEYER 031 FM FUEL<br>17801 108TH AVE SE<br>Renton, WA 98055 — 5 / 0.107 / SE | | | | | | | | | | | | | ◆ | | | |
| CVS PHARMACY 10285<br>10712 SE CARR RD<br>Renton, WA 98055 — 6 / 0.107 / NE | | | | | | ◆ | | | | ◆ | | | | | | |
| MRCO ENVIRONMENTAL<br>10415 SE 174TH ST 5132<br>Renton, WA 98055 — 7 / 0.113 / N | | | | | | ◆ | | | | | | | | | | |

| Surrounding Sites (between 1/8 mi and 1/4 mi) — MapID / Distance / Direction | NPL/D-NPL | CERCLIS | NFRAP/CERC-AR | CORRACTS | RCRA TSD | RCRA GEN/NON | ERNS | Inst. Controls | SPL | SCL | LANDFILL | LPST | PST | VCPs | BROWNFIELD | Fed.&St-Suppl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEXACO FAIRWOOD<br>17426 108TH ST SE<br>Renton, WA 98055-5403 — 8 / 0.155 / NE | | | | | | | | | | | | ◆ | | | | |
| JIFFY LUBE STORE 2599<br>17642 108TH AVE SE<br>Renton, WA 98056 — 9 / 0.161 / SE | | | | | | | | | | ◆ | | ◆ | | | | |
| Dryclean Dr<br>10736 BENSON HWY<br>Renton, WA 98055 — 10 / 0.162 / NE | | | | | | | | | | ◆ | | | | ◆ | | |

| Surrounding Sites (between 1/4 mi and 1/2 mi) — MapID / Distance / Direction | NPL/D-NPL | CERCLIS | NFRAP/CERC-AR | CORRACTS | RCRA TSD | RCRA GEN/NON | ERNS | Inst. Controls | SPL | SCL | LANDFILL | LPST | PST | VCPs | BROWNFIELD | Fed.&St-Suppl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW SCOTT CONSTRUCTION<br>9840 CARR RD<br>Renton, WA 98055 — 11 / 0.383 / W | | | | | | | | | | ◆ | | ◆ | | | | |

◆ Data Type Mapped at this Site ID

Summary Continued on Next Page

Property Location: 10545 Southeast Carr Road
Renton, WA 98055

Job Number: 1166.1119

**MapPro Environmental Data** ™

# SITE INVENTORY

| Surrounding Sites (between 1/2 mi and 1 mi) MapID Distance Direction | NPL/D-NPL | CERCLIS | NFRAP/CERC-AR | CORRACTS | RCRA TSD | RCRA GEN/NON | ERNS | Inst. Controls | SPL | SCL | LANDFILL | LPST | PST | VCPs | BROWNFIELD | Fed.&St-Suppl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Sites in this Radius | | | | | | | | | | | | | | | | |
| ◆ Data Type Mapped at this Site ID | | | | | | | | | | | | | | | | |

Property Location: 10545 Southeast Carr Road
Renton, WA 98055

Job Number: 1166.1119

**MapPro Environmental Data** ™

## SITE SUMMARY

| MapID | Type | Fac.ID | Facility Name | Address | Distance(mi) |
|---|---|---|---|---|---|
| 1 | NFA | 55231872 | ERNIES DELI | 10545 Se Carr Rd, Renton, WA 98055 | On-Site |
| 1 | LPST | 55231872 | ERNIES DELI | 10545 Se Carr Rd, Renton, WA 98055 | On-Site |
| 1 | SCL | 55231872 | ERNIES DELI | 10545 Se Carr Rd, Renton, WA 98055 | On-Site |
| 1 | PST | 55231872 | SUNNYS DELI MART | 10545 Se Carr Rd, Renton, WA 98055 | On-Site |
| 1 | FRS | 110015454480 | SUNNYS DELI MART & GAS | 10545 Se Carr Rd, Renton, WA 98055 | On-Site |
| 2 | RCRA NON | WAD981772171 | DRY USA CLEANERS RENTON | 10575 Se Carr Rd, Renton, WA 98055 | 0.015 NE |
| 3 | LPST | 6368772 | ARCO 4368 | 17605 Se 108th Ave, Renton, WA 98055-6450 | 0.094 E |
| 3 | SCL | 6368772 | ARCO 4368 | 17605 Se 108th Ave, Renton, WA 98055-6450 | 0.094 E |
| 3 | VCP | 6368772 | CRAIG INVESTMENTS INC | 17605 Se 108th Ave, Renton, WA 98055-6450 | 0.094 E |
| 3 | PST | 6368772 | CRAIG INVESTMENTS INC | 17605 Se 108th Ave, Renton, WA 98055 | 0.094 E |
| 4 | RCRA NON | WAR000003590 | KITS CAMERAS 1024 | 17621 108th Ave Se, Renton, WA 98055 | 0.096 E |
| 5 | PST | 97273278 | FRED MEYER 031 FM FUEL | 17801 108th Ave Se, Renton, WA 98055 | 0.107 SE |
| 6 | NFA | 15470 | CVS Pharmacy | 10706 Se Carr Rd, Renton, WA 98055 | 0.107 NE |
| 6 | RCRA GEN | WAH000047529 | CVS PHARMACY 10285 | 10712 Se Carr Rd, Renton, WA 98055 | 0.107 NE |
| 7 | RCRA NON | WA0000313056 | MRCO ENVIRONMENTAL | 10415 Se 174th St 5132, Renton, WA 98055 | 0.113 N |
| 8 | LPST | 3376675 | TEXACO FAIRWOOD | 17426 108th St Se, Renton, WA 98055-5403 | 0.155 NE |
| 9 | NFA | 25789174 | JIFFY LUBE STORE 2599 | 17642 108th Ave Se, Renton, WA 98056 | 0.161 SE |
| 9 | LPST | 25789174 | PENNZOIL 10 MINUTE OIL CHAN | 17642 108th Se, Renton, WA 98055 | 0.161 SE |
| 10 | VCP | 55283323 | Dryclean Dr | 10736 Benson Hw y, Renton, WA 98055 | 0.162 NE |
| 10 | NFA | 55283323 | Dryclean Dr | 10736 Benson Hw y, Renton, WA 98055 | 0.162 NE |
| 11 | NFA | 2482 | RW SCOTT CONSTRUCTION | 9840 Carr Rd, Renton, WA 98055 | 0.383 W |
| 11 | LPST | 2482 | RW SCOTT CONSTRUCTION | 9840 Carr Rd, Renton, WA 98055 | 0.383 W |
| 11 | SCL | 2482 | RW SCOTT CONSTRUCTION | 9840 Carr Rd, Renton, WA 98055 | 0.383 W |

Property Location: 10545 Southeast Carr Road
Renton, WA 98055

# LEAKING PETROLEUM STORAGE/MULTIPLE CLEANUP SITE FINDINGS

| | | |
|---|---|---|
| **HAZARD SITE:** ERNIES DELI | | **MAP ID:** |
| **ADDRESS :** 10545 Se Carr Rd | | |
| Renton, WA 98055 | | 1 |
| **GOVT ID:** 55231872 | **APPROX. ELEVATION:359 FT (APPROX 3 FT ABOVE SUBJECT CENTROID)** | |
| **DATA UPDATED:** 10/2016 | **DIST/DIR: ONSITE** | |

**The site with a facility ID 55231872 was identified within the following databases:**

**REGISTERED UNDERGROUND STORAGE TANK (Operational)**
**LEAKING PETROLEUM STORAGE TANK (Cleanup Started)**
**STATE CLEANUP LIST/NO FURTHER ACTION**
**STATE CLEANUP LIST (Cleanup Started)**

**PST DETAILS:**

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 1 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 10 |
| **Tank Status:** | Operational | **Install Date:** | 00/18/1990 |
| **Capacity Range:** | 10,000 to 19,999 Gallons | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 2 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 3 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 4 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 5 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 6 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 7 |
| **Tank Status:** | Removed | **Install Date:** | 00/31/1964 |
| **Capacity Range:** | Data Not Available | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 8 |
| **Tank Status:** | Operational | **Install Date:** | 00/18/1990 |
| **Capacity Range:** | 10,000 to 19,999 Gallons | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

-PST INFORMATION CONTINUED ON NEXT PAGE-

# LEAKING PETROLEUM STORAGE/MULTIPLE CLEANUP SITE FINDINGS

| | | |
|---|---|---|
| **HAZARD SITE:** | ERNIES DELI | **MAP ID:** 1 |
| **ADDRESS :** | 10545 Se Carr Rd<br>Renton, WA 98055 | |
| **GOVT ID:** | 55231872 | **APPROX. ELEVATION:359 FT (APPROX 3 FT ABOVE SUBJECT CENTROID)** |
| **DATA UPDATED:** | 10/2016 | **DIST/DIR: ONSITE** |

**PST DETAILS:**

| | | | |
|---|---|---|---|
| **UST ID:** | 6333 | **Tank ID:** | 9 |
| **Tank Status:** | Operational | **Install Date:** | 00/18/1990 |
| **Capacity Range:** | 10,000 to 19,999 Gallons | **Compartment ID:** | 6333 |
| **Substance Stored:** | Unleaded Gasoline | | |

**LPST DETAILS:**

| | | | |
|---|---|---|---|
| **Cleanup Unit:** | ERNIE'S DELI | | |
| **Status Date:** | 4/18/1990 | **Release Status:** | Cleanup Started |
| **Process Type:** | Independent Action | | |

| | | | |
|---|---|---|---|
| **Cleanup Unit:** | ERNIE'S DELI | | |
| **Status Date:** | 7/1/2011 | **Release Status:** | Cleanup Started |
| **Process Type:** | Independent Action | | |

| | | | |
|---|---|---|---|
| **Cleanup Unit:** | ERNIE'S DELI | | |
| **Status Date:** | 5/21/1995 | **Release Status:** | RCU |
| **Process Type:** | Independent Action | | |

**CLEANUP DETAILS:**

| | | | |
|---|---|---|---|
| **Responsible Unit:** | Northw est | **Region:** | Northw est |
| **Site Status:** | Cleanup Started | | |
| **Brownfield:** | Data Not Available | **PSI Site:** | Data Not Available |

**Affected Media & Contaminants:**

| Contaminant | Ground Water | Surface Water | Soil | Sediment | Air | Bedrock |
|---|---|---|---|---|---|---|
| Benzene | | | C | | | |
| Petroleum-Gasoline | | | C | | | |
| Petroleum-Other | | | C | | | |

**Legend:**

| | |
|---|---|
| B - Below Cleanup Level | R-Remediated |
| C-Confirmed Above Cleanup Level | RA-Remediated-Above |
| S-Suspected | RB-Remediated-Below |

**NFA DETAILS:**

| | | | |
|---|---|---|---|
| **No Further Action Date:** | 10/3/2011 | **Cleanup ID:** | 9680 |
| **Rank:** | Data Not Available | **VCP:** | Data Not Available |

Property Location: 10545 Southeast Carr Road
Renton, WA 98055

Job Number: 1166.1119

# HAZARDS MAP

Project #: JN16568A
Site Name: Sunny's Deli Mart - Texaco
Property Location: 10545 Southeast Carr Road, Renton, WA 98055, King County


Subject
1
2
3
4
5
6
7
8
9
10
11
515
SW Grady Way
SW 16th St
SW 19th St
SW 23rd St
SW 27th St
SW 29th St
SW 34th St
SW 41st St
SW 43rd St
S 14th St
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S 19th St
S 21st St
S 23rd St
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S 27th St
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SE 197th Pl
SE 198th Pl
SE 200th St
SE 201st Pl
SE 203rd St
SE 203rd Pl
SE 204th Pl
SE 206th Pl
Benson Dr S
Puget Dr S
Grant Ave S
Rolling Hills Ave SE
Royal Hills Dr SE
Lake Youngs Way SE
Index Ave SE
Monroe Ave SE
Olympia Ave SE
Ferndale Ave SE
Oakesdale Ave SW
Rainier Ave S
WA-167 S
WA-167 N
Talbot Rd S
Talbot Creek Dr
Maple Ct S
Jones Ave S
Benson Rd S
Cedar Ave S
Whitworth Ave S
Shattuck Ave S
E Rainier Ave S
Lind Ave SW
Raymond Ave S
Sunset Ave S
Carr Rd
Mill Ave S
Morris Ave S
Mill Creek Park
Mill Creek Way SE
E Valley Hwy S
84th Ave S
78th Ave S
80th Ct S
90th Ave S
96th Ave S
98th Ave S
81st Ave S
87th Ave S
102nd Ave SE
104th Pl SE
105th Pl SE
107th Ave SE
108th Ave SE
110th Ave SE
112th Ave SE
114th Ave SE
116th Ave SE
118th Ave SE
120th Pl SE
121st Pl SE
122nd Pl SE
123rd Ave SE
124th Ave SE
125th Pl SE
126th Ave SE
126th Pl SE
127th Pl SE
127th Ln SE
128th Pl SE
130th Ave SE
131st Pl
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SE 125th Pl SE
SE 126th Pl SE
SE 127th Pl SE
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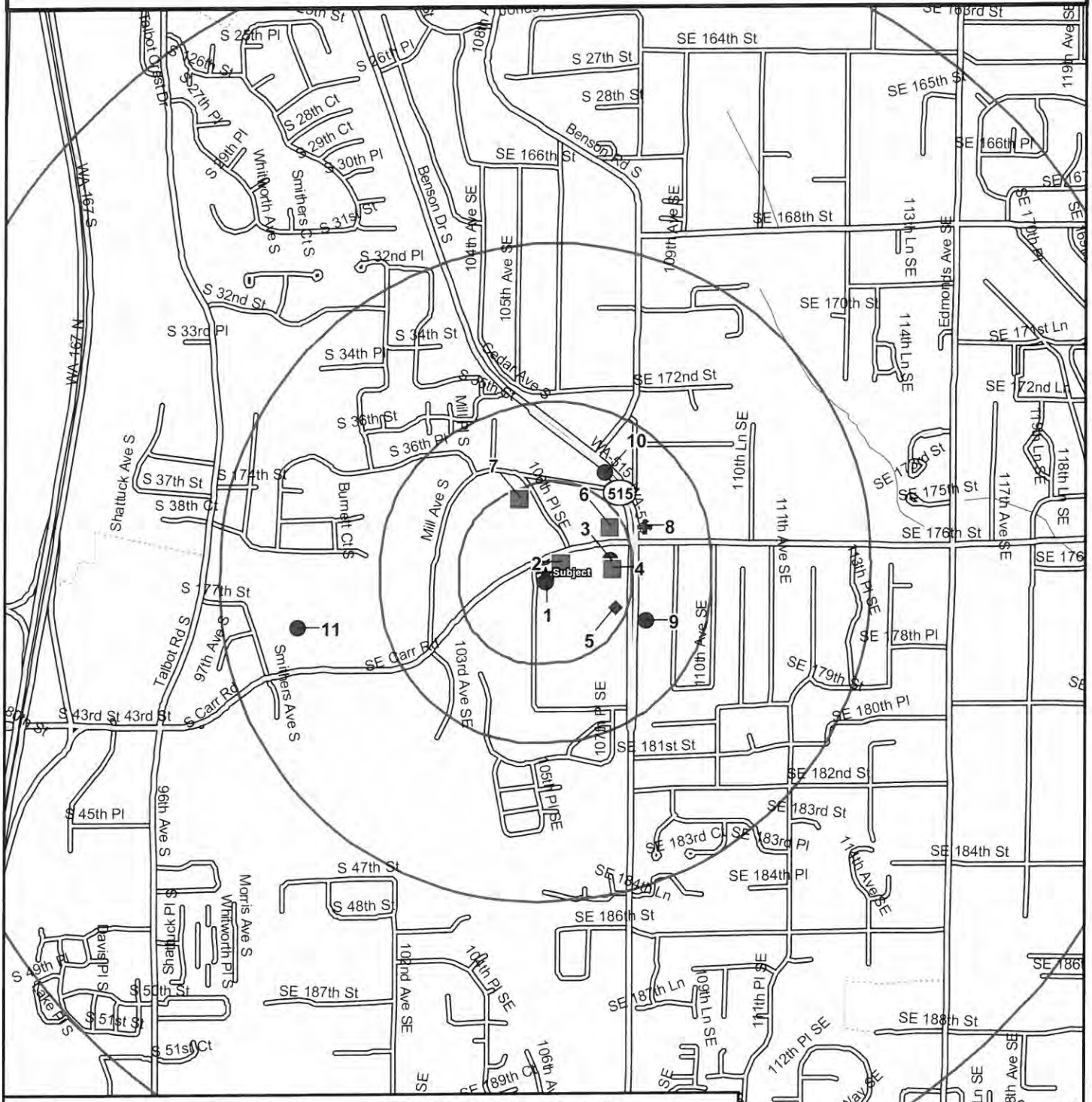
Job Number: 1166.1119

# HAZARDS MAP

Project #: JN16568A

Site Name: Sunny's Deli Mart - Texaco

Property Location: 10545 Southeast Carr Road, Renton, WA 98055, King County




Environmental Hazards

**US EPA Radon Zone: 3**

| | | | |
|---|---|---|---|
| NPL(0) | RCRA TSD(0) | SPL(0) | St.Inst.Cont.(0) |
| D-NPL(0) | RCRA GEN(4) | SCL(8) | VCP(2) |
| CERCLIS(0) | Fed.Inst.Cont.(0) | Landfill(0) | Brownfield(0) |
| NFRAP(0) | ERNS(0) | LPST(5) | St.Supp.(0) |
| CORRACTS(0) | Fed.Supp.(1) | PST(3) | |

0 0.375 Miles

**CAUTION:** The location of hazards shown on this map are approximate only. Other hazards may exist that are not shown on this map. Property in the general vicinity of hazards should be evaluated by a environmental engineer or other appropriate specialist prior to purchase or investment.

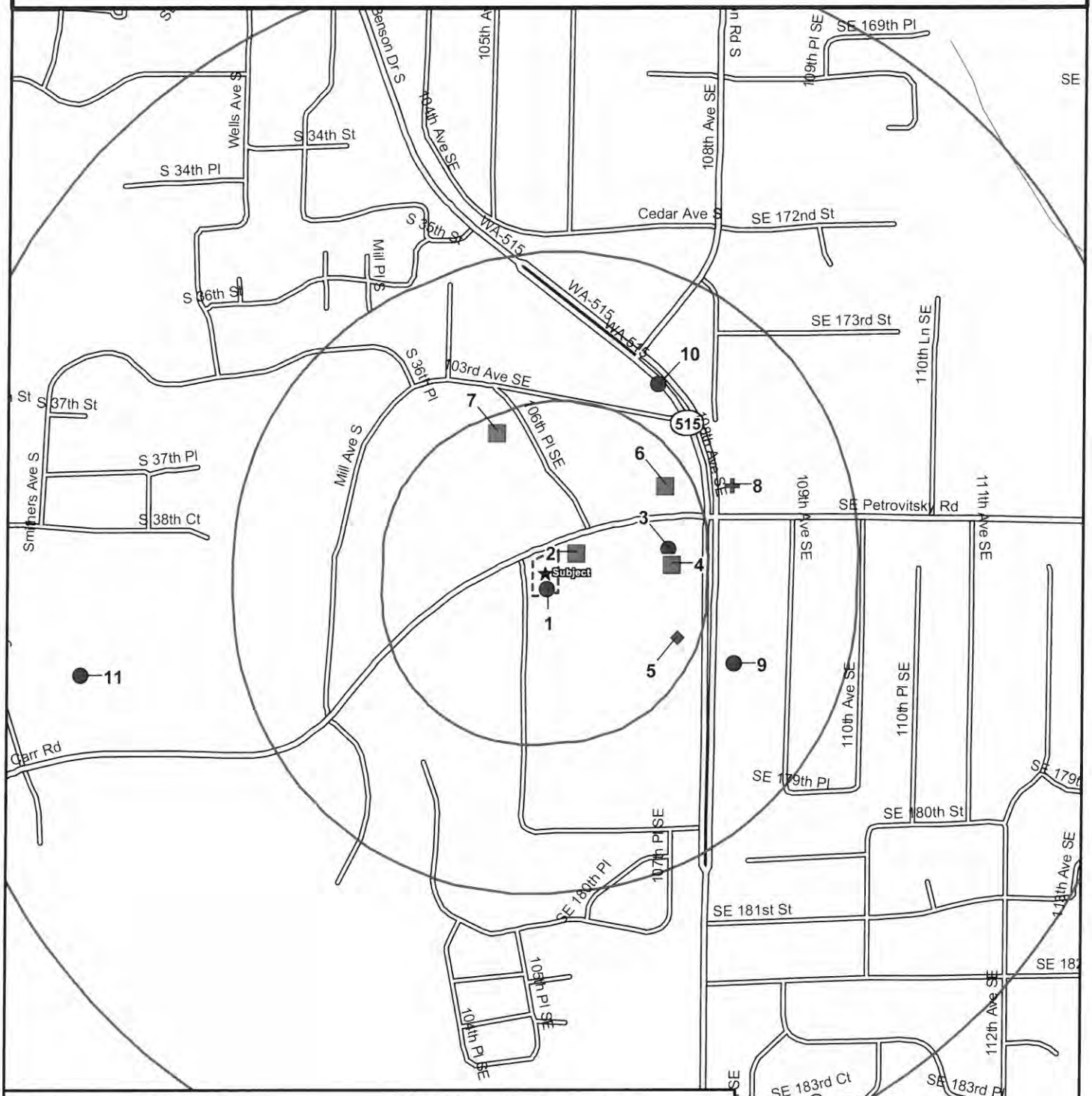
Job Number: 1166.1119

# HAZARDS MAP

Project #: JN16568A

Site Name: Sunny's Deli Mart - Texaco

Property Location: 10545 Southeast Carr Road, Renton, WA 98055, King County




Environmental Hazards

| | | | |
|---|---|---|---|
| NPL(0) | RCRA TSD(0) | SPL(0) | St.Inst.Cont.(0) |
| D-NPL(0) | RCRA GEN(4) | SCL(8) | VCP(2) |
| CERCLIS(0) | Fed.Inst.Cont.(0) | Landfill(0) | Brownfield(0) |
| NFRAP(0) | ERNS(0) | LPST(5) | St.Supp.(0) |
| CORRACTS(0) | Fed.Supp.(1) | PST(3) | |

**US EPA Radon Zone: 3**

0 0.125 Miles

**CAUTION:** The location of hazards shown on this map are approximate only. Other hazards may exist that are not shown on this map. Property in the general vicinity of hazards should be evaluated by a environmental engineer or other appropriate specialist prior to purchase or investment.

## Ungeocodeable Entries

The sites contained below were unable to be accurately geocoded due to map and/or database limitations. These sites are listed because based on the data available they could potentially be relevant to this site search. However, due to inaccuracies in the databases, no guarantee can be made that these sites are relevant, nor can it be guaranteed that the listed sites are the only relevant sites that could not be accurately mapped.

| Data Type / Facility ID | Facility Name | Facility Address |
|---|---|---|
| RCRA NON / WAD980981633 | OPERATIONS NORTHWEST | Se 107th & 169th Ave Se, Renton, WA 98056 |

## FEDERAL DATABASE DEFINITIONS

**FEDERAL DATABASES SEARCHED:**

**NPL (National Priorities List) and P-NPL(Proposed Sites to the National Priorities List)**
List compiled by the EPA pursuant to CERCLA 42 USC Subsection 9605(a) (8) (B) of properties with the highest priority for cleanup pursuant to EPA's hazard ranking system. See 40 CFR Part 300.
Source: United States Environmental Protection Agency

**D-NPL (Delisted Sites from the National Priorities List)**
Sites that have been deleted from the National Priorities List.
Source: United States Environmental Protection Agency

**CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)**
The list of sites compiled by EPA and that EPA has investigated or is currently investigating for potential hazardous substance contamination for possible inclusion on the National Priorities List.
Source: United States Environmental Protection Agency

**CERC-AR (Sites in the Archived CERCLIS Database)**
The Archive designation indicates the site has no further interest under the Federal Superfund Program based on available information. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. The Archive designation is removed and the site is returned to the CERCLIS inventory if more substantive assessment and/or any cleanup work is necessary under the Federal Superfund program.
Source: United States Environmental Protection Agency

**NFRAP (No Further Remedial Action Planned)**
The list of sites compiled by the EPA that to the best of the EPA's knowledge, Superfund has completed its assessment of a site and has determined that no further steps will be taken to list that site on the NPL.
Source: United States Environmental Protection Agency

**SEMS Potential Smelters (SEMS-SMELT)**
This report includes sites that have smelting-related, or potentially smelting-related, indicators in the SEMS database. The report includes information on the site location as well as contaminants of concern. Sites are mapped under the CERCLIS site identifier.
Source: United States Environmental Protection Agency

**CORRACTS (RCRA Corrective Action Sites)**
List of hazardous waste treatment storage or disposal facilities and other RCRIS facilities (due to past interim status or storage of hazardous waste beyond 90 days) who have been notified by the US Environmental Protection Agency to undertake corrective action under RCRA.
Source: United States Environmental Protection Agency

**RCRA TSD**
List maintained by the EPA of those facilities on which treatment, storage, and/or disposal of hazardous wastes takes place, as defined and regulated by RCRA.
Source: United States Environmental Protection Agency

**RCRA GEN/RCRA NON (RCRA Generators/RCRA Non-Generators)**
List maintained by EPA of those persons or entities that report under the RCRA program.
Source: United States Environmental Protection Agency

**ERNS (Emergency Response Notification System)**
EPA's Emergency Response Notification System list of reported CERCLA hazardous substance releases or spills in quantities greater than the reportable quantity, as maintained at the National Response Center. Notification requirements for such releases or spills are codified in 40 CFR Parts 302 and 355.
Source: National Response Center

**FED-BROWNS (Federal Brownfields Sites)**
Brownfield sites receiving federal grants.
Source: United States Environmental Protection Agency

**Federal Institutional Controls/Engineering Controls**
Institutional controls information may be provided in other federal databases that are searched, particularly in the Federal Brownfields and Superfund databases.

**DEA-LABS (US Drug Enforcement Administration (DEA) National Clandestine Laboratory Register)**
The U.S. Department of Justice provides listing of addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Sites are mapped as State Supplemental database sites.
Source: US Department of Justice, Drug Enforcment Agency

**FRS (Facility Registry System)**
The FRS is a centrally managed database developed by EPA's Office of Information Collection in the Office of Environmental Information (OEI). The FRS has over 2.5 million unique facility records linking over 3.5 million program interests, including data from over 30 national environmental data systems and over 45 state systems.
Source: United States Environmental Protection Agency

**USDA/NRCS Soil Maps**
Soil Maps are a product provided by the Natural Resources Conservation Service (NRCS) dvision of the US Department of Agriculture and are formatted as Soil Survey database (SSURGO) files. A legend page is provided that provides the map symbol and a limited amount of descriptive information for each soil type. For more information, contact the NRCS at http://soils.usda.gov/.

**Radon Zone Information**
Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 (IRAA) directed EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. EPA's Map of Radon Zones assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential.
Zone 1: Highest Potential - counties have a predicted average indoor radon screening level greater than 4 pCi/L (picocuries per liter)
Zone 2: Moderate Potential - counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (picocuries per liter)
Zone 3: Low Potential - counties have a predicted average indoor radon screening level less than 2 pCi/L (picocuries per liter)
Source: United States Environmental Protection Agency

STATE DATABASE DEFINITIONS

EPA REGION 10 DATABASES:

**Tribal Underground Storage Tanks (Tribal USTs) and Leaking Storage Tanks (Tribal LPSTs)**
Sites compiled by EPA Region 10 with underground storage tanks and leaking underground storage tanks on tribal lands.
Source: EPA Region 10

STATE ASTM STANDARD DATABASES SEARCHED:

**State Confirmed and Suspected Cleanup Sites (SCL)**
A site is being cleaned up under state regulations. Regulations include Model Toxics Control Act or its predecessors.
Information available varies by state.
Source: Washington Department of Ecology

**State Confirmed and Suspected Cleanup Sites/No Further Action Required (SCL/NFA)**
A site is being cleaned up under state regulations. Regulations include Model Toxics Control Act or its predecessors.
Site has No Further Action Required.
Information available varies by state.
Source: Washington Department of Ecology

**Solid Waste Landfills (SWLF)**
Includes state landfill and/or solid waste disposal sites in a database maintained by state agencies. Information available varies by state.
Source: Washington Department of Ecology

**Brownfields Site Assessments (BF)**
State maintained list of completed and ongoing Brownfield Site Assessments. Available information varies by state.
Source: Washington Department of Ecology

**Environmental Covenants Registry (COV)**
State maintained list of sites with environmental covenants/institutional controls under the Uniform Environmental Convenants Act (UECA).
Source: Washington Department of Ecology

**Voluntary Cleanup Program Sites (VCP)**
State maintained list of sites undergoing independent cleanup and submitted for review.
Institutional controls are included for some sites. Available information varies by state.
Source: Washington Department of Ecology

**Leaking Petroleum Storage Tanks (LPSTs)**
State lists of leaking aboveground and underground storage tank sites. Section 9003(h) of Subtitle I of RCRA gives EPA and states, under cooperative agreements with EPA, authority to clean up releases from UST systems or require owners and operators to do so.
Available information varies by state.
Source: Washington Department of Ecology

**Underground Storage Tanks (USTs)**
State lists of underground storage tanks required to be registered under Subtitle I, Section 9002 of RCRA. Available information varies by state.
Source: Washington Department of Ecology