

January 31, 2003

ConocoPhillips Marketing Company  
3977 Leary Way Northwest  
Seattle, Washington 98107

Attention: Tim Johnson

ConocoPhillips 76 Service Station 5353  
Westlake & Mercer Streets  
Seattle, Washington  
File No. 4823-517-04

RECEIVED  
FEB 04 2003  
ENVIRONMENTAL DEPARTMENT  
NORTHWEST REGION

## 1.0 INTRODUCTION AND BACKGROUND

This report presents the results of our soil sampling and testing during the removal of four underground hydraulic hoists at the ConocoPhillips property (herein referred to as the "site") located at 600 Westlake Avenue North in Seattle, Washington. The general layout of the site, excavation locations and soil sample locations are shown in Figure 1.

The site consists of a 76 gasoline service station, including underground storage tank (UST) facilities, pump islands, convenience store and kiosk, and an adjacent vacant parcel with a restaurant building (formerly Denny's). The service station site and adjacent parcel to the east were previously owned and operated by Unocal and was purchased by Tosco in the late 1990s. Tosco was acquired by Phillips 66 and subsequently merged with Conoco to form ConocoPhillips in 2002.

Remedial activities have been ongoing at the Westlake and Mercer site since 1980 when an 80,000 gallon gasoline release was discovered in the vicinity of a damaged fuel dispenser line. Past remedial activities at the site by Unocal and Tosco include removal of over 40,000 gallons of free product, removal of various USTs and facilities, installation and operation of a vapor extraction/treatment system and long term ground water monitoring.

## 2.0 PURPOSE

Hoist removal activities were completed in conjunction with service station building remodeling. We understand that the service station business owner intends to convert the former auto service portion of the building into a convenience store and other retail business. The hoist removal excavation activities were completed by the remodeling contractor (AAR Inc.), under

contract to the business owner. ConocoPhillips requested that GeoEngineers field screen and sample soils from the excavations associated with the removal of the four hydraulic hoists and from the associated soil stockpiles. The four hydraulic hoists were removed from the Lube Room at the existing 76 gasoline station at the site (see Figure 1). Approximately 10 cubic yards of soil were removed from each of the hoist excavations for characterization.

### 3.0 SCOPE OF SERVICES

Our scope of services included the following:

- 1) Obtained soil samples from the excavation limits for field screening utilizing headspace vapor and water sheen screening techniques. A soil sample was collected at the base of each excavation and along at least one of the walls of each excavation. See Figure 1 for sample locations.
- 2) Submitted 4 soil samples, from the base of each excavation, to North Creek Analytical (NCA) for analysis of gasoline, diesel and oil-range hydrocarbons using the following Ecology Methods: NWTPH-D extended with silica gel cleanup and NWTPH-G and EPA Method 8260B for benzene, ethylbenzene, toluene and xylenes (BETX).
- 3) Submitted 4 soil samples from the stockpiles to NCA for testing of the same compounds as listed in scope item #2.
- 4) Evaluated the field and chemical analytical results with regard to Ecology's Model Toxics Control Act (MTCA) cleanup levels.

### 4.0 SUMMARY OF RESULTS

#### 4.1 GENERAL

GeoEngineers visited the site on January 3, 2003 to field screen and obtain soil samples from the limits of the hoist excavations. Each hydraulic hoist had been removed upon our arrival and four, 10ft by 10ft by 6 ft deep excavations were present in the former service area. These locations were labeled as H-1 through H-4 (Figure 1). A double-piston hoist was located at the northernmost location. Single-piston hoists occupied the remaining locations. The hoists were generally in good condition with limited rust and iron staining. No holes, cracks or damage was identified based on our observations of the removed hoists.

#### 4.2 FIELD SCREENING

Multiple soil samples were obtained at the base of each excavation and at points along the four walls of each excavation for headspace vapor (using a photoionization detector) and water sheen field screening (field screening procedures are described in Attachment A). Headspace vapors were not detected in any of the soil samples obtained from the excavations. Additionally, no sheen was detected in any of the samples except for those collected from the northernmost excavation (H-4), the location of the northernmost hoist, where samples exhibited slight sheens.

Samples from the four stockpiles were also field screened. One sample was taken from each of the stockpiles corresponding to material removed from each hoist excavation (S-1 from

excavation H-4, S-2 from excavation H-3, S-3 from excavation H-2, and S-4 from excavation H-1). Headspace vapors were not detected in any of the soil samples obtained from the stockpiles. No sheen was observed in the samples collected from the three stockpiles associated with excavations H-1, H-2, and H-3 (S-4, S-3, and S-2). A moderate sheen was observed from the sample collected from the stockpile associated with excavation H-4 (S-1).

#### **4.3 SOIL SAMPLE RESULTS**

One soil sample from the base of each of the excavations (H-1-5.5, H-2-5, H-3-6.5 and H-4-5) and one soil sample from each stockpile (S-1, S-2, S-3 and S-4) were submitted to NCA in Bothell, Washington for analysis of BETX and gasoline-, diesel- and oil-range hydrocarbons. Petroleum hydrocarbons either were not detected or were detected at concentrations less than MTCA Method A cleanup levels in the soil samples tested from the single-piston hoists (both the base samples and stockpile samples). Oil-range hydrocarbons exceeded the MTCA Method A cleanup level in the soil sample obtained from the base of the northernmost (double-piston) hoist and from the stockpiled soil removed from this excavation (Tables 1 and 2). The laboratory reports and our review of the laboratory quality assurance and quality control (QA/QC) program are included in Attachment B.

#### **5.0 DISPOSITION OF SOIL**

Based on chemical analytical results, soil excavated from the three single-piston hoist excavations (H-1, H-2, and H-3), where the analytes were either not detected or were detected below MTCA Method A cleanup levels, was backfilled into the hoist excavations. Approximately 30 cubic yards of soil were backfilled into the excavations.

Because heavy oil-range hydrocarbons exceeded the MTCA Method A cleanup level for the soil excavated from the double-piston hoist excavation (H-4), the soil was unsuitable for use as backfill. As a result, approximately 10 cubic yards of soil from excavation H-4 was transported to TPS Technologies, Inc. in Tacoma, Washington for treatment. In addition, about five cubic yards of soil stockpiled on-site from excavation of a new sign located in the southwest corner of the site also was transported to TPS for treatment. Weight tickets are attached in Attachment C.

#### **6.0 CONCLUSIONS**

Four hydraulic hoists were successfully removed from the site during January 2003. Petroleum hydrocarbons either were not detected or were detected at concentrations less than MTCA Method A cleanup levels in the soil samples tested from the single-piston hoist excavations (locations H-1, H-2 and H-3). Oil-range hydrocarbons slightly exceeded MTCA Method A cleanup levels in the soil sample tested from the base of the double-piston hoist excavation (location H-4). It is our opinion that the contaminants remaining at the base of this excavation represent a de-minimus quantity and further remedial action other than ongoing groundwater monitoring is not warranted. This opinion is based on (1) the removal of the source

of contamination (the double-piston hoist), (2) removal of about 10 cubic yards of oil-contaminated soil surrounding the hoist and (3) field screening results of soil samples obtained from the sidewalls of this excavation that exhibited no headspace vapors and no sheens to slight sheens.

## 7.0 LIMITATIONS

We have prepared this report for use by Conoco Phillips in conjunction with hydraulic hoist removal activities at the subject site.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Attachment D titled "Report Limitations and Guidelines for Use" for additional information pertaining to the use of this report.

Yours very truly,

GeoEngineers, Inc.

David A. Cook, P.G.  
Associate

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Attachments

**TABLE 1**  
**FIELD SCREENING AND CHEMICAL ANALYTICAL RESULTS - EXCAVATIONS**  
 CONOCOPHILLIPS WESTLAKE & MERCER  
 SEATTLE, WASHINGTON

Soil Sample Number Depth Sampled <sup>1</sup> (feet bgs)	Date Sampled	Field Screening Results <sup>2</sup>		BETX <sup>3</sup> (mg/kg)				Gasoline-range Hydrocarbons <sup>3</sup> (mg/kg)	Diesel-range Hydrocarbons <sup>4</sup> (mg/kg)	Heavy Oil- range Hydrocarbons <sup>4</sup> (mg/kg)
		Headspace Vapors (ppm)	Sheen	B	E	T	X			
H-1-5.5	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	103 <sup>5</sup>	159
H-2-5	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	107 <sup>5</sup>	234
H-3-6.5	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	<10.0	<25.0
H-4-5	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	1130 <sup>5</sup>	3130
MTCA Method A Cleanup Level				0.03	6.00	7.00	9.00	100	2,000	2,000

**Notes:**

- <sup>1</sup> Approximate locations of excavations, stockpiles and soil samples are shown in Figure 1. The soil sample number identifies the depth at which the sample was obtained.
  - <sup>2</sup> Field screening methods are described in Attachment A. NS=No sheen, SS=slight sheen, MS=moderate sheen, HS=heavy sheen. Headspace vapors measured on 01/03/03 with a photoionization detector (PID).
  - <sup>3</sup> Analyzed by Ecology Method NWTPH-G/BETX.
  - <sup>4</sup> Analyzed by Ecology Method NWTPH-Dx with silica gel cleanup.
  - <sup>5</sup> Results reported for the diesel range are primarily due to overlap from heavy oil range hydrocarbons as reported by NCA.
- B=benzene, E=ethylbenzene, T=toluene, X=xylenes.  
 mg/kg=milligrams per kilogram, ppm=parts per million  
 Shading indicates a concentration exceeding the MTCA Method A cleanup level.  
 Chemical analysis conducted by North Creek Analytical of Bothell, Washington. The laboratory reports are presented in Attachment B.

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## TABLE 2 FIELD SCREENING AND CHEMICAL ANALYTICAL RESULTS -STOCKPILES

CONOCOPHILLIPS WESTLAKE & MERCER  
SEATTLE, WASHINGTON

Soil Sample Number Depth Sampled <sup>1</sup> (feet bgs)	Date Sampled	Field Screening Results <sup>2</sup>		BETX <sup>3</sup> (mg/kg)				Gasoline-range Hydrocarbons <sup>3</sup> (mg/kg)	Diesel-range Hydrocarbons <sup>4</sup> (mg/kg)	Heavy Oil-range Hydrocarbons <sup>4</sup> (mg/kg)
		Headspace Vapors (ppm)	Sheen	B	E	T	X			
S-1 <sup>8</sup>	01/03/03	0	MS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	1200 <sup>5</sup>	2,650
S-2	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	90 <sup>5</sup>	191
S-3	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	7.82 <sup>6</sup>	290 <sup>5</sup>	617
S-4	01/03/03	0	NS	<0.0300	<0.0500	<0.0500	<0.100	<5.00	46.9 <sup>5</sup>	101
MTCA Method A Cleanup Level				0.03	6.00	7.00	9.00	100	2,000	2,000

### Notes:

<sup>1</sup> Approximate locations of excavations, stockpiles and samples are shown in Figure 1.

<sup>2</sup> Field screening methods are described in Attachment A. NS=No sheen; SS=slight sheen; MS=moderate sheen; HS=heavy sheen. Headspace vapors measured on 01/03/03 with a photoionization detector (PID).

<sup>3</sup> Analyzed by Ecology Method NWTPH-G/BETX.

<sup>4</sup> Analyzed by Ecology Method NWTPH-Dx with silica gel cleanup.

<sup>5</sup> Results reported for the diesel range are primarily due to overlap from heavy oil range hydrocarbons as reported by NCA.

<sup>6</sup> Chromatogram for this sample does not resemble a typical gasoline pattern as reported by NCA.

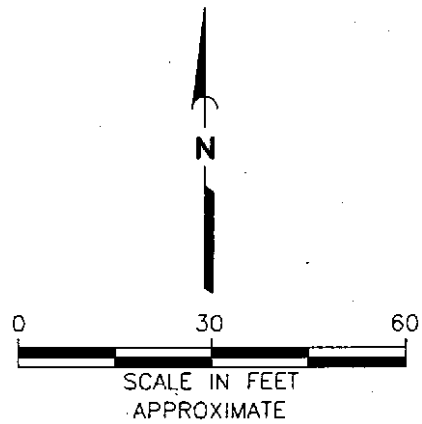
B=benzene, E=ethylbenzene, T=toluene, X=xylenes

mg/kg=milligrams per kilogram; ppm=parts per million

Shading indicates a concentration exceeding the MTCA Method A cleanup level.

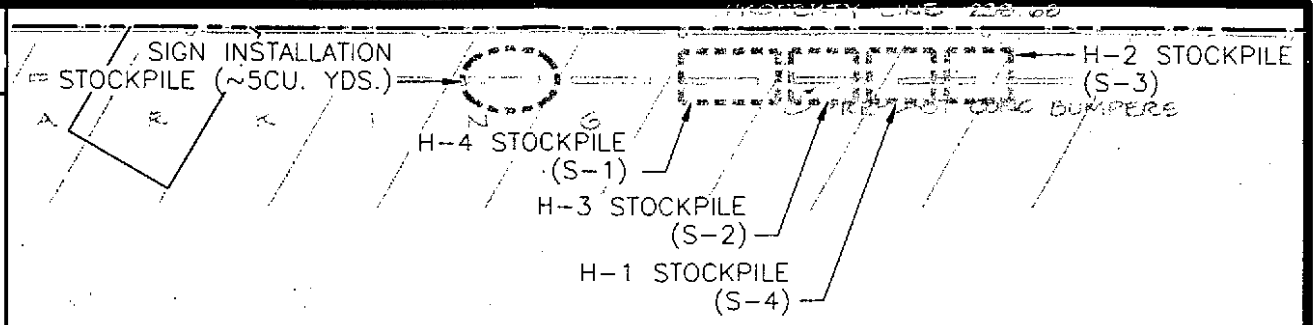
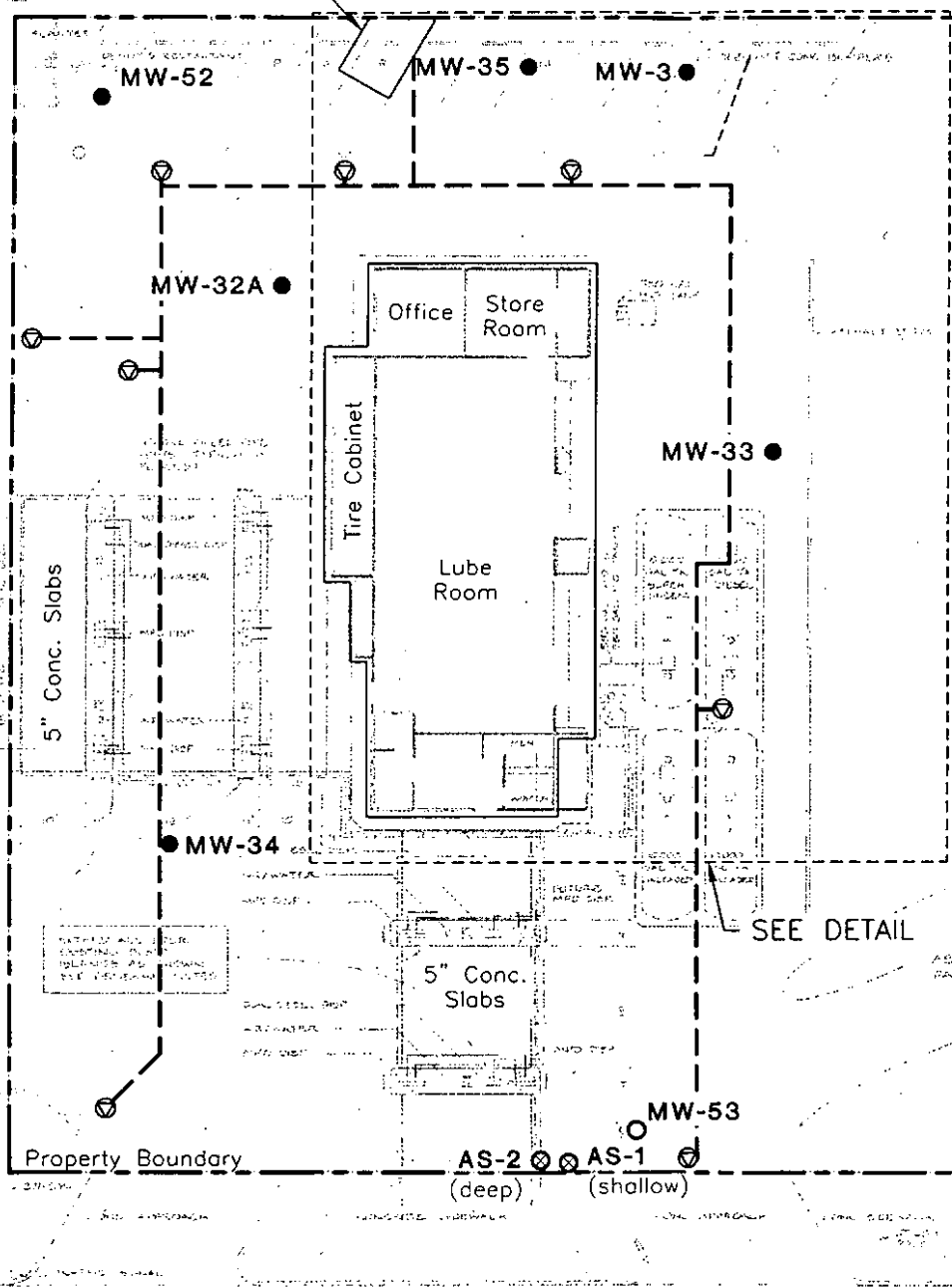
Chemical analysis conducted by North Creek Analytical of Bothell, Washington. The laboratory reports are presented in Attachment B.

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WESTLAKE AVE. NORTH

Location of Current Equipment Enclosure

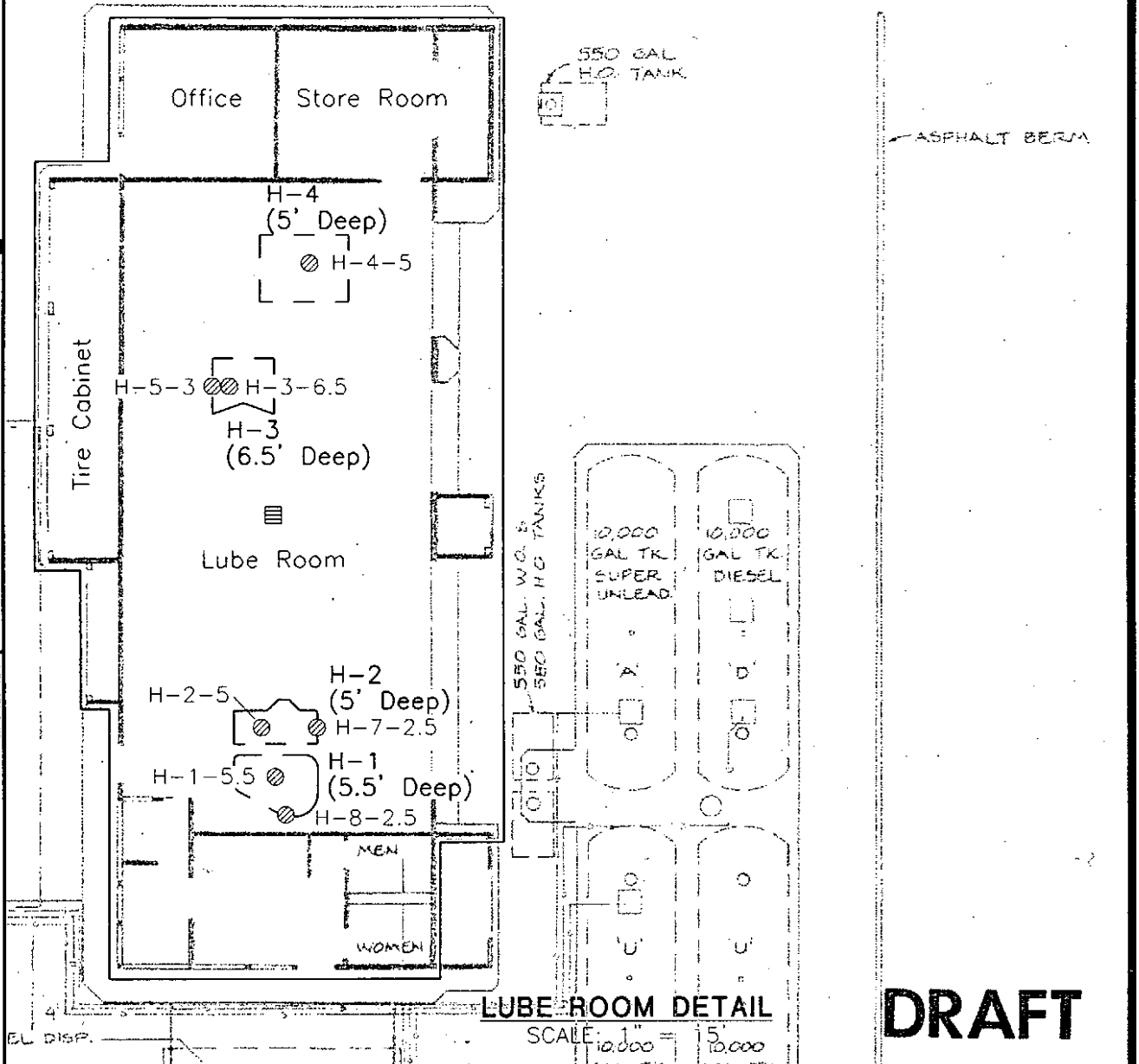


EXPLANATION:

- H-2-5 ⊗ SOIL SAMPLE
- PROPOSED MULTIPURPOSE WELL (MONITORING OR REMEDIATION)
- MW-53 ○ MONITORING WELL INSTALLED AUGUST 2002
- AS-1 ⊗ AIR SPARGING WELL INSTALLED AUGUST 2002
- MW-37 ● EXISTING MONITORING WELL
- ⊗ EXISTING VES WELL
- ▤ CATCH BASIN
- - - - - APPROXIMATE EXISTING VES CONVEYANCE PIPING (PIPE HEADER)
- [ ] LIMIT OF EXCAVATION

- Notes:
- The locations of all features shown are approximate.
  - This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure. This figure is a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.
  - Electrical conduit location for remediation enclosures not shown.

Reference: Drawing entitled "General Arrangement Service Station 5353 Westlake Ave. & Mercer St. Seattle, Washington" dated 10/28/87.



**DRAFT**

<p>ConocoPhillips</p>	PROJECT: Hoist Excavation	TITLE:
	FACILITY: Tosco Service Station 5353 Seattle, Washington	SITE PLAN AND HOIST EXCAVATION
	DATE: 01/29/03 REV.	FIGURE 1

**ATTACHMENT A**  
**FIELD SCREENING OF SOIL SAMPLES**



**ATTACHMENT A****FIELD SCREENING OF SOIL SAMPLES**

Soil samples obtained from the site were evaluated for the potential presence of petroleum contamination using field screening techniques. Field screening results can be used as a general guideline to delineate areas of potential petroleum-related contamination in soils. In addition, screening results are often used as a basis for selecting soil samples for chemical analysis. The screening methods employed included: (1) visual examination, (2) water sheen testing, and (3) headspace vapor testing using a photoionization detector (PID).

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil, or when hydrocarbon concentrations are high. Sheen screening is a more sensitive screening method that can be effective in detecting petroleum based products in concentrations lower than regulatory cleanup guidelines.

Water sheen testing involves placing soil in water and observing the water surface for signs of sheen. The results of water sheen testing on soil samples from the borings are presented on the test pit logs. Sheens are classified as follows:

No Sheen (NS)	No visible sheen on water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly.
Moderate Sheen (MS)	Light to heavy sheen, may have some color/iridescence; spread is irregular to flowing; few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening involves placing a soil sample in a plastic bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of the PID meter is inserted into the bag and the PID measures the concentration organic vapors in the sample bag headspace.

**ATTACHMENT B**  
**CHEMICAL ANALYTICAL DATA**

**ATTACHMENT B****CHEMICAL ANALYTICAL DATA****SAMPLES**

Chain-of-custody procedures were followed during the transport of the field samples to the accredited analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results and quality control records are included in this attachment.

**ANALYTICAL DATA REVIEW**

The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. Any data quality exceptions documented by the accredited laboratory were reviewed by GeoEngineers and are addressed in the data quality exception section of this attachment.

**DATA QUALITY EXCEPTION SUMMARY**

Based on our data quality review, it is our opinion that the analytical data are of acceptable quality for their intended use.

**ATTACHMENT C**  
**WEIGHT TICKETS**

**ATTACHMENT D**  
**REPORT LIMITATION AND GUIDELINES FOR USE**

**ATTACHMENT D****REPORT LIMITATION AND GUIDELINES FOR USE<sup>1</sup>**

This attachment provides information to help you manage your risks with respect to the use of this report.

**ENVIRONMENTAL SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES, PERSONS AND PROJECTS**

This report has been prepared for use by ConocoPhillips, their authorized agents and regulatory. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment or remedial action study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except ConocoPhillips should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

**THIS ENVIRONMENTAL REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS**

This report has been prepared for use by ConocoPhillips, their authorized agents and regulatory. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

**RELIANCE CONDITIONS FOR THIRD PARTIES**

If a lending agency or other parties intend to place legal reliance on the product of our services, we require that those parties indicate in writing their acknowledgement that the scope of services provided, and the general conditions under which the services were rendered, are understood and accepted by them. We also require that any third party placing legal reliance on this product agree in writing to limit our professional liability to \$50,000 or the amount of our

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<sup>1</sup> Developed based on material provided by ASFE, Professional Firms Practicing in the GeoSciences, [www.asfe.org](http://www.asfe.org).

fees on the project whichever is more. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

### **ENVIRONMENTAL REGULATIONS ARE ALWAYS EVOLVING**

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

### **SUBSURFACE CONDITIONS CAN CHANGE**

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or ground water fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

### **MOST ENVIRONMENTAL FINDINGS ARE PROFESSIONAL OPINIONS**

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the sampling locations at the site documented in this report. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. There is always a potential that areas of contamination exist in portions of the site that were not sampled or tested during this or previous studies. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

### **READ THESE PROVISIONS CLOSELY**

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or site.