Remedial Investigation Report

sound environmental strategies corporation

Property:

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Prepared for:

TOC Holdings Co.
2737 West Commodore Way
Seattle, Washington

November 7, 2009

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Remedial Investigation Report
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington 98201

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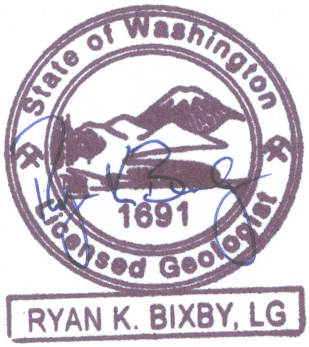

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EXECUTIVE SUMMARY

Sound Environmental Strategies Corporation has prepared this Remedial Investigation Report on behalf of TOC Holdings Co. for TOC Holdings Co. Facility No. 01-169, located at 851 North Broadway in Everett, Washington (herein referred to as the Property). This Remedial Investigation Report was prepared for submittal to the Washington State Department of Ecology, and it was developed to meet the general requirements of a remedial investigation as defined by the Washington State Model Toxics Control Act Regulation in Chapters 173-340-350 and 173-340-360 of the Washington Administrative Code.

The Property is currently operated as a retail shopping center. A retail gasoline service station operated on the Property from circa 1960 to 2003. Historical records indicate that a 500-gallon underground storage tank, two 6,000-gallon underground storage tanks, an 8,000-gallon underground storage tank, and a 12,000-gallon underground storage tank occupied the Property in addition to two fuel-dispensing pump islands and associated product delivery lines. The 500-gallon underground storage tank was removed from the Property in 1990, and the remainder of the underground storage tank system was removed from the northwestern and west-central portions of the Property in 2003. Soil samples collected from the floor and sidewalls of the excavation contained concentrations of gasoline-range petroleum hydrocarbons, benzene, total xylenes, and/or naphthalene in excess of the applicable Washington State Model Toxics Control Act Method A cleanup levels. The petroleum-contaminated soil was overexcavated to the maximum extent feasible; logistical constraints and access issues prohibited additional excavation to the north, south, and west.

Four subsurface investigations were conducted at the Property between 2004 and 2009 to evaluate the vertical and lateral extent of petroleum hydrocarbon contamination. During the investigations, soil samples collected from borings advanced to the north, south, and southwest of the excavation area were found to contain concentrations of gasoline-range petroleum hydrocarbons and benzene in excess of the cleanup levels at depths between 7 and 21 feet below ground surface. Additional exploration to the north and west of the excavation was limited by the north-adjoining property and the North Broadway right-of-way, respectively. Eleven of the soil borings were completed as monitoring, remediation, or observation wells. Groundwater samples collected from wells OW02, RW02, and RW07 have been found to contain concentrations of benzene and/or one or more of the ranges of petroleum hydrocarbons that exceeded their respective Washington State Model Toxics Control Act Method A cleanup levels.

Based on the findings of the investigations and monitoring events conducted between 2003 and 2009 and the historical research presented in this report, the Site has been defined to include petroleum-contaminated soil beneath the northwestern portion of the Property and petroleum-contaminated groundwater in the vicinity of observation well OW02 and remediation wells RW02 and RW07, which are located near the western, northern, and southern limits of the underground storage tank excavation, respectively. The extent of petroleum contamination to the north and west of the Property has not been confirmed.

This executive summary is presented solely for introductory purposes, and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the project, Site conditions, investigative methods, and investigation results is contained within this report.

ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
ASARCO	former American Smelting and Refining Company, Inc.
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
COC	chemical of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSM	Conceptual Site Model
DPE	dual-phase extraction
DRPH	diesel-range petroleum hydrocarbons
Ecology	Washington State Department of Ecology
EDB	ethylene dibromide
EDC	ethylene dichloride
EPA	United States Environmental Protection Agency
EPH	extractable petroleum hydrocarbons
EPI	Environmental Partners, Inc.
GAC	granular-activated carbon
GEI	GeoEngineers, Inc.
GRPH	gasoline-range petroleum hydrocarbons
GWMA	Snohomish County Ground Water Management Area
LNAPL	light, non-aqueous phase liquid
mg/kg	milligrams per kilogram
MTBE	methyl tertiary-butyl ether
MTCA	Washington State Model Toxics Control Act
NWTPH	Northwest Total Petroleum Hydrocarbon
ODEQ	State of Oregon Department of Environmental Quality

ACRONYMS AND ABBREVIATIONS (CONTINUED)

PCB	polychlorinated biphenyl
PCS	petroleum-contaminated soil
PID	photoionization detector
Property	851 North Broadway, Everett, Washington
PVC	polyvinyl chloride
RI	remedial investigation
ROW	right-of-way
SES	Sound Environmental Strategies Corporation
Site	petroleum-contaminated soil beneath the northern portion of the Property and petroleum-contaminated groundwater in the vicinity of wells OW02, RW02, and RW07, which are located around the perimeter of the underground storage tank excavation
TEE	Terrestrial Ecological Evaluation
USCS	Unified Soil Classification System
UST	underground storage tank
VCP	Ecology's Voluntary Cleanup Program
VPH	volatile petroleum hydrocarbons
WAC	Washington Administrative Code

1.0 INTRODUCTION

Sound Environmental Strategies Corporation (SES) has prepared this Remedial Investigation (RI) Report on behalf of TOC Holdings Co. for TOC Holdings Co. Facility No. 01-169, located at 851 North Broadway in Everett, Washington (herein referred to as the Property), as depicted on Figure 1. This RI Report was prepared for submittal to the Washington State Department of Ecology (Ecology), and it was developed to meet the general requirements of an RI as defined by the Washington State Model Toxics Control Act (MTCA) Regulation in Chapters 173-340-350 and 173-340-360 of the Washington Administrative Code (WAC 173-340-350 and 173-340-360).

As established in WAC 173-340-200, the "Site" is defined by the full lateral and vertical extent of contamination that has resulted from the former operation of a retail gasoline service station on the Property. Based on the information gathered to date, the Site has been defined to include petroleum-contaminated soil (PCS) beneath the northern portion of the Property and petroleum-contaminated groundwater in the vicinity of wells OW02, RW02, and RW07, which are located around the perimeter of the underground storage tank (UST) excavation (Figure 2).

1.1 PURPOSE AND OBJECTIVES

As specified in WAC 173-340-350(7), the purpose of the RI is "to collect data necessary to adequately characterize the site for the purpose of developing and evaluating cleanup action alternatives." This RI Report presents historical information regarding the former use of the Property and surrounding parcels; summarizes other pertinent information obtained during the review of historical records; summarizes the environmental work in its entirety that has been performed at the Site to date, including the initial source removal activities, the scope and findings of each subsurface investigation, and the ongoing groundwater monitoring program; and presents a Conceptual Site Model (CSM) based on the collective findings of the RI components described herein.

1.2 REPORT ORGANIZATION

This RI Report is organized into the following sections:

- **Section 2.0, Background.** This section provides a description of the Property features and location; a summary of historical operations on the Property and its vicinity; a description of the local geology, hydrology, and land use pertaining to the Site; and a discussion of previous investigations at the Site, including the discovery of release at the Property.
- **Section 3.0, Interim Action.** This section provides a description of the dual-phase extraction (DPE) system installed on the Property.
- **Section 4.0, Data Gaps.** This section provides remaining data gap information regarding the Site.
- **Section 5.0, 2009 Remedial Investigation.** This section discusses the subsurface investigation that was performed in June 2009 in an effort to address the data gaps identified in Section 4.0.
- **Section 6.0, Terrestrial Ecological Evaluation.** This section provides a discussion of the evaluation of potential impacts to ecological receptors from a release of hazardous substances.
- **Section 7.0, Conceptual Site Model.** This section provides a summary of the CSM derived from the results of the subsurface investigations performed at the Site and the results of the RI. Included is a discussion of confirmed and suspected source areas, the

chemicals of concern (COCs), affected media, fate and transport characteristics of the release of hazardous substances, and a preliminary exposure assessment.

- **Section 8.0, Bibliography.** This section lists references used to produce this document.
- **Section 9.0, Limitations.** This section discusses document limitations.

2.0 BACKGROUND

This section provides a summary of current and historical land use on the Property and its vicinity, followed by previous investigations performed at the Property, including the discovery of release. For disambiguation, North Broadway (Highway 99 North) is considered to run due north-south along the west side of the Property. Accordingly, all compass points and orientations specified herein are based upon this assumption.

2.1 PROPERTY LOCATION AND DESCRIPTION

The following subsections present the current land use practices on the Property and surrounding parcels (Snohomish County Assessor 2009a).

2.1.1 Subject Property

The Property consists of an irregularly shaped tax parcel (Snohomish County parcel number 29051700200700) covering approximately 18,731 square feet (0.43 acres) of land. The Property is listed at 851 North Broadway, approximately 1.7 miles north of downtown Everett, Washington (Figure 1). A plan view of the Property layout including former Property features is depicted on Figure 2. Site and aerial photographs are included as attachments within this report.

As discussed in Section 2.2 below, the Property was initially developed in 1959 as a retail gasoline station equipped with a 500-gallon UST, two 6,000-gallon USTs, an 8,000-gallon UST, and a 12,000-gallon UST, in addition to two fuel-dispensing pump islands and associated product delivery lines. In 1977, the Property was remodeled to expand the area of the convenience store. The UST system was removed from the Property in 2003, and in 2008, the 1959-vintage building was remodeled as a retail shopping center. The exterior portions of the Property are predominately paved with asphalt.

The Property is serviced by potable water and sewer utilities provided by the City of Everett Public Works Department. A 48-inch-diameter concrete sewer runs east-west across the central portion of the Property. Other utilities that service the Property include natural gas and electricity. Overhead utility lines are present along the western and northern Property boundaries.

2.1.2 Adjoining Properties

Development on and in the vicinity of the Property is primarily commercial. Uses of nearby parcels at the time this report was prepared are summarized below.

- **North/East.** An irregularly shaped tax parcel (Snohomish County parcel number 29051700200600) covering approximately 30,056 square feet of land (0.69 acres) bounds the Property to the north and east. The parcel is occupied by a vacant single-family residence and does not have a listed street address. The parcel is owned by Big J Mini Mart, Inc. of Marysville, Washington. In 2008, SES field personnel witnessed regrading activities on this parcel, which included the import of

materials and filling of a topographic depression. The adjacent parcel is zoned for commercial use.

- **South.** An irregularly shaped tax parcel (Snohomish County parcel number 29051700200100) covering 267,894 square feet of land (6.15 acres) bounds the Property to the south. The address for the parcel is listed as 1001 Highway 99 North (North Broadway). The parcel is owned by Providence Health & Services of Renton, Washington. Two adjacent, single-story, 1980-vintage buildings occupy the parcel, with footprints covering 34,034 square feet and 33,520 square feet. The remainder of the parcel is generally used for parking. The parcel is generally paved, with the exception of a small landscaped area on its northeast corner. Providence Everett Healthcare Clinic, a medical-service provider, currently operates on the parcel. The parcel is zoned for commercial use.
- **West.** The North Broadway (Highway 99 North) public right-of-way (ROW) directly borders the Property on its west side. The adjacent ROW includes a water line approximately 5 feet from the west Property line, to which it runs roughly parallel (north-south). A 48-inch-diameter concrete sewer line exits the west-central portion of the Property where it enters the ROW.

  An irregularly shaped tax parcel (parcel number 00551300001900) covering 199,940 square feet of land (4.59 acres) is located across North Broadway to the west of the Property. The address for the parcel is listed as 840 North Broadway. The parcel is owned by S & R Washington, LLC of Manhattan Beach, California. Two 1985-vintage buildings occupy the parcel, including a single-story building with a footprint covering 39,848 square feet and a three-story building with a footprint covering 21,777 square feet. The remainder of the parcel is generally used for vehicle parking and is predominately paved. The parcel serves as the Broadway Center of Everett Community College and is also used as office space by a variety of state government agencies. The parcel is zoned for commercial use.

2.1.3 Everett Smelter Site

The Property is located approximately 2,000 feet south of a smelter plant that operated between the years 1894 and 1912. The smelter was initially operated by Puget Sound Reduction Company before 1903, when it was purchased by and continued operation under Asarco, LLC, formerly known as American Smelting and Refining Company, Inc. (ASARCO) during its operation of the smelter plant. Historical smelting operations by ASARCO resulted in the generation and widespread distribution of slag in the area. Slag is a solidified remnant of a molten waste product that is produced during the smelting process, and it is commonly known to contain elevated concentrations of arsenic, lead, and other metals; moreover, large quantities of this waste by-product were historically used locally as fill material during the late 1800s and early 1900s (e.g., for use as subbase aggregate beneath roadways). The Everett Smelter site has been delineated by Ecology and encompasses an extensive area that includes the Property. Ecology has designated ASARCO as a potentially liable party for area-wide cleanup activities related to the slag (Ecology 2004).

2.2 PROPERTY LAND USE HISTORY

Historical information on the land use of the Property was compiled (where available) from appropriate and publicly available resources. These resources included aerial photographs, Sanborn Fire Insurance Maps (Appendix A), Snohomish County Assessor records (Appendix B),

City of Everett Fire Department records (Appendix C), City of Everett Public Works records (Appendix C), and reverse city directories.

Aerial photographs taken in 1947 indicated that the Property remained wooded and undeveloped at that time. The Property was subsequently cleared of vegetation by 1955 and was developed with a 1959-vintage retail gasoline station and a canopy covering the dispenser islands. The gasoline station was equipped with a 500-gallon UST, two 6,000-gallon USTs, and an 8,000-gallon UST, as well as two fuel-dispensing pump islands and associated product delivery lines. An addition to the building was constructed in 1977, and a 12,000-gallon UST was installed on the Property in 1978. City of Everett Fire Department records indicate that a permit to remove the 500-gallon waste-oil UST from the Property was issued in 1990. In 2003, the four remaining USTs and associated structures were removed from the Property, as discussed in Section 2.6.1, Release Discovery. In 2004, Time Oil Co. (currently TOC Holdings Co.) sold the Property to its current owner, P & M Partnership of Mukilteo, Washington. In 2008, the Property was redeveloped as a retail shopping center (Snohomish County Assessor 2009b).

2.3 FUTURE PROPERTY LAND USE

SES is unaware of the future land use plans for the Property.

2.4 ENVIRONMENTAL SETTING

The following subsections provide a summary of the environmental setting of the Property, including land use, meteorology, and groundwater use.

2.4.1 Land Use

Based on the current information provided by the City of Everett, the Property and its adjoining properties are zoned for commercial use.

2.4.2 Meteorology

The marine climate of the Everett area is generally mild and experiences moderate seasonal fluctuations in temperature. Average temperatures (in degrees Fahrenheit) range from 60s in the summer to 40s in the winter. The warmest month of the year is August, which has an average maximum daily temperature of 73.9 degrees Fahrenheit. The coldest month of the year is December, which has an average minimum daily temperature of 34.0 degrees Fahrenheit.

The average annual precipitation reported for the Everett area is 37.54 inches and generally occurs in the form of rain. The wettest month of the year is November, during which the area receives an average precipitation total of 5.11 inches. The driest month of the year is July, during which the area receives an average precipitation total of 1.32 inches (IDcide 2009).

2.4.3 Groundwater Use

The Property is located within the City of Everett's water supply system. Water for the City of Everett originates from the Spada Reservoir, which is located 30 miles east of Everett. The Spada Reservoir is located in the Sultan Basin Watershed. Pipelines transport the water to Everett. No active production wells or wellhead protection zones are located in the vicinity of the Property (City of Everett 2009).

2.5 GEOLOGIC AND HYDROGEOLOGIC SETTING

The following subsections summarize the regional hydrogeologic setting of the Everett area, as well as the local geologic and hydrologic conditions that characterize the Property and its vicinity.

2.5.1 Topography

The United States Geological Survey 7.5' topographic map of the *Everett, Washington Quadrangle,* published in 1973, indicated that the Site and surrounding area are located on a gently rolling upland between the Snohomish River basin and Puget Sound. The Property has a topographic elevation of approximately 100 feet above mean sea level. The surface of the Property is relatively flat, gently sloping downward to the south and southwest toward the intersection of Broadway Avenue North and Tower Street. The nearest surface water bodies consist of several ponds on the Legion Memorial Golf Course located northwest of the Property, the nearest of which is located approximately 1,200 feet west of the Property. The Property is located approximately 4,100 feet from the Snohomish River (at its nearest points), which flows out of the east prior to reaching its mouth located north of the Site (where it discharges to Puget Sound). Puget Sound is located approximately 4,300 feet west of the Property. The Everett area is located in the Puget Sound Lowlands, located between the Cascade Mountain Range (to the east) and Puget Sound (to the west). The regional topography of the area generally exhibits a downward westerly slope.

2.5.2 Regional Hydrogeology

The Property is located in the physiographic setting called the Puget Sound Lowlands. This area is characterized by deep deposits of glacial debris. The glacial deposits consist of glacial till, outwash sand and gravel, and glacial lake sediments. Bedrock beneath the glacial deposits consists of oceanic crustal rocks.

The Property is located in the Snohomish County Ground Water Management Area (GWMA) (Snohomish County Surface Water Management Division 2002). According to Ecology well logs, groundwater in the vicinity of the Property has been encountered at depths between 70 and 90 feet below ground surface (bgs), and the most extensive aquifers occur in the southwest portion of Snohomish County, the Tulalip Plateau, and the area surrounding Lake Stevens. The aquifers in these areas occur in recessional outwash, advance outwash, and undifferentiated sediments. The aquifers are confined by Vashon till and pre-Vashon transitional beds. Due to the depth of the aquifers and low permeability of the confining layers, the area aquifers are considered to be of low vulnerability to contamination from the ground surface.

Other aquifers within the GWMA occur in the major river valleys of the Skykomish, Snohomish, and Stillaguamish Rivers, and also in the Marysville Trough. These aquifers are located within a few feet of the ground surface. Soil in these areas is generally sandy. Consequently, these areas are considered moderately to highly vulnerable areas for contamination from ground surface (Snohomish County Surface Water Management Division 2002); however, the Property is not situated within any of these major river valleys.

2.5.3 Property Geology

The *Geologic Map of Washington State* (Schuster 2005) indicated the Property is underlain by Vashon Till, which generally consists of a dense heterogeneous mixture of silt, sand, and gravel. The till is typically characterized by relatively low vertical hydraulic conductivity, which yields an increased potential for perched groundwater. Based on soil descriptions

documented during the RI and prior work conducted at the Site, adequate data exist to characterize shallow soil at the Site into three geologic units, which are described herein. The Site-specific geology is illustrated on the cross sections shown on Figures 3 and 4; the transects showing these cross sections in plan view are provided on Figure 2. Copies of SES boring logs are provided in Appendix D.

The surface of the Property generally consists of pavement and its underlying aggregate subbase, which extends approximately 1 foot bgs. Soil directly underlying the surface cover generally consists of medium dense to dense, fine- to medium-grained sand with variable amounts of gravel, coarse-grained sand, and silt. In addition, variable amounts of smelter slag up to 8 feet in thickness are present beneath the western portion of the Property and just beyond the Property boundary, near the public ROW and North Broadway. The shallow soil beneath the Property is interpreted to be non-native, anthropogenic fill. The fill unit ranges in thickness from approximately 7 to at least 22 feet. The maximum vertical extent of fill was encountered within the PCS excavation area, outside of which the thickness of fill ranges from approximately 7 feet bgs to the maximum depth explored of 22 feet. Based on its composition and physical properties, soil within this unit has been generally classified as SM (silty sands, sand-clay mixtures) in accordance with the Unified Soil Classification System (USCS).

An abrupt interface separates the relatively coarse fill materials from its underlying unit. This underlying unit predominately consists of very dense silt and clay, with variable amounts of fine-grained sand. This unit represents the uppermost native formation and is interpreted to be Vashon Till. The Vashon Till is located approximately 15 to more than 20 feet bgs, and it exhibits a downward dip toward the southwest that is consistent with surface topography. Based on its composition and physical properties, soil within this unit has been generally classified as ML (inorganic silts and very fine sands, silty or clayey fine sands) in accordance with USCS. Investigation data and direct field observations indicate this unit yields little to no groundwater, and the Vashon Till beneath the Property is characteristic of an aquiclude.

Underlying the Vashon Till is a unit which generally consists of very dense silty fine- to medium-grained sand containing abundant coarse-grained sand and gravel in places. This unit is interpreted to be Vashon Advance Outwash (i.e., Esperance Sand). In places, the transitional zone between the Vashon Advance Outwash and the overlying Vashon Till is marked by thin layers or interbeds of sand, silt, and/or clay. Based on the findings of investigations conducted at the Site, the depth of the Vashon Advance Outwash at the Property ranges from approximately 11 feet bgs to at least 22 feet bgs (the maximum depth explored). A review of well logs in the Site vicinity and available online from Ecology indicates the Vashon Advance Outwash extends to a minimum depth of 70 feet bgs (Ecology 2009). Based on its composition and physical properties, soil within this unit has been generally classified as SM in accordance with USCS.

2.5.4 Property Hydrology

Depth to shallow groundwater beneath the Site is approximately 7 to 12 feet bgs, and groundwater appears to flow in a southerly direction across the Property (Figure 5). Shallow groundwater at the Site is largely influenced by the geologic heterogeneity of the subsurface: specifically, the presence of relatively coarse fill material overlying relatively fine native deposits. Fill material beneath the Site is generally comprised of sand and gravel and characterized by relatively high permeability; in contrast, shallow native deposits at the Site are predominately comprised of silt and clay, and characterized by relatively low

permeability. Investigation data indicate the vertical hydrologic gradient at the Site is downward, resulting in the vertical retardation of groundwater flow at the interface separating anthropogenic and native soil. Groundwater present above the fill-native interface is interpreted to be perched water.

During removal of the UST system in 2003, perched groundwater was observed at approximately 12 feet bgs within the tank cavity. Similar observations were made during installation of monitoring well MW01, during which perched groundwater was encountered approximately 16.5 feet bgs near the base of the excavation backfill (SES 2005). Similar perched groundwater has been observed at several boring locations advanced at the Site (SES 2005).

2.6 PREVIOUS INVESTIGATIONS

Three subsurface investigations were conducted at the Site between December 2003 and November 2006, following the excavation and removal of the former UST system and accessible PCS. Data collected during these subsurface investigations have been supplemented by the results of the ongoing groundwater monitoring program, which was begun in May 2006. The locations of excavation soil samples, soil borings, compliance and remediation wells, former UST system components on the Property, and other Site features are shown on Figure 2. The groundwater analytical results from the four most recent groundwater monitoring events are presented on Figure 6, and a more complete summary of the historical groundwater data is provided in Table 1. Selected soil analytical data are presented on Figure 7 and a more complete summary is provided in Table 2. For evaluation purposes, those concentrations that exceed the current MTCA Method A cleanup levels for soil and groundwater are presented in bold red font in the figures and tables. The remainder of this report includes references to cleanup levels; unless otherwise specified, these refer to the MTCA Method A Cleanup Levels for Groundwater or the MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses.

2.6.1 Release Discovery

In December 2003, GeoEngineers, Inc. (GEI) performed oversight of the decommissioning and removal of the former UST system on the Property (GEI 2004). Pacific Environmental Services Company removed two 6,000-gallon USTs, an 8,000-gallon UST, a 12,000-gallon UST, two dispenser islands, and associated product delivery piping from the Property. Although the single-walled steel USTs were reported to have light to moderate rust with no discernible holes and the product delivery lines were described as being in good condition, field observations indicated evidence of a release to the environment. The approximate locations of the former USTs, dispenser islands, and associated product delivery lines are shown on Figure 2.

Excavation soil samples were submitted to CCI Analytical Laboratories in Everett, Washington, for laboratory analyses of gasoline-range petroleum hydrocarbons (GRPH); benzene, toluene, ethylbenzene, and total xylenes (BTEX); methyl tertiary-butyl ether (MTBE); ethylene dibromide (EDB); ethylene dichloride (EDC); naphthalene; lead; volatile petroleum hydrocarbons (VPH); and extractable petroleum hydrocarbons (EPH). The approximate soil sample locations are shown on Figure 2. The analytical results for the excavation soil samples are presented on Figure 7 and in Table 2. A summary of these results is as follows:

- Soil samples collected from the central, northern, western, and southern areas of the excavation contained concentrations of GRPH, benzene, toluene, ethylbenzene, and/or total xylenes that exceeded the applicable cleanup levels (Figure 7).

- Sidewall sample EX-20-15, located near the northeastern corner of the excavation, contained a concentration of naphthalene in excess of the cleanup level.
- Two excavation soil samples were analyzed for MTBE, EDB, EDC, and lead; neither sample contained detectable concentrations of these chemicals.

The final excavation dimensions were approximately 80 feet (north-south) by 50 feet (east-west), with a maximum depth of approximately 18 feet bgs. Approximately 973 cubic yards (or approximately 1,460 tons) of soil were excavated and taken to Rinker Materials in Everett, Washington for treatment by thermal desorption. The lateral extent of the excavation was limited by logistical constraints, including off-Property access to the north, a sidewalk and a water main within the North Broadway ROW to the west, and a 48-inch-diameter sewer line to the south. The approximate aerial extent of the excavation is shown on Figure 2. Geologic cross sections illustrating the approximate vertical extent of the excavation are provided on Figures 3 and 4.

2.6.2 2004 Subsurface Investigation

In October 2004, SES conducted a subsurface investigation in an effort to evaluate the lateral and vertical extent of PCS and impacted groundwater beneath the Site (SES 2005). The subsurface investigation included the advancement of 12 soil borings (B1 through B12) using a combination direct-push/hollow-stem auger drill rig. Soil borings B1 and B10 were converted to monitoring wells MW01 and MW02, respectively. These soil borings and monitoring wells are located in the northwestern and west-central portions of the Property (Figure 2). Copies of the boring logs are provided as Appendix D.

Soil Results. Selected soil samples were submitted to North Creek Analytical, Inc. of Bothell, Washington for laboratory analysis of GRPH and BTEX. Soil samples collected from borings B1, B3 through B7, and B11, which were advanced within and adjacent to the northern and west-southwestern perimeter of the excavation (B1 and B3 through B7) and the North Broadway ROW (B11), contained concentrations of GRPH and/or benzene that exceeded the cleanup level at depths between 4 and 17 feet bgs. Soil samples collected from B9, which was advanced in the central portion of the excavation, and B12, which was advanced within the North Broadway ROW, did not contain concentrations of petroleum hydrocarbon constituents in excess of the applicable cleanup levels. Samples were not collected from borings B2, B8, or B10. The analytical results for the soil samples are presented in Table 2, and those results that exceeded the cleanup levels are shown on Figure 7.

Groundwater Results. A groundwater sample was collected from monitoring well MW01, located within the northeastern portion of the excavation area, following installation and development. The groundwater sample collected from MW01 contained 3,140 micrograms per liter (µg/L) GRPH and 800 µg/L benzene, both of which exceeded their respective cleanup levels. Other BTEX constituents, diesel-range petroleum hydrocarbons (DRPH), oil-range petroleum hydrocarbons (ORPH), total lead, and semi-volatile organic compounds (including naphthalene) were not detected at concentrations above their respective cleanup levels. A measurable thickness of groundwater was not encountered in monitoring well MW02, which was advanced adjacent to the Property boundary in the west-central portion of the Property, southwest of the excavation.

Based on these findings, the lateral extent of groundwater and soil to the north, south, and west of the former excavation area remained undefined.

2.6.3 Remediation Well Installation

In March 2006, SES conducted a supplemental subsurface investigation on the Property, which included the installation of remediation wells for potential use as part of a DPE system. SES provided direction and oversight for the advancement of nine soil borings (B13 through B21) on the Property using a hollow-stem auger drill rig. Seven of the soil borings were completed as recovery wells (B13 [RW01], B14 [RW07], B15 [RW02], B16 [RW03], B17 [RW06], B18 [RW05], and B19 [RW04]). Two of the soil borings were completed as observation wells (B20 [OW02] and B21 [OW01]).The locations of the soil borings and remediation wells are shown on Figure 2. Copies of the boring logs are provided as Appendix D.

Soil samples were collected for the sole purpose of documenting the geologic conditions encountered during well installation. No soil or groundwater samples were analyzed as part of this investigation.

2.6.4 2006 Subsurface Investigation

In November 2006, Environmental Partners, Inc. (EPI) conducted a subsurface investigation on behalf of a potential buyer as part of the buyer's due diligence process. In addition to further evaluating the impacts from the petroleum release previously identified by SES and others (SES 2005, GEI 2004) at the Site, a primary objective of the investigation was to evaluate the nature and extent of contaminants at the Property related to the slag and the Property's proximity to the former ASARCO smelter. The focus of this investigation primarily included the evaluation of analytes typically associated with slag material.

On November 22, 2006, EPI advanced six direct-push borings on the Property (B1 through B6). The locations of these borings are shown on Figure 2. A total of 18 soil samples were submitted for laboratory analysis of total petroleum hydrocarbons; carcinogenic polycyclic aromatic hydrocarbons (cPAHs), polychlorinated biphenyls (PCBs); and metals (including antimony, arsenic, cadmium, copper, and lead). One reconnaissance groundwater sample was collected from boring B6 located near the southwest corner of the PCS excavation and downgradient of the former USTs. The reconnaissance groundwater sample was submitted for laboratory analysis of GRPH and BTEX.

Groundwater Results. Analytical results for reconnaissance groundwater are typically used as a qualitative indicator of potential impacts and are generally biased high as a result of elevated turbidity of the groundwater collected from temporary wells. However, only GPRH and ethylbenzene were detected in the groundwater sample collected during the EPI investigation, and their concentrations were well below the applicable cleanup levels.

Soil Results. Detected lead concentrations in soil ranged from 7 to 11,000 milligrams per kilogram (mg/kg), although no evidence was found to suggest that the presence of elevated lead was associated with the operation of the former retail service station; in contrast, the elevated lead concentrations correlated strongly with the presence of slag. Additionally, elevated arsenic and lead concentrations were found in the slag material and underlying soil; however, neither was detected in soil samples collected from the excavation backfill. Concentrations of cadmium, copper, petroleum hydrocarbons, cPAHs, and PCBs were below the laboratory reporting limit and/or the applicable cleanup levels.

2.6.5 Groundwater Monitoring

Groundwater monitoring has been conducted at the Property since May 2006. The purposes of groundwater monitoring and sampling events were to monitor groundwater quality, measure the direction of groundwater flow beneath the Site, and eventually demonstrate compliance with

applicable cleanup levels. Groundwater samples have been analyzed for GRPH, DRPH, ORPH, and BTEX. Selected groundwater samples have also been analyzed for MTBE, EDB, and EDC.

Based on an evaluation of recent and historical monitoring data, groundwater collected from observation well OW02 consistently exhibits groundwater impacts. GRPH, DRPH, benzene, and MTBE have been detected in one or more groundwater samples collected from observation well OW02 at concentrations exceeding their respective cleanup levels. DRPH has also been detected at a concentration exceeding the cleanup level in RW02, although the result was flagged due to the chromatogram resembling weathered gasoline, not diesel. During the most recent groundwater monitoring event, DRPH and ORPH were detected at concentrations exceeding their respective cleanup levels in groundwater collected from recovery well RW07; however, the DRPH concentration reported for RW07 was flagged by the laboratory, as its chromatogram was not indicative of diesel. The DRPH result in RW07 is likely due to overlap from another fuel type. DRPH and benzene concentrations exceeding the cleanup level were also detected in the groundwater collected from OW02.

3.0 INTERIM ACTION

Following completion of a focused alternatives analysis, SES installed a DPE system on the Property in May 2006. The system was designed to remove petroleum-contaminated groundwater and soil vapor from the former UST excavation area and vicinity. The system consists of recovery wells, observation wells, process piping, pumps, batch tank, and activated carbon canisters for treating air and water recovered by the DPE system.

Seven 4-inch-diameter recovery wells and two 2-inch-diameter observation wells were installed for incorporation with the system. The recovery wells were strategically located to remediate soil at various depths based on information obtained from previous subsurface investigations and the UST excavation activities (SES 2005).

Each of the recovery well heads was equipped with a suction stinger, well head seal, auxiliary bleed air valve, and a protective utility vault. Each stinger was constructed of 1-inch-diameter vacuum hose, which could be lowered or raised as needed to balance the removal of liquids and vapors from the wells. The tops of the wells were completed with a Campbell well seal, which provided a vapor and water tight seal between the top of the well casing and the down-well stinger. An auxiliary 2-inch-diameter bleed air valve was installed on a 4x4x2-inch polyvinyl chloride (PVC) tee fitting between the well seal and the top of the well in the event additional modifications to the remedial system were required.

Dedicated process piping was installed below grade from the remediation compound to the individual recovery wells. Each recovery well was plumbed with 1- and 2-inch-diameter schedule 80 PVC piping. The 1-inch–diameter piping was used to transfer the recovered vapors and liquids from the recovery well stinger to a manifold at the remediation compound. The 1-inch-diameter piping was selected for this process to maintain a minimum air flow velocity of approximately 1,640 feet per minute. The 2-inch-diameter piping was installed in the event future system modifications would be required.

The remedial skid-mounted system provided by TOC Holdings Co. was equipped with a 7.5-horse power (HP) liquid ring vacuum pump capable of producing 100 actual cubic feet per minute at an applied vacuum of 18 inches of mercury. The suction applied with the liquid ring pump was utilized to remove groundwater and vapors from the recovery wells via in-well stingers and below-grade process piping. Recovered groundwater and vapor were separated in a moisture separator. The

recovered groundwater is pumped into a batch holding tank prior to treatment with two granular-activated carbon (GAC) canisters to remove petroleum hydrocarbons before being discharged to the City of Everett sanitary sewer system. The vapors from the knockout tank are pumped through a particulate filter prior to flowing through two 3,000-pound GAC canisters, which remove volatile organic compounds. The treated effluent vapors are then discharged to ambient air through a 10-foot-tall exhaust stack in accordance with a discharge permit issued by the Puget Sound Clean Air Agency. The treated effluent water is discharged to the sanitary sewer system in accordance with a discharge permit issued by the City of Everett. System operation and maintenance is performed on a monthly basis and includes compliance sampling for vapor and water.

Through Fourth Quarter 2008, an estimated 308.9 pounds of vapor-phase GRPH and 24.3 pounds of vapor-phase BTEX had been removed from the subsurface since operation of the system began in May 2006 (SES 2009). During this same period, approximately 0.024 pounds of dissolved-phase BTEX has been removed from the groundwater. Approximately 14,151 gallons of groundwater had been extracted, treated, and discharged during system operation through Fourth Quarter 2008 (SES 2009). The system was turned off in Second Quarter 2009 at the request of the Property owner.

4.0 DATA GAPS

Following completion of the above-described release discovery, the lateral and vertical extent of soil and groundwater contamination that resulted from the former on-Property retail gasoline station remained undefined due to the proximity of the North Broadway ROW and the northeast-adjoining property. Additionally, the effectiveness of the DPE system on soil and groundwater quality beneath the Property was not evaluated.

5.0 2009 REMEDIAL INVESTIGATION

In an effort to address the data gaps identified above, SES conducted a subsurface investigation in June 2009 which consisted of advancing 11 direct-push borings (P01 through P11) and collecting and analyzing two to four soil samples from each boring. The following subsections provide additional details regarding the subsurface investigation field activities and a summary of the findings.

5.1 FIELD PROGRAM

The scope of work associated with the subsurface investigation included the following:

- Preparing a Health and Safety Plan in accordance with MTCA and Part 1910.120 of Title 29 of the Code of Federal Regulations prior to initiating subsurface investigation activities.
- Performing a utility locate at the proposed boring locations using a private utility location service, as well as contacting the One-Call Center for utility location.
- Advancing 11 direct-push borings (P01 through P11) on the Site, collecting compliance soil samples, and submitting select soil samples to the laboratory for analysis.

A detailed description of the subsurface investigation field activities is provided in the following subsections.

5.2 FIELD ACTIVITIES

The subsurface investigation was conducted on June 23 and 24, 2009. Field activities were conducted under the supervision of an SES geologist. Prior to drilling, a private utility location survey was conducted by Underground Detection Services of Seattle, Washington. Drilling services were provided by Environmental Services Northwest of Lacey, Washington, using a direct-push drill rig.

5.3 SOIL SAMPLE COLLECTION

Borings P01 through P11 were advanced on the northern and central portion of the Property to the north and west of the existing retail shopping center. The borings were sampled continuously from ground surface to the maximum depth explored of 22 feet bgs using a 4-foot sample probe driven with a hydraulic hammer. The sampler was lined with disposable acetate sleeves that were removed and opened to reveal the soil in each sample interval. After the maximum depth was achieved in each boring, the borings were backfilled with hydrated bentonite chips.

Soil samples were screened in the field for potential evidence of contamination using visual observations and notations of odor, as well as by conducting headspace analysis using a photoionization detector (PID) to detect the presence of volatile organic vapors. Headspace analysis was conducted by placing soil from each sample interval into a resealable plastic bag. After a minimum of 30 seconds, the probe of the PID was inserted into the bag, and the highest reading obtained over an approximately 30-second interval was recorded. The USCS symbol, visual and olfactory notations for the samples, and PID readings were recorded on boring log forms, which are provided in Appendix D.

Soil samples collected from the borings were transferred directly into laboratory-prepared sample containers. Care was taken to not handle the seal or inside cap of the container when placing the sample into the containers. The sample containers were clearly labeled using a unique sample number, placed on ice in a cooler, and transported to Friedman & Bruya, Inc. of Seattle, Washington, under standard chain-of-custody protocol for laboratory analysis. Samples were submitted for laboratory analysis of GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-GX, DRPH and ORPH by Method NWTPH-Dx, and BTEX and naphthalene by the United States Environmental Protection Agency (EPA) Method 8021B or 8260C. Copies of the laboratory reports are provided in Appendix E.

5.4 RESULTS

Soil encountered in borings P01 through P11 consisted of damp, dense, silty sand and silt from ground surface to approximately 22 feet bgs. Slag was present from approximately 6 to 14 feet bgs on the western end of the Property extending just beyond the Property boundary (P04 through P06, P11). Petroleum hydrocarbon odor was not encountered in soil collected from borings P01 through P06. Slight petroleum hydrocarbon odor was noted in soil collected from boring P07 at depths of approximately 15 to 17 feet bgs and from boring P08 at depths between approximately 13 to 20 feet bgs, with moderate petroleum hydrocarbon odor noted at depths of approximately 14 to 16 feet bgs. Moderate petroleum hydrocarbon odor was noted in soil collected from boring P10 at depths of approximately 12 to 16 feet bgs and in soil collected from boring P11 at depths of approximately 8 to 9 feet. Moderate to strong petroleum hydrocarbon odor was noted in soil collected from boring P09 at depths of approximately 12 to 22 feet, with separate-phase hydrocarbons observed in soil at a depth of approximately 16 feet bgs.

Results from the subsurface investigation were as follows (Figure 7, Table 2):

- Concentrations of GRPH exceeded the cleanup levels in soil collected from borings P07 through P11. One or more of the BTEX constituents was detected at concentrations exceeding their respective cleanup levels in soil collected from borings P06 through P11, which were advanced in the northern and western portions of the Property at depths ranging from 12 to 22 feet bgs (Figure 7, Table 2). Concentrations of benzene exceeding its respective cleanup level were observed in soil collected from borings P06 and P08 through P11.
- Borings installed to the south of those identified above did not contain concentrations of petroleum hydrocarbon constituents that exceeded their respective laboratory reporting limits; however, a more precise northern and western bound to the contamination could not be evaluated during this investigation due to access limitations.
- Concentrations of DRPH and ORPH in the soil samples collected from each of the borings were below the applicable laboratory reporting limits and/or cleanup level.

There was no indication of petroleum contamination in soil samples collected between 0 and 12 feet bgs in any of the borings advanced as part of this investigation (Figure 7, Table 2), and groundwater was not encountered during drilling.

6.0 TERRESTRIAL ECOLOGICAL EVALUATION

A Terrestrial Ecological Evaluation (TEE) is required by WAC 173-340-7940 at locations where a release of a hazardous substance to soil has occurred. The regulation requires that one of the following actions be taken:

- Documenting a TEE exclusion using the criteria presented in WAC 173-340-7491;
- Conducting a simplified TEE in accordance with WAC 173-340-7492; or
- Conducting a Site-specific TEE in accordance with WAC 173-340-7493.

Results from the TEE indicate that the Site qualifies for an exclusion based on WAC 173-340-7491. The results of ranking for the simplified TEE under Table 749-1 of WAC yields a score of 12, which qualifies the Site for TEE exclusion under the criteria set forth in WAC 173-340-7492. No further consideration of ecological impacts is required under MTCA. A copy of the completed TEE form for the Site is provided as Appendix F.

7.0 CONCEPTUAL SITE MODEL

This section presents a conceptual understanding of the Site and identifies potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors.

7.1 SITE DEFINITION

The Site has been defined based on the collective findings to date from all environmental work performed by SES and others between December 2003 and August 2009, and the historical research presented in this RI Report. The approximate Site boundary is illustrated on Figure 8. The definition of the Site presented herein is based on the following criteria:

- **Extent of soil contamination:** To date, investigation activities have been limited to areas within or immediately adjacent to the Property boundary. Detected concentrations of GRPH

and benzene in soil near the northern and western Property lines indicate that impacts extend beneath the north-adjacent parcel and beneath North Broadway, located adjacent to the west of the Property. Contamination appears to extend from 12 to 22 feet bgs throughout and to the north and west of the excavation area (Figures 8 through 12). Additional data would be required to evaluate the eastern extent of contamination because recent data suggest that soil samples collected along the eastern floor and sidewall of the UST excavation (EX-6-5, EX-9-7, and EX-11-7; Figures 2 and 7) were not collected at representative depths.

- **Extent of groundwater contamination:** Groundwater encountered in the monitoring, observation, and recovery wells installed on the Property is likely the result of perched water within the excavation area. Groundwater was not encountered in monitoring well MW02, which was advanced outside of the excavation area to a depth of 30 feet bgs. Due its depth in the vicinity of the Site (70 to 90 feet bgs; Figures 10 through 12), regional groundwater is not suspected to have been impacted by the release at the Site.

7.2 CHEMICALS OF CONCERN

Based on the historical operation of a former retail gasoline station on the Property, the known release of petroleum hydrocarbons originating on the Property, and the findings of investigations conducted on the Property in association with the release, the primary COCs for the Site are GRPH, DRPH, ORPH, BTEX, MTBE, and naphthalene.

7.3 CONFIRMED AND SUSPECTED SOURCE AREAS

The results of the investigations conducted on the Site between 2003 and 2009 suggest that elevated concentrations of petroleum hydrocarbons are present in soil and groundwater beneath the Site as a result of a release of petroleum hydrocarbons from the retail gasoline station that formerly operated on the Property.

The former UST system on the Property, which consisted of four USTs, two dispenser islands, and associated product delivery lines, is suspected of contributing most to the confirmed release at the Site. The location of the former UST system is shown on Figure 2. The UST system has been removed from the Property; therefore, it does not represent an ongoing source of contamination to soil or groundwater beneath the Site.

Although the location of the former waste oil UST is unknown, it has reportedly been removed from the Property and does not represent an ongoing source of contaminants to soil or groundwater beneath the Site.

Areas of PCS could not be excavated during the 2003 UST removal activities; the portions of the Site with residual PCS are shown on Figure 7. The PCS remaining at the Site may serve as a contaminant source for the isolated areas of groundwater impacts encountered near the limits of the excavation in the vicinity of observation well OW02 and recovery wells RW02 and RW07.

7.4 MEDIA OF CONCERN

Based on the findings of the RI, soil and groundwater are the affected media at the Site.

7.5 DISTRIBUTION OF CONTAMINANTS IN SOIL

Subsurface investigations conducted at the Site have confirmed the presence of GRPH and BTEX in soil beneath the northern portion of the Property and beyond the western Property boundary within the North Broadway ROW. However, as discussed in Section 7.1, additional investigation appears warranted to evaluate the extent of contamination adjoining and/or

beneath the on-Property building. Concentrations of GRPH and benzene in soil samples collected in the vicinity of the northern and western Property boundaries have confirmed the presence or likely presence of impacts to off-Property soil beneath the north-adjoining property, as well as within the North Broadway ROW (Figures 8 through 12).

7.6 DISTRIBUTION OF CONTAMINANTS IN GROUNDWATER

Perched groundwater contamination that resulted from a release of petroleum hydrocarbons beneath the Property appears to be limited to the perimeter of the excavation in the vicinity of observation well OW02 and remediation wells RW02 and RW07. Observation well OW02 near the southwestern limit of the excavation has exhibited elevated concentrations of GRPH, benzene, DRPH, and MTBE. Remediation well RW02 near the northern limit of the excavation has exhibited an elevated concentration of DRPH, and remediation well RW07 near the southern limit of the excavation has exhibited elevated concentrations of DRPH and ORPH.

7.7 CONTAMINANT FATE AND TRANSPORT

This section discusses the fate and transport characteristics of COCs in soil and groundwater beneath the Site that are relevant to the evaluation of potential remedial technologies. The section includes a discussion of the transport mechanisms and environmental fate of petroleum hydrocarbons in the subsurface.

7.7.1 Transport Mechanism Affecting Distribution of Petroleum Hydrocarbons in the Subsurface

The environmental transport mechanisms of petroleum hydrocarbons are related to the separate phases in the subsurface. The four phases of petroleum contamination in the subsurface are vapor (in soil gas), residual contamination (sorbed contamination on soil particles), aqueous phase (contaminants dissolved in groundwater), and light non-aqueous phase liquids (LNAPLs). Each phase is in equilibrium in the subsurface with the other phases, and the relative ratio of total subsurface contamination by petroleum hydrocarbons between the four phases is controlled by dissolution, volatilization, and sorption.

Petroleum hydrocarbons observed in soil and groundwater beneath the Site have been transported from source areas and distributed throughout the Site primarily by dispersive transport mechanisms within the saturated zone. As with other chemicals, petroleum hydrocarbons tend to spread out as groundwater flows away from the source area. The extent of the hydrocarbon plume depends on the volume of the release, soil density, particle size, and seepage velocity.

Volatilization of the contaminant plume can result in mass removal of hydrocarbons by releasing vapor into the vadose zone, where soil hydrocarbon vapor can be biodegraded to an extent not possible in LNAPL or dissolved phases, depending on environmental conditions. Sorption of contaminants onto soil particles or interstitial soil spaces can immobilize contaminants. Contaminants sorbed onto soil particles are not free to transport via aqueous transport or LNAPL advection. Residual contamination, although not necessarily broken down quickly over time, is generally immobile.

7.7.2 Environmental Fate in the Subsurface

The most significant fate process for petroleum hydrocarbons is biodegradation (i.e., natural attenuation). Biological degradation of contaminants in LNAPL, dissolved, residual, and vapor phases is possible under a variety of environmental conditions, although it

occurs predominately in the aqueous, residual, and vapor phases. Degradation products of gasoline constituents are generally less toxic then their parent species. Petroleum hydrocarbons that are the most mobile (having the least viscosity and most solubility in water) are also the most easily biodegraded (e.g., aromatics). Because gasoline constituents contain thousands of carbon compounds, there is a vast array of biochemical transformations that occur in situ in the soil and groundwater media. For example, hydroxylation can alter hydrocarbon compounds to ketone or alcohol products that are less toxic or more biologically available; aromatic reduction can convert aromatic groups to naphthenes; ring cleavage can destroy aromatic functional group species; and reduction can alter olefin functionality. The alteration and destruction of gasoline constituents occurs both by microbial enzyme catalytic reactions on the contaminant substrate or by direct digestion of contaminants as an electron donor or acceptor. Any number of reactions can occur within the subsurface by microorganisms that change the chemical distribution and concentrations of the contaminants.

The time frames over which these reactions occur vary depending on any number of limiting factors, primarily the availability of oxygen. For example, BTEX constituents are rapidly degraded under aerobic conditions but tend to persist for several years and/or decades under the anoxic conditions typical of most subsurface environments.

7.8 PRELIMINARY EXPOSURE ASSESSMENT

The two general types of receptors at risk from exposure associated with the presence of COCs at the Site (i.e., humans, terrestrial plants/animals) are segregated by evaluating the terrestrial ecological risk and human health risk. As discussed in Section 6.0, Terrestrial Ecological Evaluation, the Site qualifies for a TEE exclusion in accordance with WAC 173-340-7491 (Appendix F); therefore, mitigating the potential human health risk associated with exposure to the COCs in the affected media at the Site will be the primary objective of any cleanup action implemented. This section presents the evaluation and conclusions pertaining to the exposure pathways at the Site. The goal of this subsection is to identify potential exposure scenarios that will assist in the evaluation of potential feasible cleanup alternatives that are protective of human health.

The following is a discussion of the potential exposure pathways and receptors that have been identified for the Site in association with the concentrations and distribution of COCs in all impacted media.

7.8.1 Soil-to-Groundwater Pathway

Considering the relatively widespread distribution of COCs in soil coupled with the relative lack of groundwater impacts, it appears that the soil-to-groundwater pathway may be only partially complete. In addition, the presence of the Vashon Till unit appears to hydrologically separate the shallow perched groundwater zone and the underlying aquifer within the Vashon Advance Outwash. SES reviewed registered water wells on the Ecology website, which revealed that the Site is not located within 0.5 miles of any water supply wells (Ecology 2009). While limited adverse impacts to shallow groundwater in the immediate vicinity of the source area have been confirmed, the potential for adverse impacts to the municipal water supply from contaminants on the Property is low.

7.8.2 Direct Contact Pathway

Direct contact with soil and groundwater exhibiting concentrations of petroleum hydrocarbons in excess of the cleanup levels is limited to human receptors who come into

close contact with the media via direct exposure, including dermal contact or ingestion of excavated soil or groundwater. The standard point of compliance for soil contamination beneath a site is approximately 15 feet bgs, which represents a reasonable estimate of the depth that could be accessed during normal site redevelopment activities (WAC 173-340-740[6][d]). Although PCS and petroleum-contaminated groundwater are present within 15 feet of the ground surface, access is limited by the existing pavement, thereby minimizing risks associated with the direct contact pathway. Until such point as the contaminated soil and groundwater are removed from the Site or an institutional control limiting direct contact is implemented, the direct contact pathway appears to be complete.

7.8.3 Vapor Pathway

Volatile COCs, including benzene, have been identified at the Site. Baseline screening levels have not yet been established for use by Ecology; however, both the EPA and the State of Oregon Department of Environmental Quality (ODEQ) have established appropriate screening levels that may be applied to sites within Washington State. Utilization of the EPA Online Screening Level Johnson and Ettinger Model indicated that a modeled groundwater concentration of benzene of 13.27 µg/L would be protective of indoor air. The ODEQ Risk-Based Concentrations spreadsheet, which includes soil-to-indoor air pathways, indicates that benzene concentrations ranging from 0.068 to 1.2 mg/kg would be protective of residential through occupational vapor intrusion scenarios. Since concentrations of benzene in both soil and groundwater beneath the Site exceed the screening/calculated risked-based cleanup levels, the vapor intrusion exposure pathway is considered to be complete at the Site.

7.8.4 Surface Water

Migration of contaminants via surface water infiltration and leaching to the subsurface is mitigated by the pavement that covers the Property and adjacent ROW. In addition, since there are no ongoing fueling operations at the Property or surface water bodies currently on or adjacent to the Property, there is no potential for human contact with contaminated surface water or for contaminant migration through this medium, and the pathway is considered incomplete.

7.8.5 Groundwater/Drinking Water

Shallow groundwater in the vicinity of the Site is not developed as a significant water resource and is not likely to be developed in the future due to the current zoning regulations. Therefore, the groundwater to drinking water pathway is considered incomplete.

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9.0 LIMITATIONS

The findings and conclusions documented in this report were prepared for the specific application to this project and were developed 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. A potential always remains for the presence of unknown, unidentified, or unforeseen subsurface contamination on portions of the Property not sampled, such as under buildings. No warranty, expressed or implied, is made. This report is for the exclusive use of TOC Holdings Co. and its representatives.

PHOTOGRAPHS

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

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Date: May 14, 2009
Drawn By: J. Adams
Chk By: E. Rothman
SES Project No.: 01-169
File ID: 1947 aerial photo

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

1947 Aerial Photograph

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

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Date: May 14, 2009
Drawn By: J. Cyr
Chk By: E. Rothman
SES Project No.: 01-169
File ID: 1965 aerial photo

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

1965 Aerial Photograph

SOUND ENVIRONMENTAL STRATEGIES www.soundenvironmental.com	N	Date: May 14, 2009 Drawn By: J. Adams Chk By: E. Rothman SES Project No.: 01-169 File ID: 1969 aerial photo	TOC Holdings Co. Facility No. 01-169 851 North Broadway Everett, Washington	**1969 Aerial Photograph**

SOUND ENVIRONMENTAL STRATEGIES
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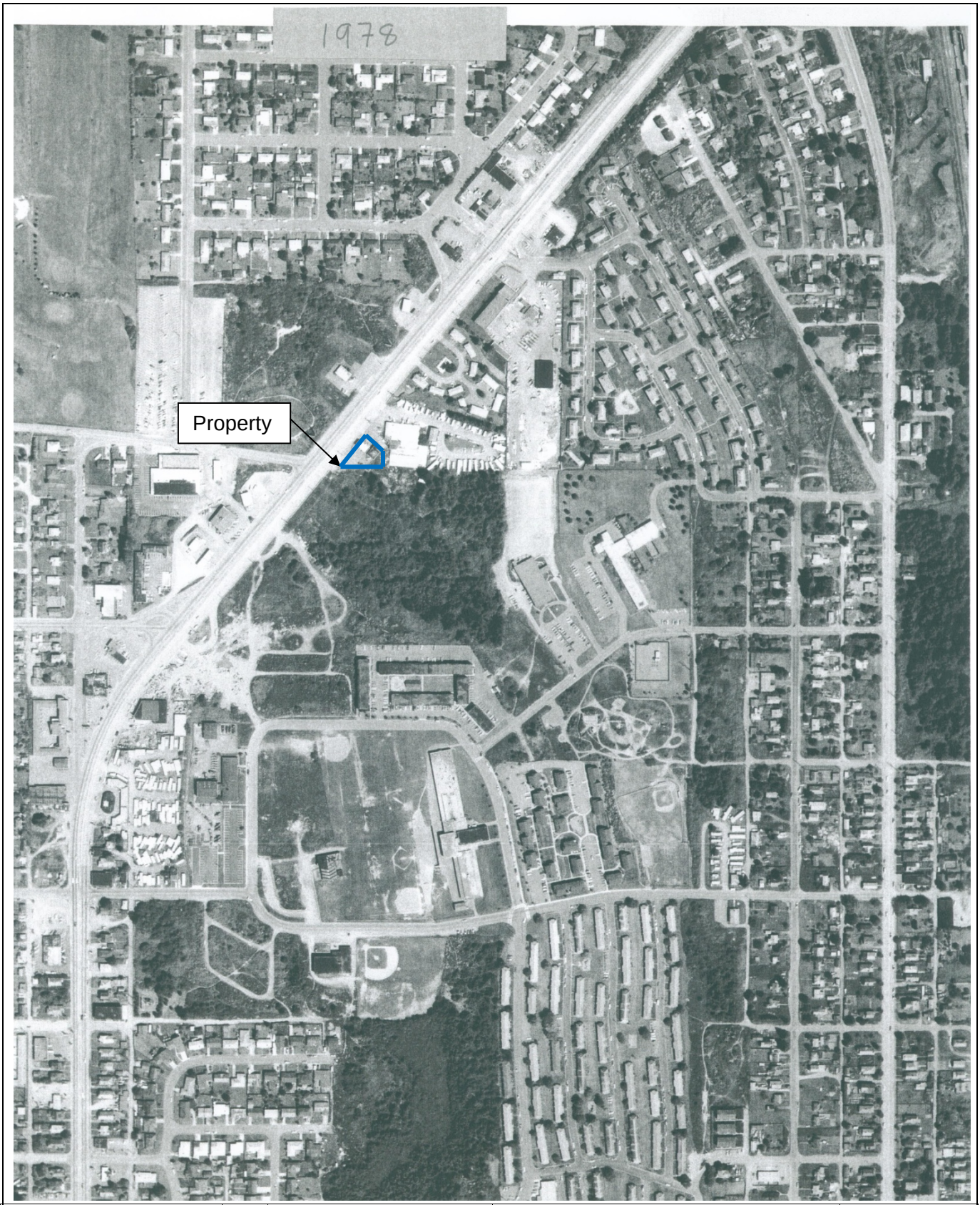
Date: May 14, 2009
Drawn By: J. Adams
Chk By: E. Rothman
SES Project No.: 01-169
File ID: 1974 aerial photo

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

1974 Aerial Photograph



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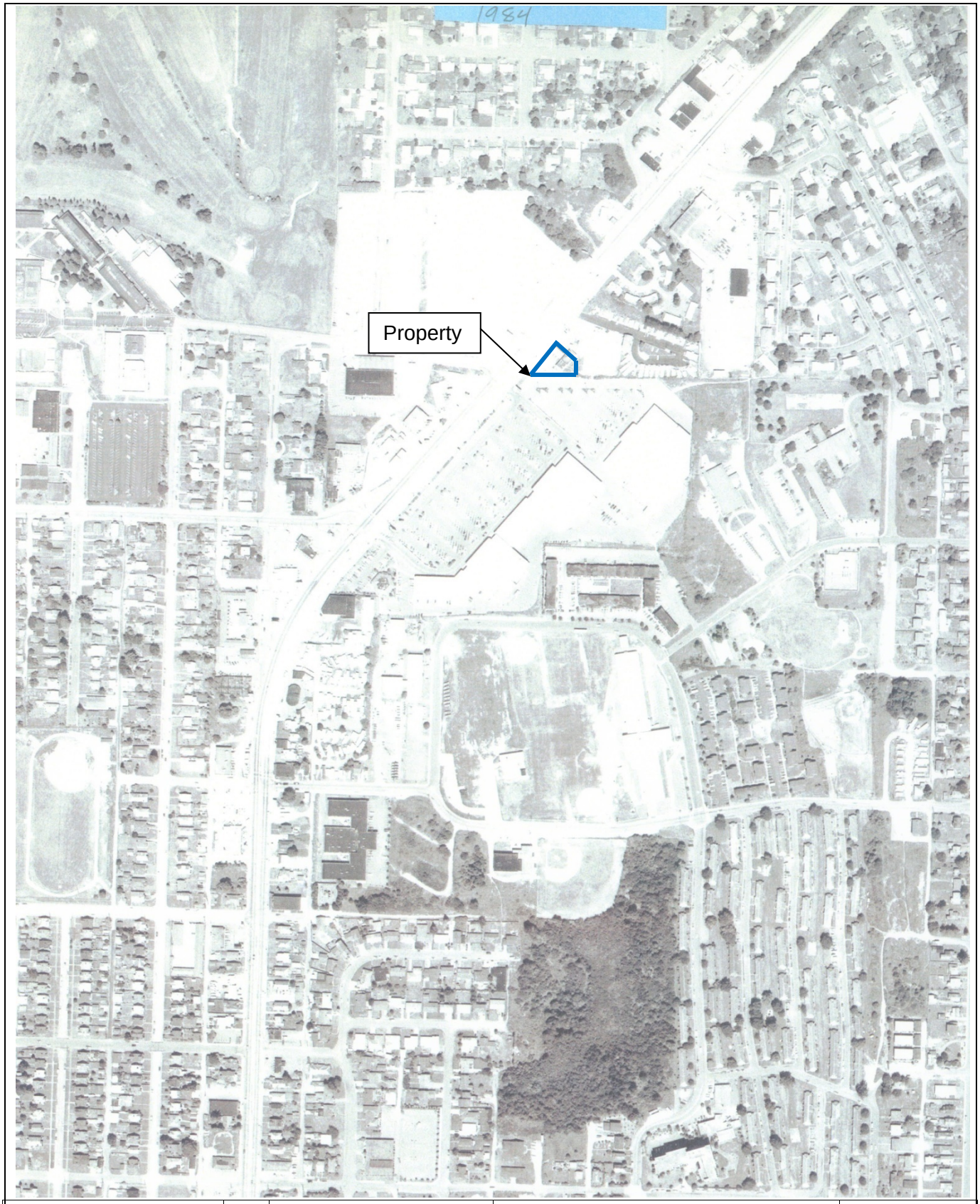
Date: May 14, 2009
Drawn By: J. Adams
Chk By: E. Rothman
SES Project No.: 01-169
File ID: 1978 aerial photo

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

1978 Aerial Photograph



SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

N

Date: May 14, 2009
Drawn By: J. Adams
Chk By: E. Rothman
SES Project No.: 01-169
File ID: 1984 aerial photo

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

1984 Aerial Photograph

Photograph 1. Original layout of 1959-vintage convenience store.

Photograph 2. Paved parking lot located on western portion of the Property.

Photograph 3. Remediation system installation.

Photograph 4. System piping exposed during regrading activities conducted as part of Property redevelopment.

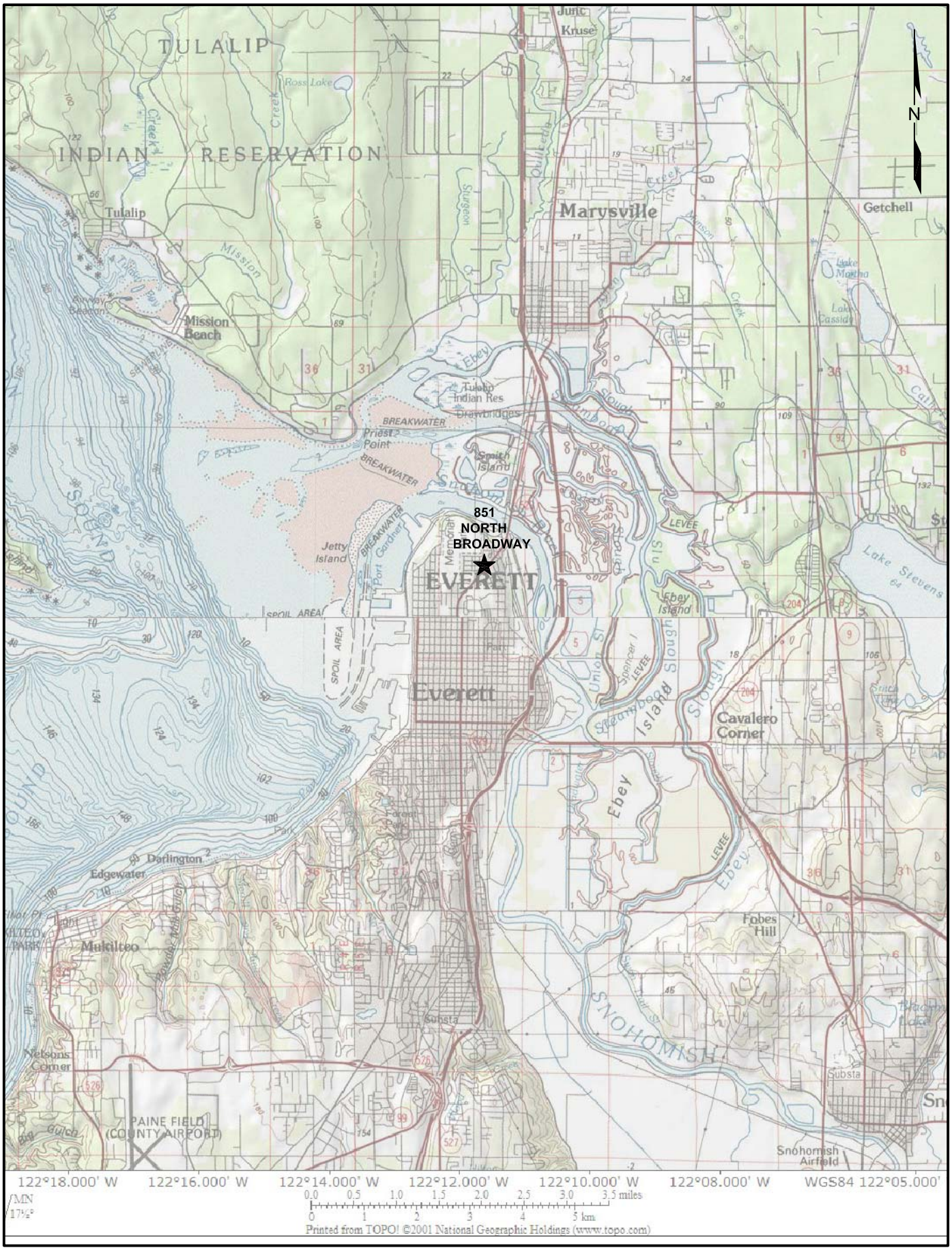
Photograph 5. Fenced remediation compound located within the northern portion of the building.

Photograph 6. View of the Property in its current configuration.

SOUND ENVIRONMENTAL STRATEGIES www.soundenvironmental.com	Date: May 1, 2009 Drawn By: E. Rothman Chk By: R. Bixby SES Project No.: 0440-002-07 File ID: Site Photographs.doc	**SITE PHOTOGRAPHS** TOC Holdings Co. Facility No. 01-169 851 North Broadway Everett, Washington

FIGURES

P:\0440 TOC HOLDINGS CO\01-169 EVERETT 851 BROADWAY\TECHNICAL\CAD\FIGURE 1\01-169_FIG1.DWG



SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

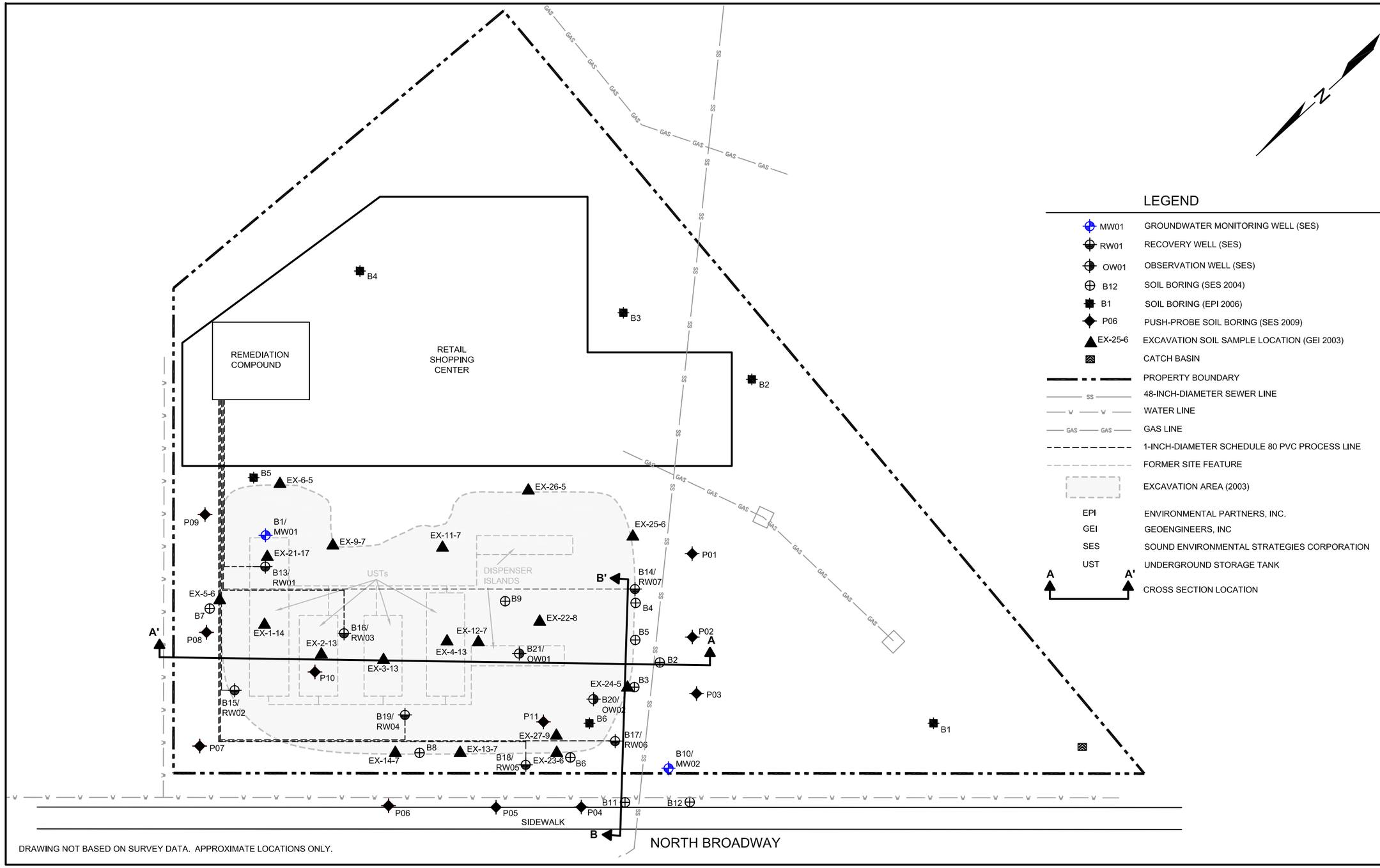
DATE: 09/30/2009
DRAWN BY: NAC
CHECKED BY: APH
CAD FILE: 01-169_FIG1

PROJECT NAME: TOC HOLDINGS CO. FACILITY NO. 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

FIGURE 1
PROPERTY LOCATION MAP

SOUNDENVIRONMENTAL.COM

06/02/2008



DRAWING NOT BASED ON SURVEY DATA. APPROXIMATE LOCATIONS ONLY.

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 11/02/09
DRAWN BY: NAC
CHECKED BY: APH
CAD FILE: 01-169_2009RI_EL

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

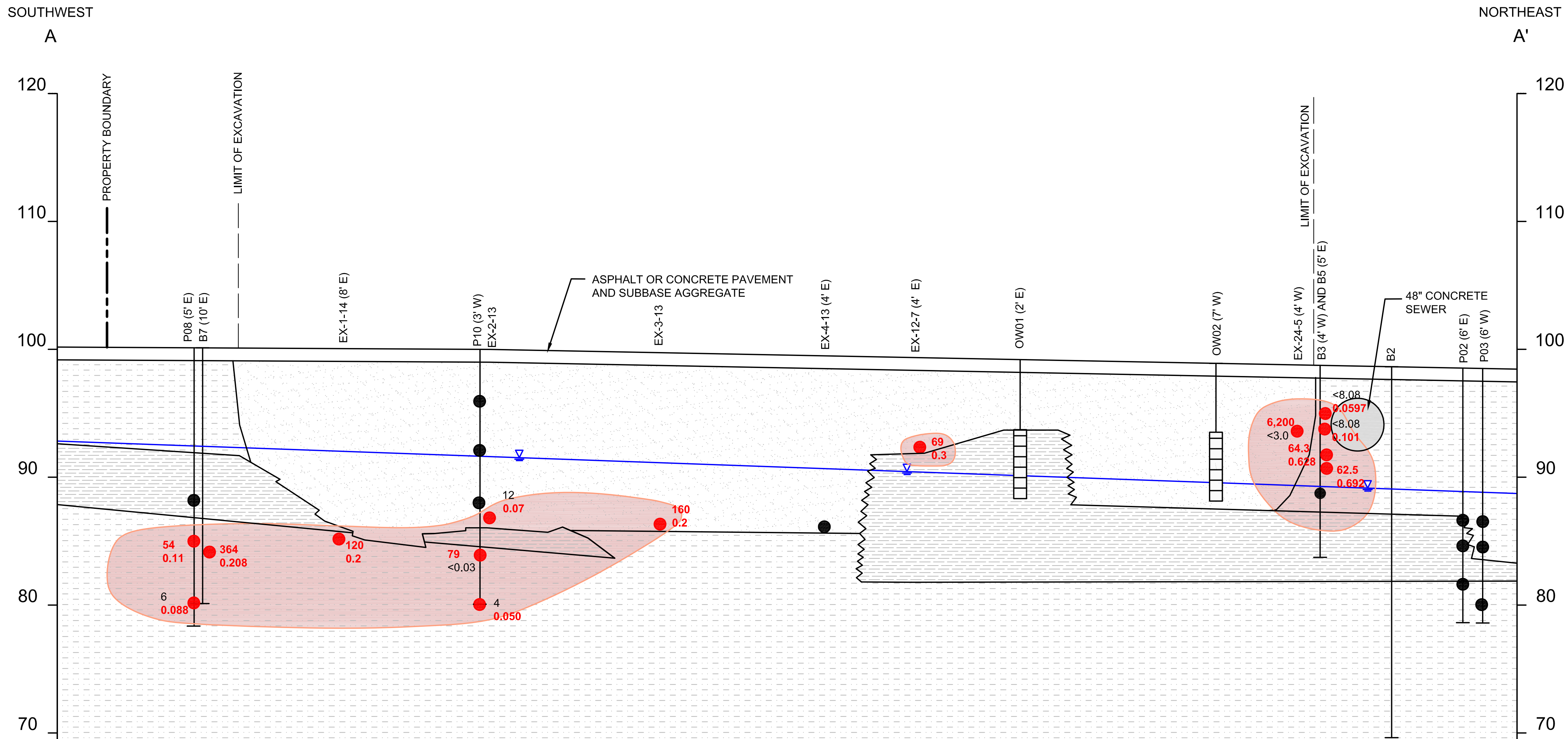
REGION:

0 5 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 2
EXPLORATION LOCATION PLAN WITH GEOLOGIC CROSS SECTIONS

P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_EL_F.dwg

SOUNDENVIRONMENTAL.COM



60

LEGEND

ML: INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS

SM: SILTY SANDS, SAND - CLAY MIXTURES

SP: POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES

SLAG FILL MATERIAL

ESTIMATED EXTENT OF PETROLEUM-CONTAMINATED SOIL

APPROXIMATE GROUNDWATER TABLE BASED ON 11/26/08 DATA

SCREEN INTERVAL

(13' SE) DENOTES DISTANCE IN FEET AND DIRECTION OF BORING RELATIVE TO CROSS SECTION TRANSECT

120 GASOLINE-RANGE PETROLEUM HYDROCARBONS
0.2 BENZENE

CONCENTRATIONS PRESENTED IN MILLIGRAMS PER KILOGRAM

DENOTES CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL FOR PETROLEUM IN SOIL

DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR PETROLEUM IN SOIL

MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT

SE SOUTHEAST

NW NORTHWEST

NOTE: ELEVATIONS BASED ON AN ARBITRARY, VERTICAL, ON-SITE DATUM OF 100.00 FEET

FILL MATERIAL TO A DEPTH OF 15 FEET THROUGHOUT SITE

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 09/01/09
DRAWN BY: JQC/NAC
CHECKED BY: RKB
CAD FILE: 01-169_2009RI_XAA

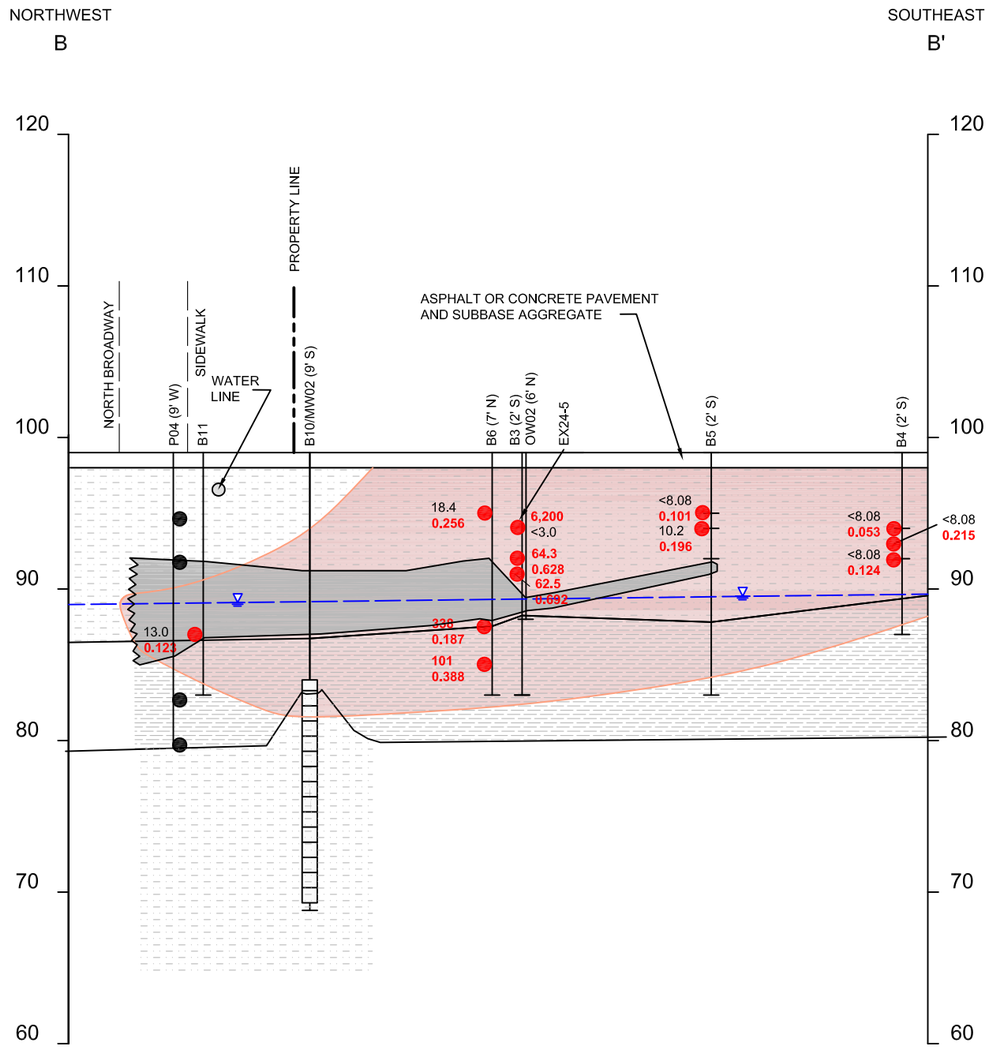
PROJECT NAME: TOC HOLDINGS CO. FACILITY NO. 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 3
GEOLOGIC CROSS SECTION A-A'

P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_XAA_F.dwg
9/11/2009



LEGEND

- **ML:** INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS
- **SM:** SILTY SANDS, SAND - CLAY MIXTURES
- SLAG FILL MATERIAL
- ESTIMATED EXTENT OF PETROLEUM-CONTAMINATED SOIL
- APPROXIMATE GROUNDWATER TABLE BASED ON 11/26/08 DATA
- SCREEN INTERVAL
- (2' S) DENOTES DISTANCE (IN FEET) AND BORING RELATIVE TO CROSS SECTION TRANSECT
- 338 / 0.187 GASOLINE-RANGE PETROLEUM HYDROCARBONS / BENZENE

CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM

- DENOTES CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL FOR PETROLEUM IN SOIL
- DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR PETROLEUM IN SOIL

MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
ND	NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
NE	NORTHEAST
SW	SOUTHWEST

NOTE: ELEVATIONS BASED ON AN ARBITRARY, VERTICAL, ON-SITE DATUM OF 100.00'

FILL MATERIAL TO A DEPTH OF 15 FEET THROUGHOUT SITE

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 07/01/09
DRAWN BY: JQC/NAC
CHECKED BY: RKB
CAD FILE: 01-169_2009RI_XBB

PROJECT NAME: TOC HOLDINGS CO. FACILITY NO. 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 4
GEOLOGIC CROSS SECTION B-B'

10/2/2009
P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_XBB_F.dwg
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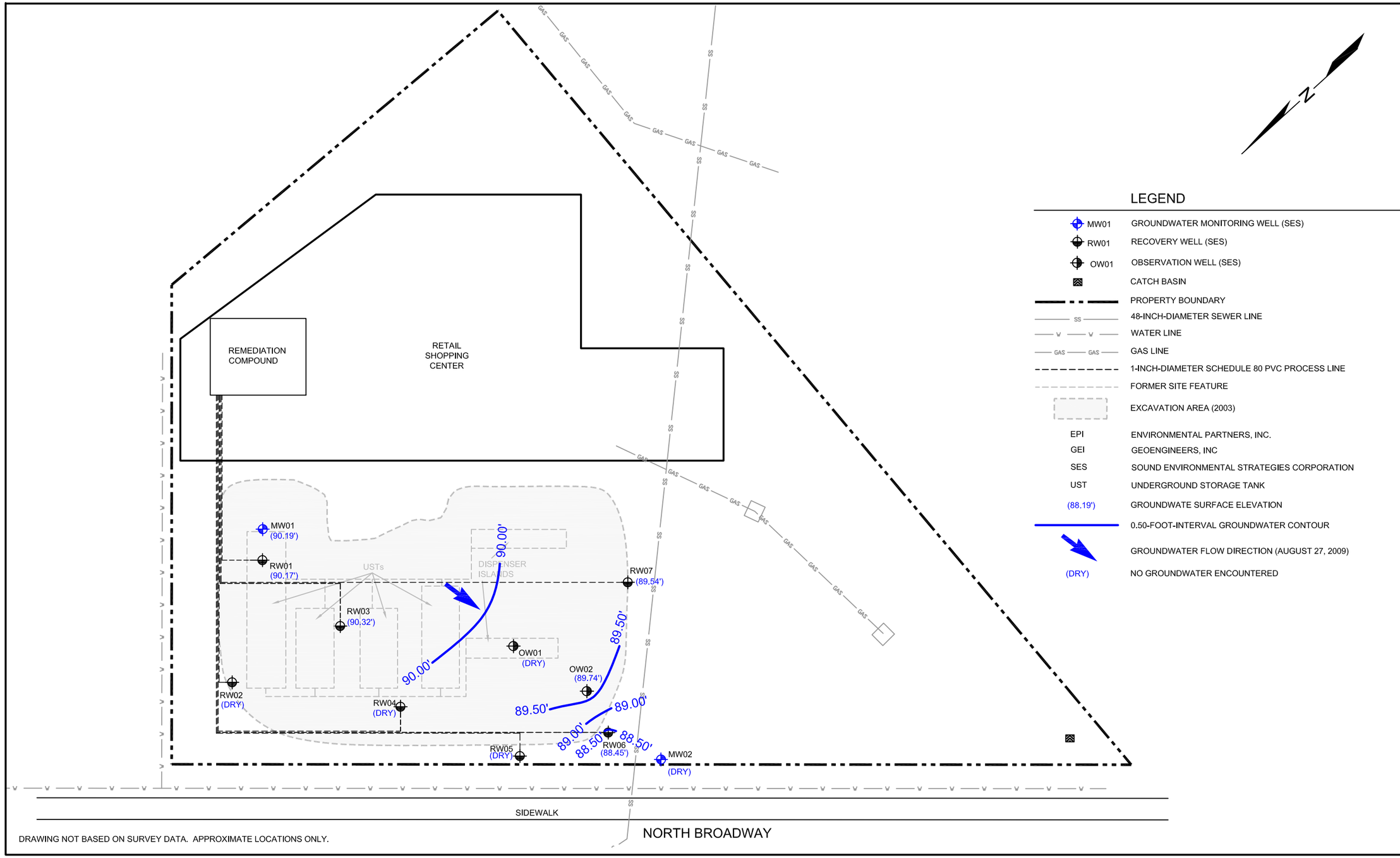


DRAWING NOT BASED ON SURVEY DATA. APPROXIMATE LOCATIONS ONLY.

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 09/29/09
DRAWN BY: BLR
CHECKED BY: RKB
CAD FILE: 01-169_2009RI_CM

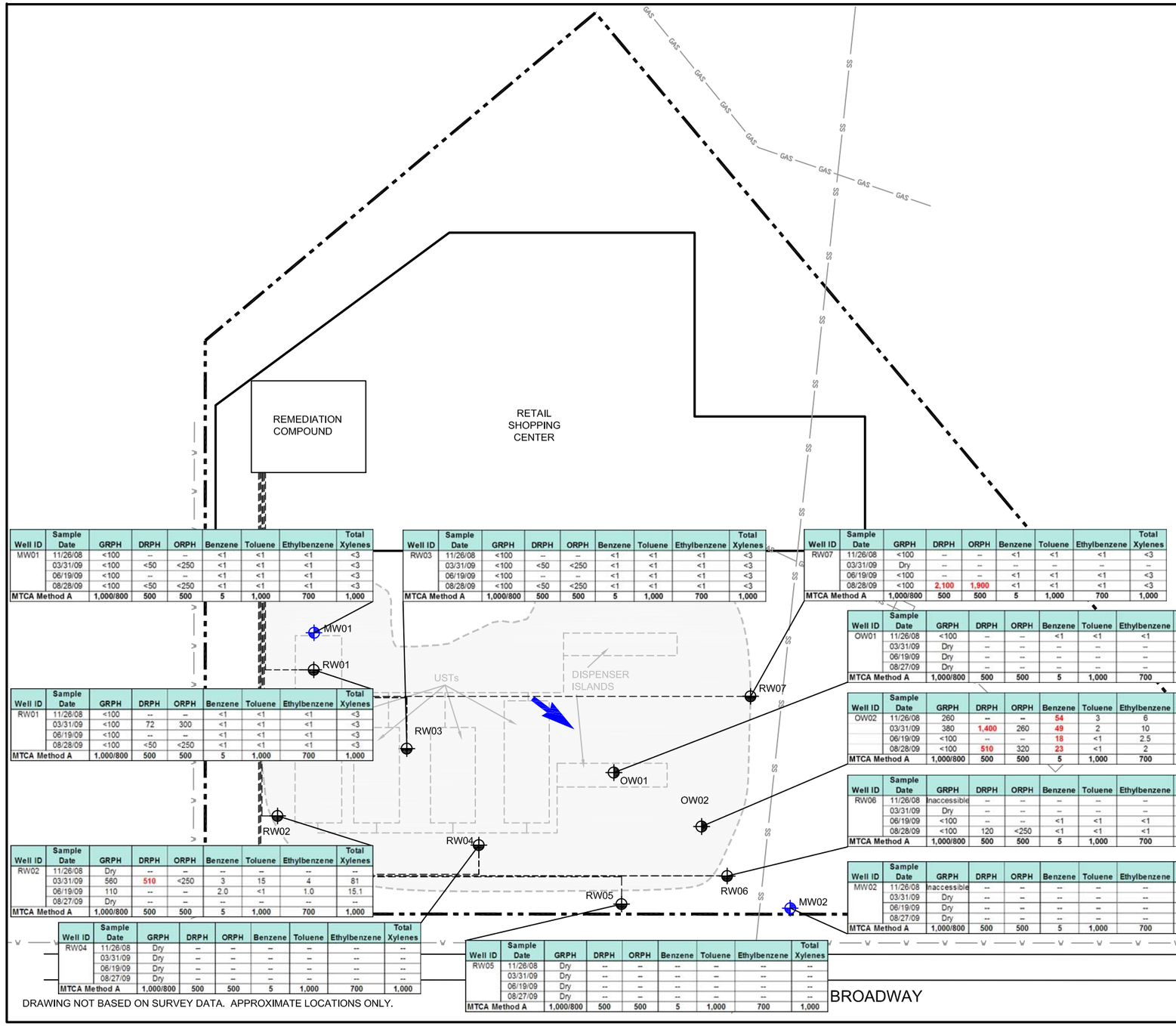
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 5
GROUNDWATER CONTOUR MAP
(AUGUST 27, 2009)

06/02/2008



Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW01	11/26/08	<100	--	--	<1	<1	<1	<3
	03/31/09	<100	<50	<250	<1	<1	<1	<3
	06/19/09	<100	--	--	<1	<1	<1	<3
	08/28/09	<100	<50	<250	<1	<1	<1	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW03	11/26/08	<100	--	--	<1	<1	<1	<3
	03/31/09	<100	<50	<250	<1	<1	<1	<3
	06/19/09	<100	--	--	<1	<1	<1	<3
	08/28/09	<100	<50	<250	<1	<1	<1	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW07	11/26/08	<100	--	--	<1	<1	<1	<3
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	<100	--	--	<1	<1	<1	<3
	08/28/09	<100	2,100	1,900	<1	<1	<1	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
OW01	11/26/08	<100	--	--	<1	<1	<1	<3
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
OW02	11/26/08	260	--	--	54	3	6	8
	03/31/09	380	1,400	260	49	2	10	38
	06/19/09	<100	--	--	18	<1	2.5	<4
	08/28/09	<100	510	320	23	<1	2	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW06	11/26/08	Inaccessible	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	<100	--	--	<1	<1	<1	<3
	08/28/09	<100	120	<250	<1	<1	<1	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW02	11/26/08	Inaccessible	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW01	11/26/08	<100	--	--	<1	<1	<1	<3
	03/31/09	<100	72	300	<1	<1	<1	<3
	06/19/09	<100	--	--	<1	<1	<1	<3
	08/28/09	<100	<50	<250	<1	<1	<1	<3
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW02	11/26/08	Dry	--	--	--	--	--	--
	03/31/09	560	510	<250	3	15	4	81
	06/19/09	110	--	--	2.0	<1	1.0	15.1
	08/27/09	Dry	--	--	--	--	--	--
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW04	11/26/08	Dry	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

Well ID	Sample Date	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW05	11/26/08	Dry	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--
MTCA Method A		1,000/800	500	500	5	1,000	700	1,000

DRAWING NOT BASED ON SURVEY DATA. APPROXIMATE LOCATIONS ONLY.

LEGEND

MW01	GROUNDWATER MONITORING WELL (SES)
RW01	RECOVERY WELL (SES)
OW01	OBSERVATION WELL (SES)
	CATCH BASIN
	PROPERTY BOUNDARY
SS	48-INCH-DIAMETER SEWER LINE
W	WATER LINE
GAS	GAS LINE
	1-INCH-DIAMETER SCHEDULE 80 PVC PROCESS LINE
	FORMER SITE FEATURE
	EXCAVATION AREA (2003)
EPI	ENVIRONMENTAL PARTNERS, INC.
GEI	GEOENGINEERS, INC
SES	SOUND ENVIRONMENTAL STRATEGIES CORPORATION
UST	UNDERGROUND STORAGE TANK
<	RESULT BELOW LABORATORY REPORTING LIMIT
GRPH	GASOLINE-RANGE PETROLEUM HYDROCARBONS
DRPH	DIESEL-RANGE PETROLEUM HYDROCARBONS
ORPH	OIL-RANGE PETROLEUM HYDROCARBONS
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
UST	UNDERGROUND STORAGE TANK
RED	DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR GROUNDWATER
	GROUNDWATER FLOW DIRECTION (AUGUST 27, 2009)

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 09/29/09
DRAWN BY: BLR
CHECKED BY: RKB
CAD FILE: 01-169_2009RI_GD

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 6
GROUNDWATER ANALYTICAL RESULTS
(AUGUST 27 AND 28, 2009)

P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_GD_F.dwg

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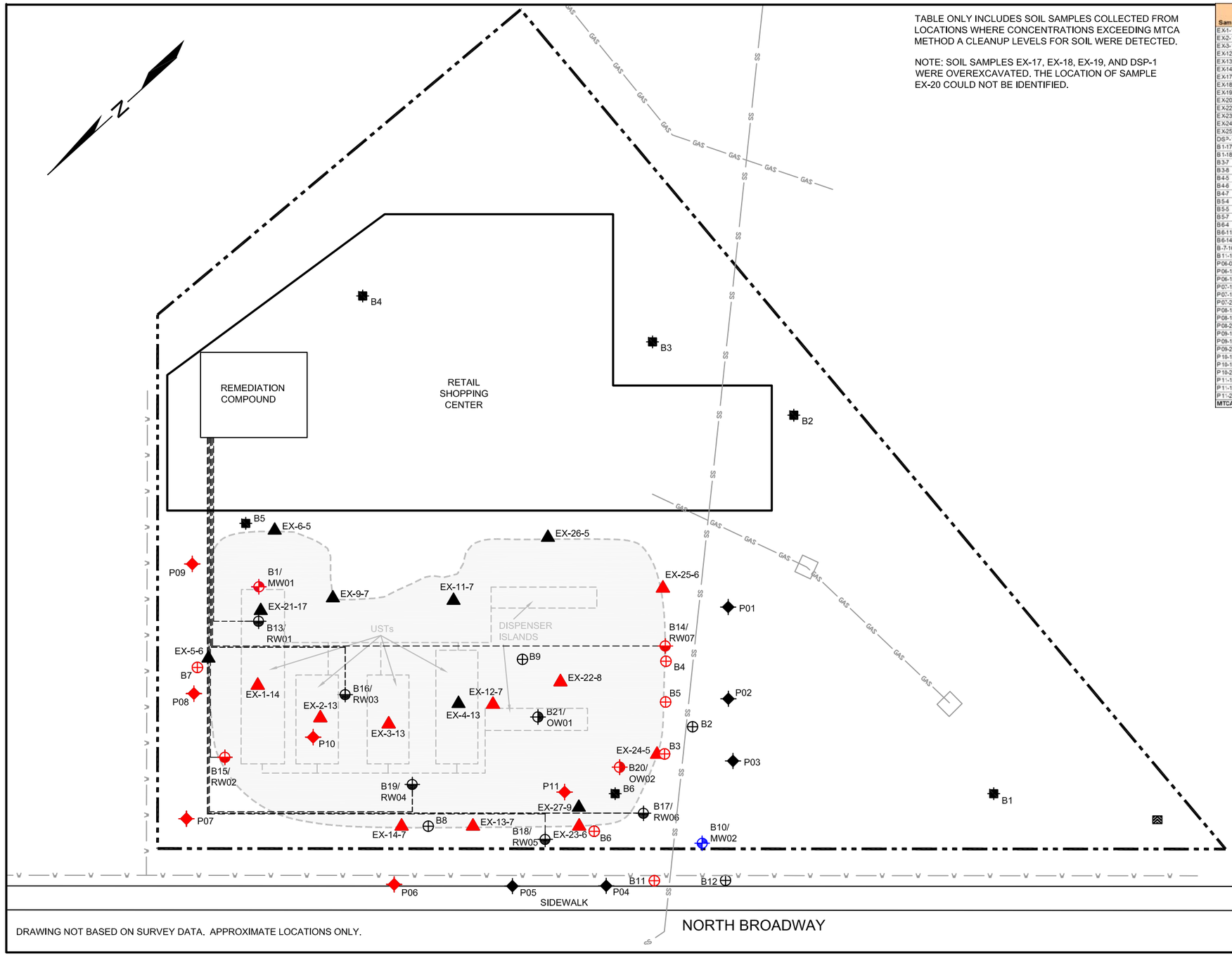
06/02/2008

TABLE ONLY INCLUDES SOIL SAMPLES COLLECTED FROM LOCATIONS WHERE CONCENTRATIONS EXCEEDING MTCA METHOD A CLEANUP LEVELS FOR SOIL WERE DETECTED.

NOTE: SOIL SAMPLES EX-17, EX-18, EX-19, AND DSP-1 WERE OVEREXCAVATED. THE LOCATION OF SAMPLE EX-20 COULD NOT BE IDENTIFIED.

Sample ID	Sample Date	Sample Depth (feet)	Analytical Results (milligrams per kilogram) GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
EX1-14	12/02/03	14	**120**	--	--	**0.2**	<0.1	1.4	**10**	--
EX2-13	12/02/03	13	12	--	--	**0.07**	0.1	0.3	2.3	--
EX3-13	12/02/03	13	**160**	--	--	**0.2**	0.1	2.0	**12**	--
EX12-7	12/02/03	7	**69**	--	--	**0.3**	<0.05	0.3	2.1	--
EX13-7	12/02/03	7	**93**	--	--	<0.06	0.1	0.6	4.4	--
EX14-7	12/02/03	7	23	--	--	**0.2**	1.4	0.4	2.0	--
EX17-3	12/02/03	3	**3,900**	--	--	<3.0	**10**	**22**	**150**	--
EX18-3	12/02/03	3	**4,700**	--	--	<3.0	**50**	**39**	**220**	--
EX19-3C	12/02/03	3	**990**	--	--	**0.8**	3.4	**90**	**51**	--
EX20-15	12/02/03	15	**14,000**	--	--	**42**	**33**	**200**	**1,100**	**35**
EX22-8	12/05/03	8	<3	--	--	**1.0**	<0.05	<0.05	<0.2	--
EX23-6	12/05/03	6	**2,800**	--	--	**3.6**	**33**	**30**	**150**	--
EX24-5	12/05/03	5	**6,200**	--	--	<3.0	**7.1**	**68**	**320**	--
EX25-6	12/05/03	6	6	--	--	**0.05**	<0.05	<0.05	0.4	--
DSP-1	12/02/03	1	**310**	--	--	**0.3**	0.6	2.8	**13**	--
B1-17	10/06/04	17	**32.7**	--	--	<0.03	<0.05	<0.05	0.419	--
B1-18	10/06/04	18	<8.08	--	--	<0.03	<0.05	<0.05	<0.1	--
B3-7	10/06/04	7	**64.3**	--	--	**0.628**	0.0826	1.44	6.47	--
B3-8	10/06/04	8	**62.5**	--	--	**0.692**	<0.05	<0.05	0.286	--
B4-5	10/06/04	5	<8.08	--	--	**0.053**	<0.05	<0.05	<0.1	--
B4-6	10/06/04	6	<8.08	--	--	**0.215**	<0.05	<0.05	0.384	--
B4-7	10/06/04	7	<8.08	--	--	**0.124**	<0.05	<0.05	0.305	--
B5-4	10/06/04	4	<8.08	--	--	**0.0697**	<0.05	<0.05	<0.1	--
B5-5	10/06/04	5	<8.08	--	--	**0.101**	<0.05	0.0719	0.294	--
B5-7	10/06/04	7	10.2	--	--	**0.196**	<0.05	0.385	1.72	--
B6-4	10/06/04	4	18.4	--	--	**0.256**	<0.05	0.314	2.01	--
B6-11.5	10/06/04	11.5	**338**	--	--	**0.187**	0.378	1.36	6.76	--
B6-14	10/06/04	14	**101**	--	--	**0.388**	<0.05	0.495	1.99	--
B-7-16	10/07/04	16	**364**	--	--	**0.208**	1.51	2.72	**13.4**	--
B11-12	10/07/04	12	13.0	--	--	**0.123**	0.0832	0.112	0.298	--
P06-06	06/23/09	6	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P06-15	06/23/09	15	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P06-17	06/23/09	17	7	<50	<250	**0.099**	0.15	<0.05	1.7	0.11
P07-10	06/24/09	10	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P07-16	06/24/09	16	**770**	950	<250	<0.03	0.052	3.1	**27.6**	**50**
P07-20	06/24/09	20	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P08-12	06/24/09	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P08-15	06/24/09	15	**54**	71	<250	**0.11**	0.094	0.64	3.6	1.1
P08-20	06/24/09	20	6	<50	<250	**0.088**	0.14	0.065	0.51	0.083
P09-12	06/24/09	12	9	<50	<250	**0.58**	<0.05	0.35	1.3	0.15
P09-15	06/24/09	15	**2,100**	470	<250	**6.9**	**110**	**42**	**253**	**18**
P09-22	06/24/09	22	4	<50	<250	**0.077**	0.25	0.069	0.40	0.076
P10-12	06/24/09	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P10-16	06/24/09	16	**79**	<50	<250	<0.03	<0.05	0.72	<1.4	0.29
P10-20	06/24/09	20	4	<50	<250	**0.050**	<0.05	0.13	<0.6	0.059
P11-12	06/24/09	12	<2	<50	<250	<0.03	<0.05	0.052	<0.2	<0.05
P11-16	06/24/09	16	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P11-20	06/24/09	20	**630**	150	<250	**0.60**	3.3	4.1	**31**	**11**
MTCA Method A Cleanup Level			**100/30**	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**	**5**



DRAWING NOT BASED ON SURVEY DATA. APPROXIMATE LOCATIONS ONLY.

LEGEND

MW01	GROUNDWATER MONITORING WELL (SES)
RW01	RECOVERY WELL (SES)
OW01	OBSERVATION WELL (SES)
B12	SOIL BORING (SES 2004)
B1	SOIL BORING (EPI 2006)
P06	PUSH-PROBE SOIL BORING (SES 2009)
EX-25-6	EXCAVATION SOIL SAMPLE LOCATION (GEI 2003)
	CATCH BASIN
	PROPERTY BOUNDARY
SS	48-INCH-DIAMETER SEWER LINE
W	WATER LINE
GAS	GAS LINE
	1-INCH-DIAMETER SCHEDULE 80 PVC PROCESS LINE
	FORMER SITE FEATURE
	EXCAVATION AREA (2003)
EPI	ENVIRONMENTAL PARTNERS, INC.
GEI	GEOENGINEERS, INC
SES	SOUND ENVIRONMENTAL STRATEGIES CORPORATION
UST	UNDERGROUND STORAGE TANK
RED	DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR SOIL
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
GRPH	GASOLINE-RANGE PETROLEUM HYDROCARBONS
<	RESULT BELOW LABORATORY REPORTING LIMITS
--	NOT MEASURED/NOT ANALYZED

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 11/02/09
DRAWN BY: NAC
CHECKED BY: APH
CAD FILE: 01-169_2009RI_SD

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 7
SOIL ANALYTICAL RESULTS

P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_SD_F.dwg

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06/02/2008

N

REMEDIATION COMPOUND

RETAIL SHOPPING CENTER

B4 B3 B2

B5 EX-6-5 EX-26-5

P09 B1/ MW01 EX-9-7 EX-11-7 EX-25-6 P01

EX-21-17 B13/ RW01 USTs DISPENSER ISLANDS B14/ RW07

EX-5-6 B9 B4

B7 EX-22-8 B5

P08 EX-1-14 B16/ RW03 EX-12-7 P02

EX-2-13 EX-4-13 B21/ OW01 B2

EX-3-13 P10 EX-24-5 B3

B15/ RW02 B20/ OW02 P03

B19/ RW04 P11 B6 B1

EX-27-9 B17/ RW06

P07 B8 EX-13-7 B10/ MW02

EX-14-7 B18/ RW05 EX-23-6 B6

P06 P05 P04 B11 B12

SIDEWALK

NORTH BROADWAY

DRAWING NOT BASED ON SURVEY DATA. APPROXIMATE LOCATIONS ONLY.

LEGEND

MW01	GROUNDWATER MONITORING WELL (SES)
RW01	RECOVERY WELL (SES)
OW01	OBSERVATION WELL (SES)
B12	SOIL BORING (SES 2004)
B1	SOIL BORING (EPI 2006)
P06	PUSH-PROBE SOIL BORING (SES 2009)
EX-25-6	EXCAVATION SOIL SAMPLE LOCATION (GEI 2003)
	CATCH BASIN
	PROPERTY BOUNDARY
SS	48-INCH-DIAMETER SEWER LINE
W	WATER LINE
GAS	GAS LINE
	1-INCH-DIAMETER SCHEDULE 80 PVC PROCESS LINE
	FORMER SITE FEATURE
	EXCAVATION AREA (2003)
EPI	ENVIRONMENTAL PARTNERS, INC.
GEI	GEOENGINEERS, INC
SES	SOUND ENVIRONMENTAL STRATEGIES CORPORATION
UST	UNDERGROUND STORAGE TANK
RED	DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR SOIL
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
	EXTENT OF KNOWN CONTAMINATION

SOUND ENVIRONMENTAL STRATEGIES

1990 1992 1994 1996 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2

PROJECT TIMELINE

TIMELINE LEGEND: GROUNDWATER MONITORING | SYSTEM INSTALL | SYSTEM OPERATION | EXCAVATION | INJECTION EVENT | TANK REMOVAL | PILOT STUDY | WELL INSTALLATION | WELL DECOMMISSION | SUBSURFACE INVESTIGATION

SOUND ENVIRONMENTAL STRATEGIES
SOUNDENVIRONMENTAL.COM

DATE: 11/02/09
DRAWN BY: NAC
CHECKED BY: APH
CAD FILE: 01-169_2009RI_SBD

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-169
SES PROJECT NUMBER: 0440-002
STREET ADDRESS: 851 NORTH BROADWAY
CITY, STATE: EVERETT, WASHINGTON

REGION:

0 5 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 8
SITE BOUNDARY DEFINITION

P:\0440 TOC Holdings Co\01-169 Everett 851 Broadway\Technical\CAD\2009RI\01-169_2009RI_SBD_F.dwg

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TABLES

SOUND ENVIRONMENTAL STRATEGIES
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Table 1
Summary of Groundwater Data
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Well ID	Sample Date	Depth to Groundwater[1] (feet)	Groundwater Elevation[2] (feet)	Analytical Results (µg/L)										
				GRPH[3]	DRPH[4]	ORPH[4]	Benzene[5]	Toluene[5]	Ethylbenzene[5]	Total Xylenes[5]	MTBE[5]	EDB[5]	EDC[5]	Dissolved Lead[6]
MW01	05/04/06	11.73	88.27	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
TOC Elevation (feet)	07/20/06	19.29	80.71	<100	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
100.00	11/08/06	19.30	80.70	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	14.10	85.90	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/08/07	11.16	88.84	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/14/07	17.18	82.82	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/29/07	18.28	81.72	<100	--	--	<1	<1	<1	<3	--	--	--	--
	02/19/08	9.91	90.09	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/27/08	9.27	90.73	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/12/08	9.41	90.59	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/26/08	8.08	91.92	<100	--	--	<1	<1	<1	<3	--	--	--	--
	03/31/09	7.80	92.20	<100	<50	<250	<1	<1	<1	<3	--	--	--	--
	06/19/09	9.82	90.18	<100	--	--	<1	<1	<1	<3	<1	<1	<1	<1
	08/28/09	9.81	90.19	<100	<50	<250	<1	<1	<1	<3	--	--	--	--
MW02	05/04/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
TOC Elevation (feet)	07/19/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
98.30	11/08/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/19/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/12/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	Inaccessible	--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
RW01	05/03/06	10.12	89.33	<50.0	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
TOC Elevation (feet)	07/20/06	17.14	82.31	<100	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
99.45	11/08/06	17.23	82.22	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	10.39	89.06	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/08/07	10.15	89.3	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/14/07	10.71	88.74	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/29/07	10.97	88.48	<100	--	--	<1	<1	<1	<3	--	--	--	--
	02/19/08	9.32	90.13	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/27/08	8.71	90.74	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/12/08	9.15	90.30	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/26/08	7.62	91.83	<100	--	--	<1	<1	<1	<3	--	--	--	--
	03/31/09	7.25	92.20	<100	72[x]	300	<1	<1	<1	<3	--	--	--	--
	06/19/09	9.29	90.16	<100	--	--	<1	<1	<1	<3	<1	<1	<1	<1
	08/28/09	9.28	90.17	<100	<50	<250	<1	<1	<1	<3	--	--	--	--
MTCA Method A Cleanup Level for Groundwater[7]				**1,000/800[a]**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**

SOUND ENVIRONMENTAL STRATEGIES
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Table 1
Summary of Groundwater Data
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Well ID	Sample Date	Depth to Groundwater[1] (feet)	Groundwater Elevation[2] (feet)	Analytical Results (µg/L)											
				GRPH[3]	DRPH[4]	ORPH[4]	Benzene[5]	Toluene[5]	Ethylbenzene[5]	Total Xylenes[5]	MTBE[5]	EDB[5]	EDC[5]	Dissolved Lead[6]
RW02	05/03/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
TOC Elevation (feet)	07/20/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
99.63	11/08/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/19/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/12/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	15.45	84.18	560	510[x]	<250	3	15	4	81	--	--	--	--
	06/19/09	15.95	83.68	110	--	--	2.0	<1	1.0	15.1	<1	<1	<1	--
	08/27/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
RW03	05/03/06	9.48	89.74	345	--	--	0.670	<0.500	4.71	41.7	<5.00	<0.500	<0.500	--
TOC Elevation (feet)	07/21/06	11.63	87.59	<100	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
99.22	11/08/06	11.50	87.72	<100	--	--	<1	<1	<1	<3	<1	<1	<1	<1
	02/06/07	9.68	89.54	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/08/07	9.44	89.78	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/14/07	10.06	89.16	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/29/07	10.62	88.60	<100	--	--	<1	<1	<1	<3	--	--	--	--
	02/19/08	8.91	90.31	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/27/08	8.27	90.95	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/12/08	8.65	90.57	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/26/08	8.22	91.00	<100	--	--	<1	<1	<1	<3	--	--	--	--
	03/31/09	7.04	92.18	<100	<50	<250	<1	<1	<1	<3	--	--	--	--
	06/19/09	8.92	90.30	<100	--	--	<1	<1	<1	<3	1.5	<1	<1	<1
	08/28/09	8.90	90.32	<100	<50	<250	<1	<1	<1	<3	--	--	--	--
RW04	05/03/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
TOC Elevation (feet)	07/19/06	16.68	82.19	--	--	--	--	--	--	--	--	--	--	--
98.87	11/08/06	16.75	82.12	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/19/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/12/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Groundwater[7]				**1,000/800[a]**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**

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				GRPH[3]	DRPH[4]	ORPH[4]	Benzene[5]	Toluene[5]	Ethylbenzene[5]	Total Xylenes[5]	MTBE[5]	EDB[5]	EDC[5]	Dissolved Lead[6]
RW05	05/03/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
TOC Elevation (feet)	07/19/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
98.30	11/08/06	16.43	81.87	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/19/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/12/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
RW06	05/04/06	10.82	87.43	77.4	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
TOC Elevation	07/19/06	9.90	88.35	<100	--	--	<0.500	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
98.25	11/08/06	9.78	88.47	<100	--	--	<1	<1	<1	<3	<1	<1	<1	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	10.89	87.36	<100	--	--	<1	<1	<1	<3	--	--	--	--
	02/19/08	9.82	88.43	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/27/08	10.86	87.39	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/12/08	11.97	86.28	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	Inaccessible	--	--	--	--	--	--	--	--	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	9.92	88.33	<100	--	--	<1	<1	<1	<3	<1	<1	<1	13.8
	08/28/09	9.80	88.45	<100	120	<250	<1	<1	<1	<3	--	--	--	--
RW07	05/03/06	10.06	88.35	66.7	--	--	1.380	<0.500	<0.500	<3.00	<5.00	<0.500	<0.500	--
TOC Elevation (feet)	07/19/06	11.27	87.14	<100	--	--	4.10	3.63	<0.500	<3.00	<5.00	<0.500	<0.500	--
98.41	11/08/06	10.70	87.71	<100	--	--	3.8	<1	<1	<3	<1	<1	<1	--
	02/06/07	9.13	89.28	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/08/07	8.89	89.52	<100	--	--	3	<1	<1	<3	--	--	--	--
	08/14/07	10.94	87.47	<100	--	--	<1	<1	<1	<3	--	--	--	--
	11/29/07	9.30	89.11	<100	--	--	<1	<1	<1	<3	--	--	--	--
	02/19/08	11.92	86.49	<100	--	--	<1	<1	<1	<3	--	--	--	--
	06/27/08	Inaccessible	--	--	--	--	--	--	--	--	--	--	--	--
	08/12/08	Inaccessible	--	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	9.81	88.60	<100	--	--	<1	<1	<1	<3	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	10.22	88.19	<100	--	--	<1	<1	<1	<3	<1	<1	<1	<1
	08/28/09	8.87	89.54	<100	2,100[x]	1,900	<1	<1	<1	<3	--	--	--	--
MTCA Method A Cleanup Level for Groundwater[7]				**1,000/800[a]**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**

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				GRPH[3]	DRPH[4]	ORPH[4]	Benzene[5]	Toluene[5]	Ethylbenzene[5]	Total Xylenes[5]	MTBE[5]	EDB[5]	EDC[5]	Dissolved Lead[6]
OW01	05/03/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
TOC Elevation (feet)	07/19/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
98.95	11/08/06	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/14/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	02/19/08	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	7.99	90.96	<100	--	--	<1	<1	<1	<3	--	--	--	--
	08/12/08	9.94	89.01	--	--	--	--	--	--	--	--	--	--	--
	11/26/08	6.88	92.07	<100	--	--	<1	<1	<1	<3	--	--	--	--
	03/31/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	06/19/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
	08/27/09	Dry	--	--	--	--	--	--	--	--	--	--	--	--
OW02	05/04/06	10.42	88.63	**2,260**	--	--	**236**	7.63	70.1	313	**26.1**	<0.500	<0.500	--
TOC Elevation (feet)	07/19/06	9.87	89.18	**914**	--	--	**194**	0.990	54.0	8.72	**30.1**	<0.500	<0.500	--
99.05	11/08/06	10.39	88.66	--	--	--	--	--	--	--	--	--	--	--
	02/06/07	10.54	88.51	--	--	--	--	--	--	--	--	--	--	--
	06/08/07	10.02	89.03	220	--	--	**22**	1	3	4	--	--	--	--
	08/14/07	10.02	89.03	--	--	--	--	--	--	--	--	--	--	--
	11/29/07	10.55	88.5	300	--	--	**41**	3	5	13	--	--	--	--
	02/19/08	10.56	88.49	--	--	--	--	--	--	--	--	--	--	--
	06/27/08	9.96	89.09	190	--	--	**38**	2	2	6	--	--	--	--
	08/12/08	10.24	88.81	180	--	--	**30**	2	2	<3	--	--	--	--
	11/26/08	10.10	88.95	260	--	--	**54**	3	6	8	--	--	--	--
	03/31/09	8.82	90.23	380	**1,400**	260[y]	**49**	2	10	38	--	--	--	--
	06/19/09	9.25	89.80	<100	--	--	**18**	<1	2.5	<4	3.8	<1	<1	<1
	08/28/09	9.31	89.74	<100	**510**	320	**23**	<1	2	<3	--	--	--	--
MTCA Method A Cleanup Level for Groundwater[7]				**1,000/800[a]**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**	**15**

NOTES:
Red denotes concentration exceeds the MTCA Method A cleanup level.
Samples analyzed by Friedman & Bruya, Inc. of Seattle, Washington.
[1]Measured in feet below the TOC.
[2]Measured relative to a temporary benchmark with an assumed elevation of 100.00 feet. The TOC for OW02 was modified by 0.11 feet on March 16, 2009.
[3]Analyzed by Method NWTPH-Gx.
[4]Analyzed by Method NWTPH-Dx.
[5]Analyzed by EPA Method 8021B, 8260B, or 8260C.
[6]Analyzed by EPA Method 200.8.
[7]MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.
[a]1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.
Laboratory Notes:
[x]The pattern of peaks present is not indicative of diesel.
[y]The pattern of peaks present is not indicative of motor oil.

-- = not analyzed/not measured
< = not detected at a concentration exceeding laboratory reporting limits
µg/L = micrograms per liter
DRPH = diesel-range petroleum hydrocarbons
Dry = measurable groundwater not encountered in well
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dichloroethane)
EPA = United States Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
MTBE = methyl tertiary-butyl ether
MTCA = Washington State Model Toxics Control Act
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH = oil-range petroleum hydrocarbons
TOC = top of well casing

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

Table 2
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Sample ID	Sample Date	Sampled By	Sample Depth (feet)	Analytical Results (mg/kg)							
				GRPH[1]	DRPH[2]	ORPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]	Naphthalene[3]
EX-1-14	12/02/03	GEI	14	**120**	--	--	**0.2**	<0.1	1.4	**10**	--
EX-2-13	12/02/03	GEI	13	12	--	--	**0.07**	0.1	0.3	2.3	--
EX-3-13	12/02/03	GEI	13	**160**	--	--	**0.2**	0.1	2.0	**12**	--
EX-4-13	12/02/03	GEI	13	4	--	--	<0.03	<0.05	0.1	0.3	--
EX-5-6	12/02/03	GEI	6	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
EX-6-5	12/02/03	GEI	5	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
EX-9-7	12/02/03	GEI	7	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
EX-11-7	12/02/03	GEI	7	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
EX-12-7	12/02/03	GEI	7	**69**	--	--	**0.3**	<0.05	0.3	2.1	--
EX-13-7	12/02/03	GEI	7	**93**	--	--	<0.06	0.1	0.6	4.4	--
EX-14-7	12/02/03	GEI	7	23	--	--	**0.2**	1.4	0.4	2.0	--
EX-17-3	12/02/03	GEI	3	3,900	--	--	<3.0	**10**	**22**	**150**	--
EX-18-3	12/02/03	GEI	3	4,700	--	--	<3.0	**50**	**39**	**220**	--
EX-19-3C	12/02/03	GEI	3	990	--	--	**0.8**	3.4	**9**	**51**	--
EX-17-3	12/02/03	GEI	3	**3,900**	--	--	<3.0	**10**	**22**	**150**	--
EX 18-3	12/02/03	GEI	3	**4,700**	--	--	<3.0	**50**	**39**	**220**	--
EX 19-3C	12/02/03	GEI	3	**990**	--	--	**0.8**	3.4	**90**	**51**	--
EX-20-15	12/02/03	GEI	15	**14,000**	--	--	**42**	**33**	**200**	**1,100**	**35**
EX-21-17	12/02/03	GEI	17	<3	--	--	<0.03	<0.05	<0.05	<0.2	<0.02
EX-22-8	12/05/03	GEI	8	<3	--	--	**1.0**	<0.05	<0.05	<0.2	--
EX-23-6	12/05/03	GEI	6	**2,800**	--	--	**3.6**	**33**	**30**	**150**	--
EX-24-5	12/05/03	GEI	5	**6,200**	--	--	<3.0	**7.1**	**68**	**320**	--
EX-25-6	12/05/03	GEI	6	6	--	--	**0.05**	<0.05	<0.05	0.4	--
EX-26-5	12/05/03	GEI	5	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
EX-27-9	12/05/03	GEI	9	<3	--	--	<0.03	<0.05	<0.05	<0.2	--
DSP-1	12/02/03	GEI	1	**310**	--	--	**0.3**	0.6	2.8	**13**	--
B1-17	10/06/04	SES	17	**32.7**	--	--	<0.03	<0.05	<0.05	0.419	--
B1-18	10/06/04	SES	18	<8.08	--	--	<0.03	<0.05	<0.05	<0.1	--
B3-7	10/06/04	SES	7	**64.3**	--	--	**0.628**	0.0826	1.44	6.47	--
B3-8	10/06/04	SES	8	**62.5**	--	--	**0.692**	<0.05	<0.05	0.286	--
B4-5	10/06/04	SES	5	<8.08	--	--	**0.053**	<0.05	<0.05	<0.1	--
B4-6	10/06/04	SES	6	<8.08	--	--	**0.215**	<0.05	<0.05	0.384	--
B4-7	10/06/04	SES	7	<8.08	--	--	**0.124**	<0.05	<0.05	0.305	--
B5-4	10/06/04	SES	4	<8.08	--	--	**0.0597**	<0.05	<0.05	<0.1	--
B5-5	10/06/04	SES	5	<8.08	--	--	**0.101**	<0.05	0.0719	0.294	--
B5-7	10/06/04	SES	7	10.2	--	--	**0.196**	<0.05	0.385	1.72	--
B6-4	10/06/04	SES	4	18.4	--	--	**0.256**	<0.05	0.314	2.01	--
B6-11.5	10/06/04	SES	11.5	**338**	--	--	**0.187**	0.078	1.36	6.76	--
B6-14	10/06/04	SES	14	**101**	--	--	**0.388**	<0.05	0.495	1.99	--
B7-16	10/07/04	SES	16	**364**	--	--	**0.208**	1.51	2.72	**13.4**	--
B9-12	10/07/04	SES	12	12.4	--	--	<0.03	<0.05	0.209	0.428	--
B11-12	10/07/04	SES	12	13.0	--	--	**0.123**	0.0832	0.112	0.298	--
B12-12	10/07/04	SES	12	20.6	--	--	<0.03	<0.05	0.107	0.12	--
B1@1.5	11/22/06	EPI	1.5	--	--	--	--	--	--	--	--
B1@9.5	11/22/06	EPI	9.5	--	--	--	--	--	--	--	--
B1@13	11/22/06	EPI	13	--	--	--	--	--	--	--	--
B2@2.5	11/22/06	EPI	2.5	--	--	--	--	--	--	--	--
B2@4.5	11/22/06	EPI	4.5	<20	--	--	--	--	--	--	--
B2@14	11/22/06	EPI	14	--	--	--	--	--	--	--	--
B3@1.5	11/22/06	EPI	1.5	--	--	--	--	--	--	--	--
B3@10	11/22/06	EPI	10	<20	--	--	--	--	--	--	--
B3@15	11/22/06	EPI	15	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level for Soil[4]				**100/30[a]**	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**	**5**

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

Table 2
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Sample ID	Sample Date	Sampled By	Sample Depth (feet)	Analytical Results (mg/kg)							
				GRPH[1]	DRPH[2]	ORPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]	Naphthalene[3]
B4@2	11/22/06	EPI	2	--	--	--	--	--	--	--	--
B4@7.9	11/22/06	EPI	7.9	<20	--	--	--	--	--	--	--
B4@16	11/22/06	EPI	16	--	--	--	--	--	--	--	--
B5@2.5	11/22/06	EPI	2.5	--	--	--	--	--	--	--	--
B5@6	11/22/06	EPI	6	<20	--	--	--	--	--	--	--
B5@12	11/22/06	EPI	12	--	--	--	--	--	--	--	--
B6@2.5	11/22/06	EPI	2.5	--	--	--	--	--	--	--	--
B6@10	11/22/06	EPI	10	<20	--	--	--	--	--	--	--
B6@13	11/22/06	EPI	13	--	--	--	--	--	--	--	
P01-07	06/23/09	SES	7	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P01-10	06/23/09	SES	10	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P01-19	06/23/09	SES	19	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P02-12	06/23/09	SES	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P02-14	06/23/09	SES	14	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P02-17	06/23/09	SES	17	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P03-12	06/23/09	SES	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P03-14	06/23/09	SES	14	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P03-19	06/23/09	SES	19	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P04-07	06/23/09	SES	7	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P04-16	06/23/09	SES	16	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P04-19	06/23/09	SES	19	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P05-06	06/23/09	SES	6	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P06-06	06/23/09	SES	6	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P06-15	06/23/09	SES	15	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P06-17	06/23/09	SES	17	7	<50	<250	**0.099**	0.15	<0.05	1.7	0.11
P07-10	06/24/09	SES	10	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P07-16	06/24/09	SES	16	**770**[d]	950[x]	<250	<0.03	0.052	3.1	**27.6**	**50**
P07-20	06/24/09	SES	20	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P08-12	06/24/09	SES	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P08-15	06/24/09	SES	15	**54**	71[x]	<250	**0.11**	0.094	0.64	3.6	1.1
P08-20	06/24/09	SES	20	6	<50	<250	**0.088**	0.14	0.065	0.51	0.083
P09-12	06/24/09	SES	12	9	<50	<250	**0.58**	<0.05	0.35	1.3	0.15
P09-15	06/24/09	SES	15	**2,100**[d]	470[x]	<250	**6.9**	**110**	**42**	**253**	**18**
P09-22	06/24/09	SES	22	4	<50	<250	**0.077**	0.25	0.069	0.40	0.076
P10-12	06/24/09	SES	12	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P10-16	06/24/09	SES	16	**79**	<50	<250	<0.03	<0.05	0.72	<1.4	0.29
P10-20	06/24/09	SES	20	4	<50	<250	**0.050**	<0.05	0.13	<0.6	0.059
P11-12	06/24/09	SES	12	<2	<50	<250	<0.03	<0.05	0.052	<0.2	<0.05
P11-16	06/24/09	SES	16	<2	<50	<250	<0.03	<0.05	<0.05	<0.2	<0.05
P11-20	06/24/09	SES	20	**630**[d]	150[x]	<250	**0.60**	3.3	4.1	**31**	**11**
MTCA Method A Cleanup Level for Soil[4]				**100/30**[a]	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**	**5**

NOTES:

Red denotes concentration exceeds MTCA Method A cleanup level.

Samples from 2003 and 2006 analyzed by CCI Analytical Laboratories of Everett, Washington.

Samples from 2004 analyzed by North Creek Analytical of Bothell, Washington.

[1]Analyzed by Method NWTPH-Gx.

[2]Analyzed by Method NWTPH-Dx

[3]Analyzed by United States Environmental Protection Agency Method 8021B or 8260C.

[4]MTCA Method A Cleanup Levels, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[a]100 mg/kg when benzene is not present and 30 mg/kg when benzene is present.

Laboratory Notes:

[d]The sample was diluted. Detection limits may be raised due to dilution.

[x]The pattern of peaks is not indicative of diesel.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

DRPH = diesel-range petroleum hydrocarbons

EPI = Environmental Partners, Inc.

GEI = GeoEngineers, Inc.

GRPH = gasoline-range petroleum hydrocarbons

mg/kg = milligrams per kilogram

MTCA =Washington State Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

SES = Sound Environmental Strategies Corporation

APPENDIX A
Sanborn Fire Insurance Maps

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, WA 98201

Inquiry Number: 2482352.1
April 29, 2009

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

4/29/09

Site Name:
TOC Holdings Co. Facility No.
851 North Broadway
Everett, WA 98201

Client Name:
Sound Environmental
19020 33 rd West
Lynnwood, WA 98036

EDR Inquiry # 2482352.1

Contact: David M. Buser

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Sound Environmental Strategies were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: TOC Holdings Co. Facility No. 01-169
Address: 851 North Broadway
City, State, Zip: Everett, WA 98201
Cross Street:
P.O. # NA
Project: 0440-002-07
Certification # 1B31-4F21-AFF4

Sanborn® Library search results
Certification # 1B31-4F21-AFF4

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

Limited Permission To Make Copies

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APPENDIX B
Snohomish County Assessor Records

QUARTER	SECTION	TOWNSHIP N.W.B.L.	RANGE E.W.M.
NW	17	29	5

0 200 400 Feet

A product of the Snohomish County Assessor's Office
Map produced on July 15, 2008

SW-8-29-5

SW-17-29-5

Snohomish County
Washington

Snohomish County Assessor's Office

Snohomish County Online Property Information

Assessor Home | County Home | Privacy Statement | Disclaimer | Contact Us

Frequently Asked Questions

Show Overview Map

View Property Information

View recent sales

Find Parcel ID:

Go

Go to Select a City

Locate Address

Map Action:

Zoom In	Zoom Out
Move Map	Full View
Refresh Map	Print Map

Map Layers:

some layers disabled when zoomed out

- Color Aerial Photo
- Tax parcel numbers
- Street Address

Map Help > Zoom In: click once on the map, or click and drag to redraw at a larger scale

gas station
Circle K

Snohomish County Washington Online Government Information & Services

* R E A L * Property Information

County Home Assessor Home Treasurer Home Information on which Department to contact

Please view Disclaimer **If you have questions, comments or suggestions, please Contact Us.**

Date/Time:8/1/2008 9:14:44 AM Answers to Frequently Asked Questions about Parcel Data (opens as new window)

Return to Property Information Entry page

Parcel Number **29051700200700** Prev Parcel Reference **17290520070002**

View Map of this parcel (opens as new window)

General Information

Taxpayer Name || Address (contact the Treasurer if you have questions)

P & M PARTNERSHIP || 2155 CLOVER CRT - - - MUKILTEO, WA 98275-2420

If the above mailing address is incorrect and you want to make a change, see the information on Name and Address Changes

Owner Name || Address (contact the Assessor if you have questions)

P & M PARTNERSHIP || 2155 CLOVER CRT - - - MUKILTEO, WA 98275-2420

If the above name and address is incorrect due to a recent sale, please see the information on Name and Address Changes After a Sale

Street (Situs) Address (contact the Assessor if you have questions)

851 N BROADWAY - - - EVERETT, WA 98201-1204

Parcel Legal Description

SEC 17 TWP 29 RGE 05 RT-14B-3A) COM AT NXN S LN NE1/4 NE1/4 NW1/4 & ELY LN PACIFIC HWY TH NELY ALG E LN 200FT TH ANG R 90* 100FT TH IN STRTLN TO PT ON S LN SD NE1/4 NE1/4 NW1/4 195 FT E FROM POB TH W ALG S LN TO POB LESS EASE TO CITY OF EVERETT

Go to top of page

Treasurer's Tax Information

Taxes For answers to questions about Taxes, please contact the Treasurer's office (opens as new window)

2008 Taxes for this parcel $5,068.30

Payments: Receipt No.	4388814	4/4/2008	$2,534.15

(Taxes may include Surface Water Management and/or State Forest Fire Patrol fees and any fees related to late payments. LID charges, if any, are not included.)

To obtain a duplicate tax statement, either download our Tax Statement Request form or call 425-388-3366 to request it by phone.

Go to top of page

Assessor's Property Data

Characteristics and Value Data below are for 2008 tax year.

Please contact the Treasurer's office **for answers to questions about Taxes** (opens as new window)

For questions ONLY about property characteristics or property values (NOT taxes), please contact the Assessor's Office

Property Values

Values do not reflect adjustments made due to an exemption, such as a senior or disabled persons exemption.
Reductions for exemptions are made on the property tax bill.

Tax Year	Market Land	Market Improvement	Market Total
2008	$412,100	$118,700	$530,800

Pending Property Values

Tax Year	Market Land	Market Improvement	Market Total
2009	$505,700	$167,900	$673,600

Go to top of page

Valuation, Payment, and Property Tax History

View History (opens as new window)

Go to top of page

Property Characteristics

Tax Code Area (TCA) **00010** View Taxing Districts for this Parcel (opens as new window)

Use Code **549 Other Retail Trade - Food NEC**

Size Basis **ACRE** Size **0.43** (Size may include undivided interest in common tracts and road parcels)

Go to top of page

Property Structures

Type	Yr.Built	Structure Description
Commercial	**2008**	View Structure Data (opens as new window)

Go to top of page

Property Sales since 7/31/1999

Explanation of Sales Information (opens as new window)

Sales data is based solely upon excise affidavits processed by the Assessor.

Transfer Date	Receipt Date	Sales Price	Excise Number	Deed Type	Grantor (Seller)	Grantee (Buyer)	Other Parcels
3/27/2008	4/24/2008	$0	495582	QC	SONG-PARK CHAN YOUNG/MOON KAY K	PARK BEOM SHIN/MOON CHANG YUP	No
3/27/2008	4/24/2008	$0	495583	QC	PARK BEOM SHIN/MOON CHANG YUP	P & M PARTNERSHIP	No
8/24/2004	8/27/2004	$423,000	188792	W	TIME OIL COMPANY	PARK/SONG-PARK/MOON	No

Go to top of page

Property Maps Township/Range/Section/Quarter, links to maps

Neighborhood **5308000** Explanation of Neighborhood Code (opens as new window)

Township **29** Range **05** Section **17** Quarter **NW** Find parcel maps for this Township/Range/Section

View Map of this parcel (opens as new window)

ACCOUNT NUMBER 172905-2-007-0002. DATE 1/30/79.

NAME OF BUSINESS (DBA) TIME OIL.

ADDRESS OF PROPERTY 851 HWY 99 N.

BLDG USE/TYPE SELF SVC GAS STA, STORE & APT. CLASS "C" LOW COST MARKET/MULT. Bldg. Life 35.

CONDITION		EXTERIOR WALLS		INTERIOR WALLS		INTERIOR TRIM		INCOME INFORMATION ON FILE		
E (G) F P		✓ Single		Brick		Mahogany		YES	NO	DATE
G	Foundation	Double		Concrete		✓ Metal				
G	Exterior	Brick		✓ Conc Blk		✓ Hemlock				
G	Interior	✓ Concrete Blk		Plywood		Birch				
		Pre Fab Metal		Plywood Panel						
BUILDING		Glass		Plaster		**INSULATION**				
1	No. Stories			✓ Plaster Board		Roof ✓ Ceiling				
1	No. Stores	**EXTERIOR FACING**		✓ Painted		Walls				
	Bsmt.	✓ Siding FRONT		Papered		Floor		**BLDG. PERMITS**		
	No. Offices	Stucco				**WIRING**		No.	Date	Amt.	Purpose
1	No. Apts	Tx 111		**INTERIOR CEILING**		Minimum		19910	12/75	30,000	INT. RMDL.
		Brick | | Venr		Plaster		✓ Average		445	3/76	4500	CANOPY.
UNIT SQ. FEET		Concrete		✓ Plaster Board PAT.		Good		5110	9/78	12,000	24x24 RBS
1br		✓ Concrete Blk		Celotex		Special		11537	5/80	20,000	11x17 add
2br		Ply - HDBD		Acoustical Spray		**HEAT**					
3br				✓ Acoustical Susp.		ELEC-GAS-OIL					
4br		**FLOOR CONSTRUCT.**		Open STORE		Hot Water					
Avg		Wood Frame				✓ Forced Air					
CONSTRUCTION		Car Deck		**PLUMBING**		~~Suspended~~ STORE					
	Wood Frame	✓ Concrete		14 No. of Fixtures		~~Base Board~~ WALL APT.					
	Steel Frame	Plywood		4 Tubs		Heat Pump					
✓	Concrete Blk	Earth		2 Toilets		✓ Air Condition STORE					
	Tilt up			3 Basins		H.V.A.C.					
	Modular			2 Sinks		DATE BUILT 1959		WALL HT.		SQ. FT.	
	Brick	**FLOOR FINISH**		Utility		Add Yr. 1978		B		B	
		Hardwood		Shower		Eff. Age 10		1 12		1 1936.	
FOUNDATION		Lino		2 HWT		Dep. Phy. Cond. 15		2		2	
✓	Concrete	Asph. Tile		1 Urinal		Dep. Econ. Obs.		3		3	
	Conc. Blk.	✓ Vinyl Tile		Drink Fount.		Dep. Func. Obs.		4		4	
	Post & Pier	Concrete		1 service sink		ITEM		Sq. Ft.	Factor	Product	
	None	Terazzo		**SOLAR SYSTEM**		BC. 16.32 x 1.183(P) =		1108.	19.30	21385.	
		Carpet		Heat		19.30 MKT.					
BSMT.				Hot Water		BC. 14.74 x 1.07(MKT) x 1.183(P) = 19.00		828	19.00	15732	
	Full | | Part					TANKS 12/77 R.				10,500	
	Sub Bsmt.	**ROOF CONST.**		**ROOF COVER**		PIPING "				2590	
	Parking	✓ Wood Frame 2x12		Shake-Shingle		14 W "				180	
	Service	Steel Frame		Composition		PUMP ISL "		128	3.10	395.	
	Finished	Truss		✓ Bit Up		CANOPY "		900	7.80	7020	
FLOOR COVER		✓ Ply-Cardeck		Metal		Y8 CTS "		2	485	970	
		Alum Frame									
ELEVATOR		**Miscellaneous Items**		**Miscellaneous Items**							
	Hyd | | Elect	2 Yard Lites MV 18'		Drop in Range							
	Pass | | Freight	2 Pump Islands 4x16		Built in R-O		TOTAL				58770	
	Stops	6 SP 4 | DP 2		Garbage Disposal		% UNF					
		Monoxo Vents		Hood & Fan		TOTAL					
Miscellaneous Items		Sprinklers		Dish Washer		LESS DEP. 15.				8815.	
	Fire Place	Thermopane				TOTAL				49955.	
	Balcony	✓ Tanks				OTHER IMPROVEMENTS				4990	
	Stair Ways	2 6M				TOTAL FV				54945	
	Marquee	1 8M									
	Covered Walk	1 12M				MAIN BLDG.					
	Hoists					OTHER BLDGS.					
✓	Air Water 1					TOTAL FV				54945	
✓	Canopy MTL 24x45										

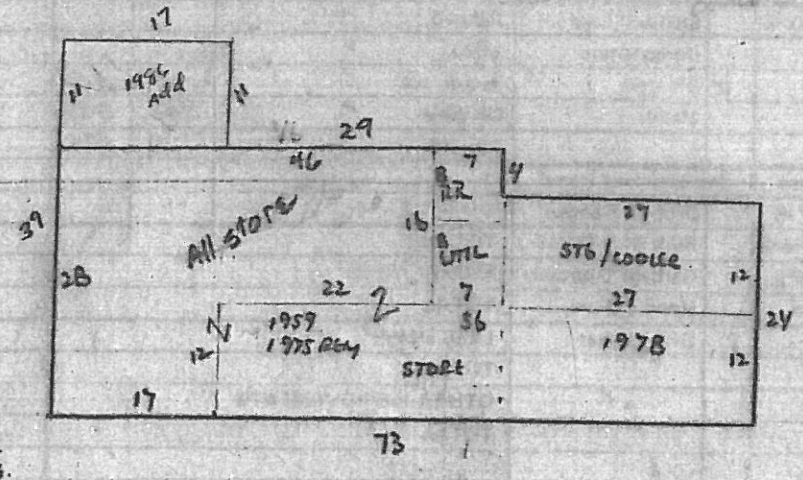
OTHER IMPROVEMENTS

Improvement	Construction	Floor	Roof	Age	Dimension	Area	Factor	Value	% Dep	Deprec.	Net Value
TANKS	1-12M							6150	17	1045	5105
	1-8M							4200	17	715	3485
	1-6M							3600	17	610	2990
PIPING	8P=3200 + 3T=750							3950	17	670	3280
A/C								275	17	45	230
PUMP ISLE						1284	3.25	480	17	80	400
CANOPY						900	8.75	7875	17	1340	6535
YARD LITES					18' HT.	2 EA	485	970	17	165	805
							1.50	1935	17	330	1605
CONC				1959		1290	~~60~~	775			
BIT				"		12880	~~30~~	~~375~~			
							~~40~~	4950	17	840	4110

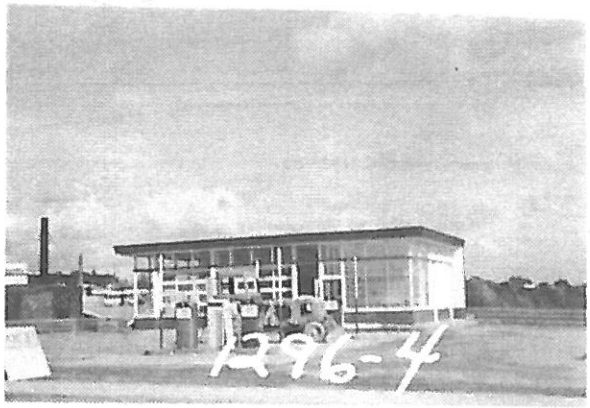
28,545 DK

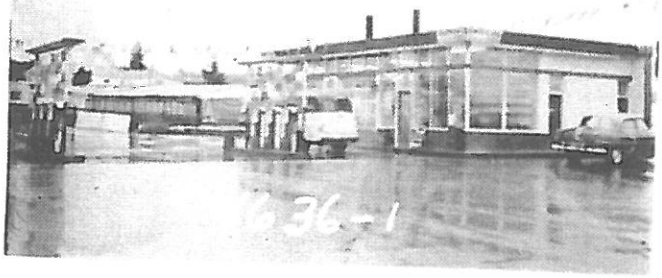
REMARKS: TRAVEL TRAILER USED FOR POP STG - NV.
12-1-80 - REVALUE S.M.

[redacted]



N
205





OTHER IMPROVEMENTS

Improvement	Construction	Floor	Roof	Age	Dimension	Area	Factor	Value	% Dep	Deprec.	Net Value

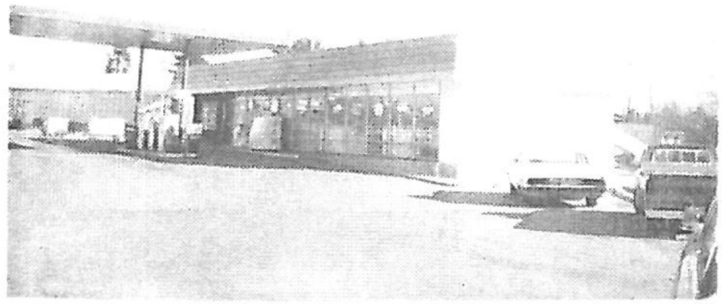
OTHER IMPROVEMENTS

Improvement	Construction	Floor	Roof	Age	Dimension	Area	Factor	Value	% Dep	Deprec.	Net Value

Add Yr. 1959-72	B	B 2123
Eff. Age 11	1 12	1 1936
Dep. Phy. Cond. 17%	2	2
Dep. Econ. Obs.	3	3
Dep. Func. Obs.	4	4

ITEM	Sq. Ft.	Factor	Product
BR 22.21 X 1.183(F) =			
26.27 X [illegible] 1.12 =			
29.42 (1.010 X 1.116)			
MKT.	1108	29.42	32,595
MULT. BR 17.34 X 1.03			
MGT = 21.08 X 1.183(P) =			
24.94 X MULT. 1.14 =			
28.43 (1.036 X 1.114)	828	28.43	23,540
TOTAL			56,135

% UNF	
TOTAL	
LESS DEP. 17%	9545
TOTAL	46,590
OTHER IMPROVEMENTS	28,545
TOTAL FV	75,135
MAIN BLDG.	
OTHER BLDGS.	
TOTAL FV ROUNDED	75,140



TAPE PICTURE HERE

172905-2-007-0002 06/14/71 000000

BUILDING PERMITS		
DATE	NUMBER	AMOUNT

TIME OIL CO

P O BOX 4007 MAGNOLIA STATION
SEATTLE WA 98199

L/C 0010 SCHOOL DISTRICT 2

SEC 17 TWP 29 RGE 05
RT-14B-3A) COM AT NXN S LN NE1/4 NE1/4 NW1/4 & ELY LN PACIFIC HWY TH NELY ALG E LN 200FT TH ANG R 90* 100FT TH IN STRT LN TO PT ON S LN SD NE1/4 NE1/4 NW1/4 195 FT E FROM POB TH W ALG S LN TO POB LESS EASE TO CITY OF EVERETT

CONSTRUCTION DATA				
DATE FINISHED				
DATE				
PER CENT UNFINISHED				
DATE REMODELED				
DATE MOVED				

VALUATION				
ACRES OR LOT NUMBER	LAND	BLDG	INITIAL	DATE
,67	34,800	✓	D.C.	12-17-74

76TX

SALES DATA			
SALE	DATE	INSTRUMENT	RECEIPT NUMBER

S.A.
851 Hiway 99 N. C.T 40,
Ed.

DWELLING			
DATE	CONDITION	EFFECTIVE AGE	PER CENT DEPRECIATION
			12-77

HIGHEST AND BEST USE VALUE							
IMPROVED		UNIMPROVED		TIMBER		TOTAL ACRES	TOTAL AV
ACRES	VALUE	ACRES	VALUE	ACRES	VALUE		
29,000	@1.20						
29000	@2.00						58000

OTHER CONSTRUCTION											
TYPE	DATE BUILT	CONST.	FLOOR	ROOF	DIMENSION	S.F. AREA	CONDITION	FACTOR	VALUE	% DEP.	NET VALUE

FM (40) ☐ REVAL 94

BUILDING 02/09/94 LAND 02/09/94

ACCOUNT NO 172905-2-007-0002 SD 2 L/C 0010

SITUS: P/P NO TYPE

NBR --851------ UNIT # ------- PRE -- STREET HIGHWAY-99----- TYPE HW SUF N-

CITY EVERETT----------- ZIP 98201----- CT 402.00 SEC-TWP-RNG 172905-2

BENCH MARK AREA 410 WTRFT

BUSINESS NAME JACKPOT DELI

U N D X

BUILDING NO	OCCUPANCY		CONSTRUCTION	STYLE
1 OF 1	56 CONVENIENCE STORE		C	1 STRY
DATE BUILT	REMODEL DATE	CONDITION	EFFECTIVE AGE	DEPRECIATION %
1959	1978	AVERAGE	~~18~~ 1978	~~34~~ 35T
% UNFINISHED	HEIGHT MULT	PERIM MULT	BUILDING LIFE	MARKET MODIFIER
	1.000	1.183	35	

QUALITY	BEDROOMS #	FLOOR COVER	BUILT IN APPLIANCES	
AVG		CPT/VNL	RANGE-OVEN	INTERCOM
EXTERIOR	FULL BATHS #	FLOOR CONST	HOOD-FAN	VACUUM
CONCBLK	3/4 BATHS #	FRAME ☐	DISHWASHER	EL GAR DR
ROOF TYPE	1/2 BATHS #	CONC ☐	GARB DISP	HOT TUB
FLAT			TRASH COMP	SAUNA
ROOF COVER	PLUMB FIX #	HEAT-COOL	MICROWAVE	
BUILT UP		FRCDAIR		
FOUNDATION		FIREPLACE		
CONCRETE				

1st FLR ☐	2,123	BASEMENT ☐	GAR QUAL	CP QUAL ~~AVG~~ 0	PRCH QUAL
2nd FLR ☐		DAYLITE	EXTERIOR	ROOF CVR ~~METAL~~ 0	CONC ☐
3rd FLR ☐		POR DEV ☐	ATTACHED ☐	CP ☐ ~~900~~ 0	DECK ☐
4th FLR ☐		QUAL FIN	DETACHED ☐		BALC ☐
LOFT ☐			BASEMENT ☐		ROOF ☐

MEZZANINE	COMMERCIAL BASEMENT	YARD IMPROVEMENTS		LIVING UNITS
LOFT ☐	UNFIN ☐	ASPH ☐	12,380	TYPE # ☐
UNDEV ☐	CEILED ☐	CONC ☐	1,290	STUDIO
RETAIL ☐	FINISHED ☐	YD LT #P	2 #F 2	1 BR
RET-OFF ☐	RETAIL ☐	FENCE L/F		2 BR
OFFICE ☐	APT ☐			3 BR
BANK ☐	OFFICE ☐	SPRINKLED ☐		TOTAL
	BANK ☐			
	FACTOR %	ELEVATOR		LENGTH
	PARKING ☐			WIDTH
	PARK QUAL			AVG HEIGHT 12
				PERIMETER 224

SEE Sticky label

12/17 SF

BUILDING VALUES	
P/P	
BLDG $	104,100
O-IMP $	0 ~~32,700~~
COMM $	0
TOTAL $	136,800

LAND USE 55300 RETAIL - TRANSP ZONING EVRT /B-2 /C

LAND VALUATION

METHOD: SITE 1, SQ FT 2, FRT FT 3, ACRES 4, TMBR 5 — ACRES .43 — SITE UTILITY

CONTIG, CLEARED, WOODED, NEIGH (GOOD, AVG, FAIR), ACCESS (LEG YES/NO, PHY YES/NO), RD (ASPHLT, GRAVEL), CURB SW, PWR (UNDRGD, POLE), WTR (PUBLIC, WELL), SEWER, SEPTIC, NO PERK, VIEW (BLUFF, GOOD, AVG, FAIR), WTR FRT (LOW BK, MED BK, HI BK), TIDELAND, LOWLAND, WET, STEEP, EASEMENT

PORTION	METHOD	QUANTITY	RATE	Marked
1	X (SQ FT)	18,730	~~8.00~~ 7.00	X X X X X X X X X

LIEN

LAND VALUE	
$	149,800

TOTAL ASSESSED VALUE	
$	286,600

LIEN VALUE	
($	0)

Bldg Nbr	1	1	1	1	1
Misc Code	TANK12	TANK 8	TANK 6	PIPTNKS	PIPGRDDSP
Description					
Grade				PIPL	PIPL
Length					
Width					
Misc Units	1	1	1	3	8
Unit Price	1054				
Year Built	1978	1978	1978	1978	1978
Depr Table	30T	30T	30T	30T	30T
%Depr					
Notes-25 Char					

Bldg Nbr	1	1			
Misc Code	CISIND	CANOPY			
Description					
Grade	ISLL	CANL			
Length					
Width					
Misc Units	128	900			
Unit Price					
Year Built	1978	1978			
Depr Table	35T	35T			
%Depr					
Notes-25 Char					

APPENDIX C
City of Everett Records

EVERETT FIRE DEPARTMENT
APPLICATION FOR A PERMIT

1/17/90
(Date)

To Chief of the Fire Prevention Bureau, Everett, Washington:

Application is hereby made by CSC DEVELOPMENT
Firm Name

for a permit to operate the EXCAVATE (1) APPROXIMATELY 500 GAL TANK in or on the
Type of Business

premises at 851 N BROADWAY
Street or Avenue

(Describe briefly what is to be done and state what hazardous materials are to be used.)

EXCAVATE FROM SITE (1) APPROXIMATELY 500 GAL.
WASTE OIL TANK & BACKFILL

Conditions, surroundings and arrangements to be in accordance with the Uniform Fire Code.

BRUCE MELAND FOR CSC DEVELOPMENT
Name of Applicant

1759 W BAKERVIEW RD BELLINGHAM WA 98226
Address of Applicant

Permit Number 90-07 Date Issued 1-17-90 19____

Complete plans and construction details must be filed on all major projects and when requested by the Chief of the Fire Prevention Bureau.

FF-53 11/86

FIRE DEPARTMENT

City of Everett, Washington

PERMIT

No. 90-07

1-17-90
(Date)

TO WHOM IT MAY CONCERN:

By virtue of the provisions of the Uniform Fire Code as adopted by the city of Everett,

CSC Development 1759 W. Bakerview Bellingham
Firm Name Firm Address

conducting a Tank Removal having made application
Business

in due form, and as the conditions, surroundings, and arrangements are, in my opinion, such that the intent of the Uniform Fire Code can be observed, authority is hereby given and this permit is granted for

Tank removal 500 gal Waste Oil

18e

This PERMIT is issued and accepted on condition that all Regulations now adopted, or that may hereafter be adopted, shall be complied with.

This permit does not take the place of any License required by law and is not transferable. Any changes in the use or occupancy of premises shall require a new permit.

Ray Graham
Chief, Fire Prevention Bureau

FF-51 1/89

EVERETT FIRE DEPARTMENT
APPLICATION FOR A PERMIT
(A minimum of one business day is required for processing)

7-14-03
(Date)

Application is hereby made by PACIFIC ENVIRONMENTAL SERVICES CO (TOM CARROLL)
(Firm or Applicant Name - Please Print)

for a permit to conduct the following activities or processes: REMOVE FOUR (4), UNDERGROUND STORAGE TANKS

in or on the premises at: 851 NORTH BROADWAY EVERETT WA
(Address where permitted activity will take place)

Inclusive dates of permitted process From: 7-14-03 To: 10-15-03

Describe what this permit is for and what materials will be used if the permit involves a process:
REMOVE FOUR (4) UNDERGROUND FUEL STORAGE TANKS.

Complete plans and construction details must be filed on all major projects and when requested by the Fire Prevention Bureau.

Conditions, surroundings and arrangements are to be in accordance with the Uniform Fire Code.

Tom W. Carroll
(Applicant Signature)

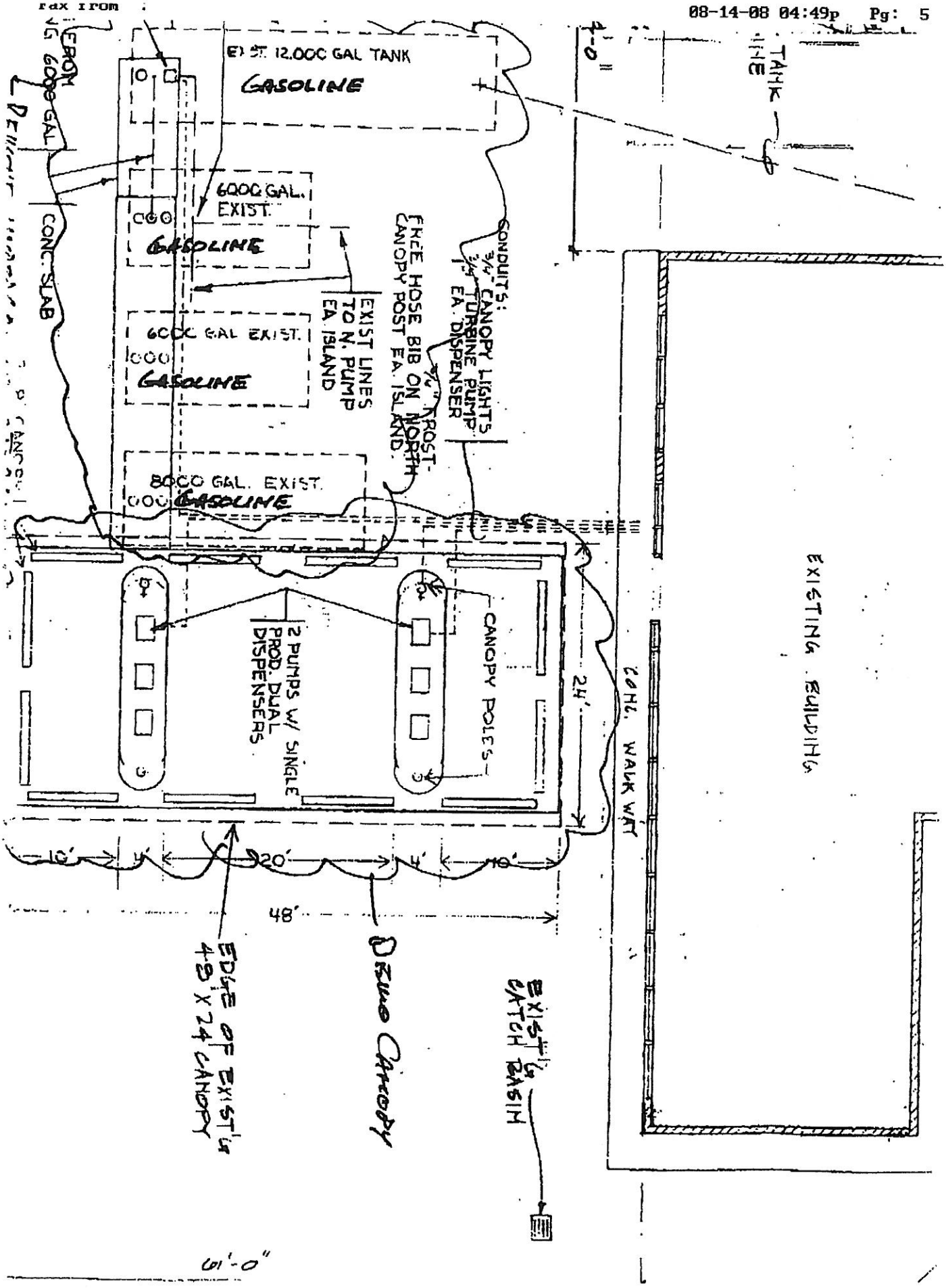
P.O. Box 2049 Port Townsend, WA 98368
Mailing Address of Applicant (if different from location of permitted process)

FOR OFFICE USE ONLY

UFC ARTICLE NUMBER	REQUIREMENTS MET?
F. 3. 6	YES

Permit Number 2003-092 Date Issued 8/12 20 03

Sequence #:


EXIST. 12,000 GAL TANK
GASOLINE
FROM 6,000 GAL
6000 GAL. EXIST.
GASOLINE
CONC. SLAB
6000 GAL EXIST.
GASOLINE
8000 GAL. EXIST.
GASOLINE
EXIST LINES TO N. PUMP EA ISLAND
FREE HOSE BIB ON NORTH CANOPY POST EA. ISLAND.
CONDUITS: 3/4" CANOPY LIGHTS 1 1/4" TURBINE PUMP EA. DISPENSER
½" FROST-
2 PUMPS W/ SINGLE PROD. DUAL DISPENSERS
CANOPY POLES
24'
CONC. WALK WAY
EXISTING BUILDING
10'
4'
20'
4'
10'
48'
EDGE OF EXIST'G 48' X 24' CANOPY
Blue Canopy
EXIST'G CATCH BASIN
61'-0"

PACIFIC Environmental
SERVICES COMPANY

FAX TRANSMITTAL

DATE:8/11/03

TO: **Everett Fire Dept.**

ATTN: **DAN GALOVIC**

FROM: The desk of *TOM W. CARROLL*, Vice-President

No. OF PAGES _____ **FAX #(425) 257-8139**
(INC. COVER PG)

Dan:

This project won't go until the environmental checklist has been approved. Sometimes this can take 90 days. I wanted to get this permit on the books so when this does come done we are ready to go. If I have sent to you a prior application please amend it do to there are 4 underground storage tanks not 3. Please if you have any questions do not hesitate to call me at my office. 1-800-222-9219.

Also, will you mail the permit to my office so we may add it to the file.

Sincerely:

Tom W. Carroll

MAIL TO!

UST SPECIALISTS

8585 Highway 20 P.O. Box 2049 Port Townsend, WA 98368-0239 360•385•4221 1-800•222•9219 360•379•9395 (fax)
13022 W. 18th Ave P.O. Box 639 Airway Heights, WA 99001 509•244•4898 509•244•4697 509•244•4690 (fax)

Contractor License # PACIFES103BR • CCB # 121494

EVERETT FIRE DEPARTMENT
2811 Oakes Ave Everett WA 98201-3629 (425) 257-8120

PERMIT

No. 2003-092 **August 12, 2003**

TO WHOM IT MAY CONCERN:

By virtue of the provisions of the Uniform Fire Code as adopted by the City of Everett,

PACIFIC ENVIRONMENTAL SERVICES CO. **851 N. Broadway Ave. (Broadway Food Mart)**

having made application in due form, and as the conditions, surroundings and arrangements are, in my opinion, such that the intent of the Uniform Fire Code can be observed, authority is hereby given and this permit is granted for:

#f.3.6: To remove two (2) each 6,000-gallon underground fuel tanks.
To remove one (1) 12,000-gallon underground fuel tank.
To remove one (1) 8,000-gallon underground fuel tank.

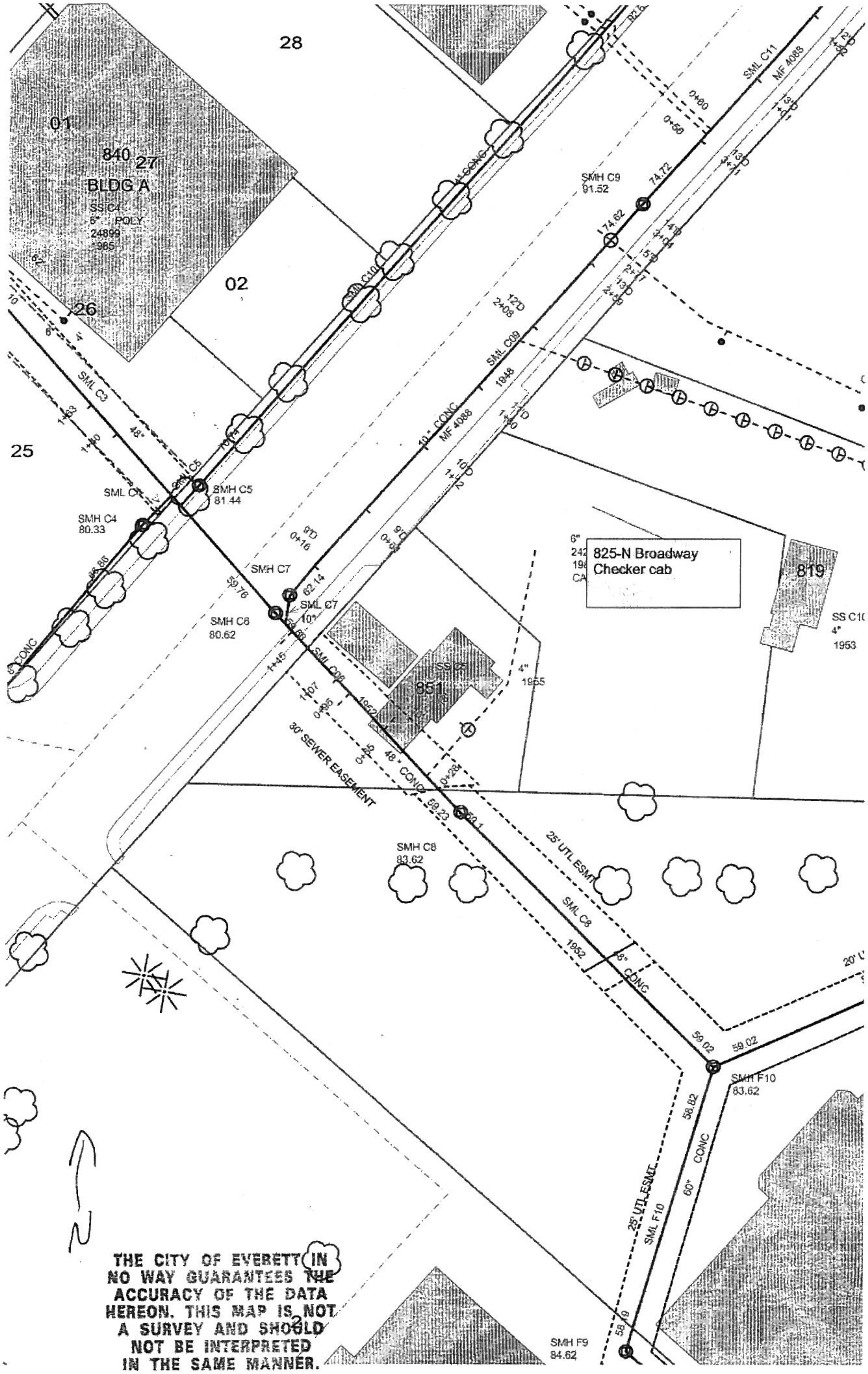
Permit applicants and the applicants' agents and employees shall carry out the proposed activity in compliance with the Uniform Fire Code and other laws or regulations applicable thereto, whether specified or not, and in complete accordance with approved plans and specifications. Permits which purport to sanction a violation of the Uniform Fire Code or any applicable law or regulation shall be void and approvals of plans and specifications in the issuance of such permits shall likewise be void. This permit does not take the place of any License required by law and is not transferable. Any changes in the use, occupancy, operation or ownership of premises shall require a new permit.

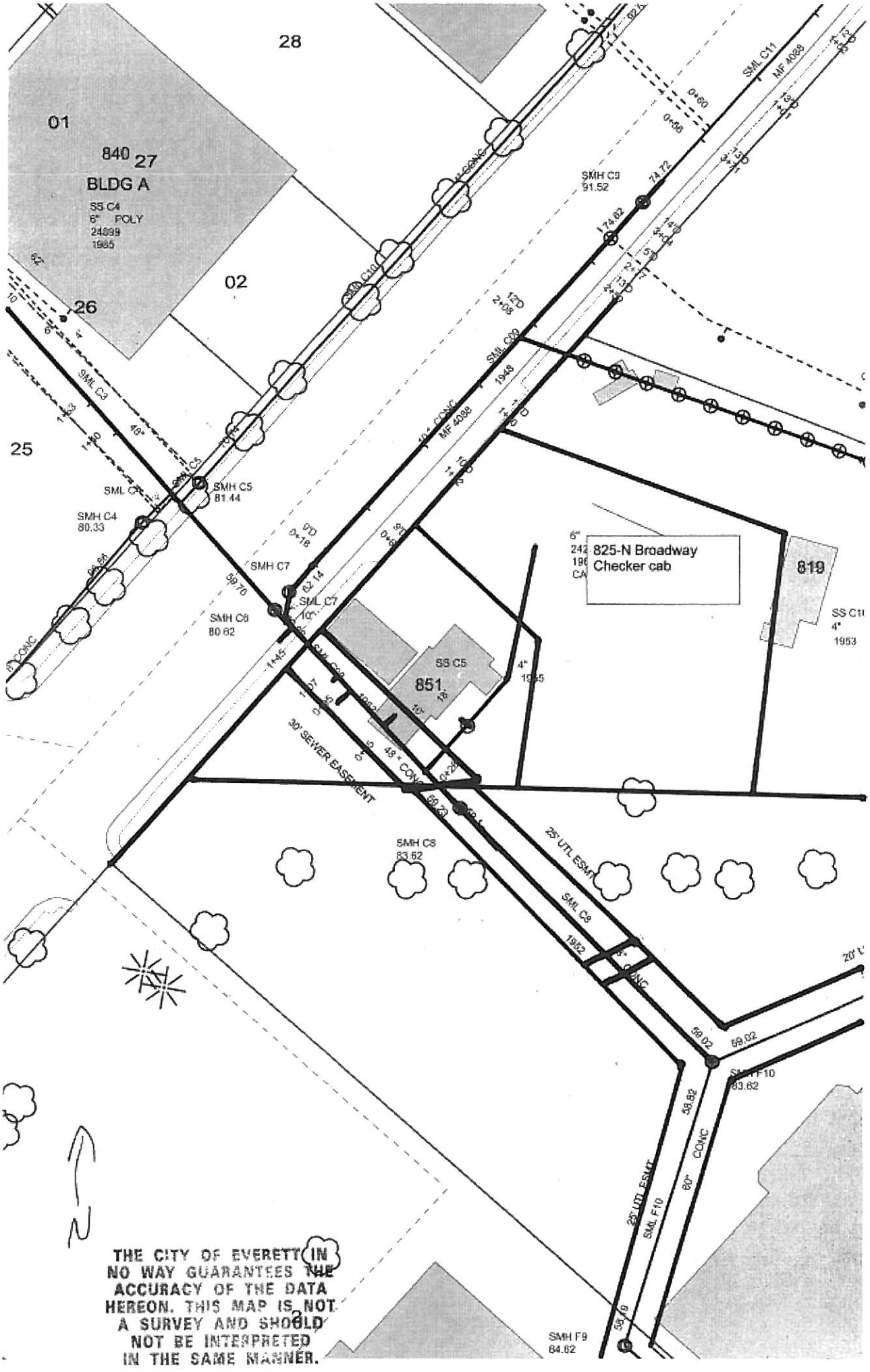
Fire Prevention Bureau

Y[/] N[ ] Extinguishers in place?
Y[/] N[ ] Barricade and 'NO SMOKING' signs in place?
Y[/] N[ ] Complete site information recorded?
Y[/] N[ ] Interior of tank washed and rinsed? (Triple rinsed for abandon in place)
Y[/] N[ ] Is the tank inerted (for removal) or filled with _____ for abandonment?
Y[/] N[ ] Underground piping capped, plugged, or removed?

I certify that the underground tank has been removed or abandoned in place according with applicable local and state laws.

Contractor: _____


28
01
840 27
BLDG A
SS C4
6" POLY
24899
1965
02
26
25
SML C3
SMH C5
81.44
SMH C4
80.33
SMH C7
SMH C6
80.62
SML C7
10"
SMH C9
91.52
SML C11
MF 4088
SML C09
1948
10" CONC
MF 4088
SML C10
825-N Broadway
Checker cab
819
SS C10
4"
1953
SS C5
851
4"
1955
SML C06
1952
48" CONC
30' SEWER EASEMENT
25' UTL ESMT
SML C8
1952
48" CONC
SMH C8
83.62
SMH F10
83.62
60" CONC
25' UTL ESMT
SML F10
SMH F9
84.62
THE CITY OF EVERETT IN
NO WAY GUARANTEES THE
ACCURACY OF THE DATA
HEREON. THIS MAP IS NOT
A SURVEY AND SHOULD
NOT BE INTERPRETED
IN THE SAME MANNER.


28
01
840
27
BLDG A
SS C4
6" FOLY
24899
1985
02
26
25
SML C3
SMH C5
81.44
SMH C4
80.33
SMH C7
SML C7
SMH C8
80.62
SML C10
SML C11
MF 4088
SMH C9
91.52
SML C9
1948
825-N Broadway
Checker cab
819
SS C5
851
SS C10
4"
1953
30' SEWER EASEMENT
48" CONC
SMH C8
83.62
25' UTL ESMT
SML C9
1952
SML F10
83.62
80" CONC
SMH F9
84.62
THE CITY OF EVERETT IN NO WAY GUARANTEES THE ACCURACY OF THE DATA HEREON. THIS MAP IS NOT A SURVEY AND SHOULD NOT BE INTERPRETED IN THE SAME MANNER.

APPENDIX D
Boring Logs

Log of Exploratory Boring:

Notes
Water appears to be in excavation "bath tub." Sandy soil below fill is not saturated.
Sheen on water in washtub after cleaning auger.

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	15' N, 12' W from NW corner
Surface Condition:	Asphalt
Total Depth (ft) :	20
First GW Depth (ft) :	16

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Auger, no sample in backfill to 16 feet		
1										
2										
3										
4										
5										
6										
7										
8							Fill			
9										
10									▼	
11								(Water at 10.5 feet bgs after well built)		
12										
13										
14										
15										
16									▽	
							GP	Wet, gray, sandy GRAVEL backfill, moderate hydrocarbon odor		
17			100		B-1-17			Damp to moist, silty, well-sorted, medium to fine-grained SAND, 1 to 2% gravel, weak hydrocarbon odor		
18					B-1-18		SM			
			100					Monitoring well installed as depicted above right, using 2-inch diameter PVC, 0.010 slot screen, 3-20 silica sand, and 1-3 bentonite chips.		
19					B-1-19					
			100							
20					B-1-20					
21								Boring terminated at 20 feet below ground surface.		

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: W.H. Rodgers
Chk By: B.Q. Hyde
SES Project No.: 0440-002
File ID.: C:\PROGRAM FILES\GINT\PROJECTS\440-2 TIME OIL EVERETT BORING LOGS.GPJ

BORING LOG
MW-1 (B-1)

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Probe
Location:	9' N, 47' W from SW corner
Surface Condition:	Asphalt
Total Depth (ft) :	29
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1							CL	Asphalt, gravel, sand FILL Moist, medium dense, gray-blue CLAY, plastic.		
2		3.7	100					Damp, silty, gray, well-sorted, fine to medium-grained SAND, medium dense with 10% gravel clasts to 1 inch, no hydrocarbon odor		
3										
4								Gravel ends at 3.5 feet		
5		1.8								
6			100				SM			
7										
8										
9								Pot shard - fill? wet from 7 to 8 feet, dry below		
10		6	100							
11										
12					No Samples		CL	Moist, blue-gray, plastic CLAY		
13		6.3					SM	Damp, dark gray-brown, plastic CLAY, no hydrocarbon odor Damp, gray, silty, well-sorted, medium-grained, dense SAND (wet 13 to 13.2 feet)		
14			100							
15								Damp, dense, plastic, silty CLAY, gray-green at 13.8 feet grades to buff at 16 feet, mottled oxide/buff 14 to 16 feet, no hydrocarbon odor		
16							CL-ML			
17								Damp, grades to buff, sandy, silty CLAY, oxide/buff mottling, dense, hard, no hydrocarbon odor		
18		0	100							
19							SP	Damp, gray, gravelly SAND, angular gravel to .25 inch, sand well-sorted, medium-grained grades to silty sand at 24 feet, no hydrocarbon odor		
20							SW-SM	Damp (moist to wet), gray, silty, clayey SAND		
21										
22			100					Dry, buff, silty, well-sorted, fine-grained SAND with trace gravel, dense, no hydrocarbon odor		
23										
24										
25							SM			
26										
27			100							
28										
29										
30								Boring terminated at 29 feet below ground surface.		

SOUND ENVIRONMENTAL STRATEGIES
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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: W.H. Rodgers
Chk By: B.Q. Hyde
SES Project No.: 0440-002
File ID.: C:\PROGRAM FILES\GINT\PROJECTS\440-2 TIME OIL EVERETT BORING LOGS.GPJ

BORING LOG
B-2

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	50' W of building, 21' N of SW corner
Surface Condition:	Asphalt
Total Depth (ft) :	16
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Fill	Gray fill with asphalt		
1					B-3-1			Damp, gray, silty SAND with gravel to 1 inch		
2			100		B-3-2					
3		0			B-3-3					
4		6			B-3-4			weak hydrocarbon odor at 3 to 4 feet		
5		0			B-3-5		SM			
6		0	100		B-3-6					
7		25			B-3-7					
8		30			B-3-8			darker than 6 to 7 foot interval, very faint to no hydrocarbon odor (moderate hydrocarbon odor from 7 to 8 feet)		
9		20								
10		3	100				Fill	Damp, coarse, black slag, no hydrocarbon odor		
11								Damp, gray-blue, very fine-grained, sandy SILT, no hydrocarbon odor, grades to buff clay		
12							ML			
13								2-inch gravel seam		
14			100					Buff, plastic, hard, silty CLAY		
15							CL-ML			
16								no hydrocarbon odor Boring terminated at 16 feet below ground surface.		
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
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BORING LOG
B-3

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	29' W of building, 14' N of SW corner
Surface Condition:	Asphalt
Total Depth (ft) :	12
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Fill	Gravel fill, asphalt		
1								Damp, buff to blue-gray, silty SAND with 10% gravel		
2			100							
3										
4					B-4-4					
5		3			B-4-5		SP-SM			
6		10	100		B-4-6					
7		6			B-4-7					
8		10						Wet		
9								Wet		
10			100					Moist, blue-gray, sandy, clayey SILT, semi-plastic, 10% gravel to 0.5 inches		
11							ML			
12								Boring terminated at 12 feet below ground surface.		
13										
14										
15										
16										
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: W.H. Rodgers
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SES Project No.: 0440-002
File ID.: C:\PROGRAM FILES\GINT\PROJECTS\440-2 TIME OIL EVERETT BORING LOGS.GPJ

BORING LOG
B-4

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	13' W, 1' N of B4
Surface Condition:	Asphalt
Total Depth (ft) :	16
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Fill	Asphalt, gravel		
1								Damp, blue-gray, silty, fine to medium-grained, well-sorted SAND		
2			100							
3		3					SM	3 to 6 feet - weak hydrocarbon odor		
4					B-5-4					
5		2.5			B-5-5			Wet, 5 to 6.5 feet		
6		0	100		B-5-6			6 to 7 feet - very faint hydrocarbon odor		
7		0			B-5-7					
8		27					Fill	Damp, dark gray, clayey slag, no hydrocarbon odor		
9							SM	Damp, blue-gray, silty, fine-grained, well-sorted SAND, no hydrocarbon odor		
10		8	100							
11								pot shard		
12								Damp to moist, gray to brown, clayey, silty SAND with trace gravel, no hydrocarbon odor Wet 12.1 to 12.3 feet		
13										
14		3.5	100				ML			
15										
16								Boring terminated at 16 feet below ground surface.		
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: W.H. Rodgers
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SES Project No.: 0440-002
File ID.: C:\PROGRAM FILES\GINT\PROJECTS\440-2 TIME OIL EVERETT BORING LOGS.GPJ

BORING LOG
B-5

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	58' W of building 24' N of SW corner
Surface Condition:	Asphalt
Total Depth (ft) :	16
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt		
1								Damp to moist, gray, silty, gravelly SAND		
2			100							
3		10								
4		2.5			B-6-4		SW-SM			
5		0								
6		1	100							
7		0								
8		0						Wet, black slag, very strong hydrocarbon odor		
9		0								
10			100				Fill			
11		800								
12		85			B-6-11.5		SM	Globules in sheen test at 11.3 to 11.5 feet Damp, organic, silty, brown SAND, very faint hydrocarbon odor		
13								Damp, plastic, gray-oxide orange mottled, clayey SILT, weak to moderate hydrocarbon odor		
14		300	100		B-6-14		ML			
15										
16		8						Boring terminated at 16 feet below ground surface.		
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: W.H. Rodgers
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BORING LOG
B-6

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	26' N, 33' W of NW corner
Surface Condition:	Asphalt
Total Depth (ft) :	20
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt, gravel		
1								Damp, gray, very silty, fine to medium-grained, well-sorted SAND, medium dense, <10% gravel to 1", no hydrocarbon odor		
2			100							
3										
4										
5		6					SM			
		0								
6			100							
7								Same as above, but moist to wet with lenses plant material, 30% gravel		
8								Very faint hydrocarbon odor 7 to 8 feet		
9										
10			100				ML	Wet, brown, clayey SILT, weak hydrocarbon odor		
11										
12							CL	Damp, gray-green, silty CLAY, mottled with oxide spots, plastic, no hydrocarbon odor		
13										
		0								
14			100							
15								Damp, gray, silty, fine-grained, well-sorted SAND, no hydrocarbon odor to 15.7 feet		
		110								
16					B-7-16			Moist		
		27								
17							SM	Buff, slightly silty, fine to medium-grained SAND with scattered gravel clasts to 1.3"		
18			100							
19										
		20								
20										
21								Boring terminated at 20 feet below ground surface.		

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
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BORING LOG
B-7

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	57' W of building 14' S of NW corner
Surface Condition:	Asphalt
Total Depth (ft) :	12
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–1								Asphalt, gravel Damp, tan, slightly silty, fine-grained SAND with sporadic gravel to 0.75 inches, mottled with oxide stain, no hydrocarbon odor		
1–2			85				SW-SM			
2–3										
3–4										
4–5										
5–6										
6–7			75				Fill	Black, angular slag to 0.75 inches, dry to 10 feet, wet at 10 to 10.2 feet, no hydrocarbon odor		
7–8										
8–9										
9–10		0								
10–11			100				SP-SM	Damp, gray, silty SAND, no hydrocarbon odor		
11–12							ML	Damp, gray, clayey SILT with oxide mottling		
12–13								Boring terminated at 12 feet below ground surface.		
13–14										
14–15										
15–16										
16–17										
17–18										
18–19										
19–20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: W.H. Rodgers
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SES Project No.: 0440-002
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BORING LOG
B-8

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	41' N, 31' W of SW corner
Surface Condition:	Asphalt
Total Depth (ft) :	12
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Fill	Asphalt, gravel		
1								Tank excavation backfill, gravelly SAND, dry to 9.5 feet, moist from 9.5 to 10.8 feet, no hydrocarbon odor		
2			100							
3										
4										
5										
6			100				SP			
7										
8										
9										
10			100							
11		18					CL-ML	Damp, plastic, medium-gray to gray-green with oxide mottling, silty CLAY; very faint hydrocarbon odor at 11.5 feet		
12					B-9-12					
13								Boring terminated at 12 feet below ground surface.		
14										
15										
16										
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: W.H. Rodgers
Chk By: B.Q. Hyde
SES Project No.: 0440-002
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BORING LOG
B-9

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	60' W of building N of SW corner 7'
Surface Condition:	Asphalt
Total Depth (ft) :	30
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–1							Fill	Asphalt, gravel		
1–8			100				SM	Gray-green, silty, fine-grained, well-sorted SAND, damp, grading to moist with depth, no hydrocarbon odor		
6–8			100							
9–12			100				Fill	Black, angular, slag FILL, wet from 12 to 12.2 feet, no hydrocarbon odor to 12 feet		
13–16			100				CL-ML	Mottled, gray, oxide, silty CLAY, plastic, dense, mixed with well-sorted, fine-grained sand from 15.8 to 16 feet, damp grading to almost dry at 16 feet, no hydrocarbon odor		
16–30		0	0				GP-GC	Augered from 16 to 30 feet, driller reports gravel layer after 20 feet, harder drilling to 30 feet. Driller tried to end sand at 14 feet but wet sand pulled up to 13 feet as auger pulled out.		
16–30								Monitoring well installed as depicted above right, using 2-inch diameter PVC, 0.010 slot screen, 13-30 silica sand, and 1-13 bentonite chips.		
30–32								Boring terminated at 30 feet below ground surface.		

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Everett Facility 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
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BORING LOG
MW-2 (B-10)

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	12' W, 8.8' S of B6
Surface Condition:	Asphalt
Total Depth (ft) :	16
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete		
1								Damp to dry, tan, silty, fine-grained, well-sorted SAND, 10% gravel to 1.75 inches, no hydrocarbon odor		
2			30				SW-SM			
3										
4										
5										
6			100				ML	Damp, gray, fine-grained, sandy SILT with clay, slightly plastic, wet from 6 to 6.8 feet, no hydrocarbon odor		
7										
8								Dry, black, angular slag, no hydrocarbon odor		
9										
10			100				Fill			
11										
12		25			B-11-12					
13		0	100				SP-SM	Damp, gray, plastic, clayey, silty SAND, no hydrocarbon odor. Wet from 11.5 to 12.5 feet with moderate hydrocarbon odor		
14		0								
15			0					no recovery		
16								Boring terminated at 16 feet bgs.		
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

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BORING LOG
B-11

Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	23' S, 12' W of B6
Surface Condition:	Asphalt
Total Depth (ft) :	16
First GW Depth (ft) :	

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete		
1								Damp to dry, tan, silty, fine-grained, well-sorted SAND, 10% gravel to 1.75 inches, no hydrocarbon odor		
2			80				SW-SM			
3										
4										
5										
6			100				ML	Damp, gray, fine-grained, sandy SILT with clay, slightly plastic, no hydrocarbon odor Wet from 6 to 6.8 feet		
7										
8								Dry, black, angular slag, no hydrocarbon odor		
9										
10			75				Fill			
11										
12		80			B-12-12			Wet from 11.5 to 12.5 feet with moderate hydrocarbon odor		
13							SW-SM	Damp, gray, plastic, clayey, silty SAND, no hydrocarbon odor		
14			0					no recovery		
15										
16								Boring terminated at 16 feet below ground surface.		
17										
18										
19										
20										

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Everett Facility 01-169
851 North Broadway
Everett, Washington

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Date Finished: 10/7/2004
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BORING LOG
B-12

Log of Exploratory Boring:

Notes
Water appears ponded in excavation area.

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	15' N, 12' W from NW corner
Surface Condition:	Asphalt
Total Depth:	20
First GW Depth:	16

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–16								No samples collected to 16 feet below ground surface (bgs).	▼	
16							FILL	Wet, gray, sandy GRAVEL, moderate hydrocarbon odor.	▽	
17			100		B-1-17			Damp to moist, silty, fine- to medium-grained SAND, trace gravel, weak hydrocarbon odor.		
18					B-1-18		SM			
19			100		B-1-19					
20			100		B-1-20					
20–25								Boring terminated at 20 feet bgs. Two-inch-diameter monitoring well installed to a depth of 20 feet bgs, screened from 5 to 20 feet bgs, with 10-20 silica sand from 3 to 20 feet bgs, bentonite chips from 1 to 3 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW01.		

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B01/MW01

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Direct Push
Location:	9' N, 47' W from SW corner
Surface Condition:	Asphalt
Total Depth:	29
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–2		3.7	100		No Samples		FILL	Asphalt, gravel and sand. Moist, CLAY, grayish blue, plastic.		
2–5								Damp, wet from 7 to 8 feet below ground surface (bgs), silty, fine- to medium-grained SAND, some fine to coarse gravel (gravel ends at 3.5 feet bgs), gray, pot shard, no hydrocarbon odor.		
5–6		1.8								
6–10			100							
10–11		6								
11–12			100				CL	Damp to moist, CLAY, plastic, bluish gray to dark grayish brown, no hydrocarbon odor.		
12–13		6.3					SM	Damp, wet from 13 to 13.2 feet bgs, silty, medium-grained SAND, gray.		
13–14			100							
14–16							CL-ML	Damp, silty CLAY, grayish green to buff (at 16 feet bgs), mottled/oxidized from 14 to 16 feet bgs, no hydrocarbon odor.		
16–18		0	100					Same as above, some sand, buff.		
18–20							SP	Damp, gravelly, medium-grained SAND, fine gravel, gray, no hydrocarbon odor.		
20–21							SC-SM	Damp, silty, clayey, SAND, gray.		
21–22			100					Dry, silty, fine-grained SAND, trace gravel, buff, no hydrocarbon odor.		
22–25							SM			
25–26										
26–27			100							
27–29										
29–32								Boring terminated at 29 feet bgs. Backfilled with bentonite chips, capped with asphalt.		

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B02

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	50' W of building, 21' N of SW corner
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt, fill material, gray.		
1					B-3-1			Damp, silty SAND, with fine to coarse gravel, gray, weak hydrocarbon odor from 3 to 4 feet below ground surface (bgs), moderate hydrocarbon odor from 7 to 8 feet bgs.		
2			100		B-3-2					
3		0			B-3-3					
4		6			B-3-4					
5		0			B-3-5					
6		0	100		B-3-6					
7		25			B-3-7		FILL			
8		30			B-3-8					
9		20								
10		3	100					Damp, coarse, black slag, no hydrocarbon odor.		
11								Damp, fine-grained sandy SILT, two-inch gravel seam at 12 feet bgs, grayish blue to buff, no hydrocarbon odor.		
12										
13								Silty CLAY, buff, no hydrocarbon odor.		
14			100				CL-ML			
15										
16								Boring terminated at 16 feet bgs. Backfilled with bentonite chips, capped with asphalt.		
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B03

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	29' W of building, 14' N of SW corner
Surface Condition:	Asphalt
Total Depth:	12
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt underlain by gravel.		
1								Damp, wet from 7 to 9 feet below ground surface (bgs), silty SAND, some gravel, buff to bluish gray.		
2			100							
3										
4					B-4-4					
5		3			B-4-5		FILL			
6		10	100		B-4-6					
7		6			B-4-7					
8		10								
9										
10			100				ML	Moist, sandy, clayey SILT, semi-plastic, some fine gravel, bluish gray.		
11										
12								Boring terminated at 12 feet bgs. Backfilled with bentonite chips, capped with asphalt.		
13										
14										
15										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B04

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	13' W, 1' N of B4
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt underlain by gravel.		
1								Damp, wet from 5 to 6.5 feet below ground surface (bgs), silty, fine- to medium-grained, SAND, bluish gray, weak hydrocarbon odor from 3 to 6 feet bgs, very faint hydrocarbon odor from 6 to 7 feet bgs.		
2			100							
3		3								
4					B-5-4					
5		2.5			B-5-5					
6		0	100		B-5-6					
7		0			B-5-7			Damp, clayey slag, dark gray, no hydrocarbon odor.		
8		27					FILL			
9								Damp, silty, fine-grained SAND, bluish gray, no hydrocarbon odor, pot shard at 11 feet bgs.		
10		8	100							
11										
12								Damp to moist, wet from 12.1 to 12.3 feet bgs, clayey, silty SAND, trace gravel, gray to brown, no hydrocarbon odor.		
13										
14		3.5	100							
15										
16										
17								Boring terminated at 16 feet below ground surface. Backfilled with bentonite chips, capped with asphalt.		
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B05

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	58' W of building 24' N of SW corner
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt		
1								Damp to moist, silty, gravelly SAND, gray.		
2			100							
3		10								
4					B-6-4					
5		2.5								
6		0	100				FILL			
7		1								
8		0						Wet, black slag, very strong hydrocarbon odor, globules in sheet test at 11.3 to 11.5 feet below ground surface (bgs).		
9		0								
10		0	100							
11		800								
12		85			B-6-11.5			Damp, silty, SAND, organics, brown, very faint hydrocarbon odor.		
13								Damp, clayey SILT, gray and orange mottling, weak to moderate hydrocarbon odor.		
14		300	100		B-6-14		ML			
15										
16		8								
17								Boring terminated at 16 feet bgs. Backfilled with bentonite chips, capped with asphalt.		
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/6/2004
Date Finished: 10/6/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B06

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	26' N, 33' W of NW corner
Surface Condition:	Asphalt
Total Depth:	20
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–1								Asphalt, gravel Damp, silty, fine- to medium-grained SAND, some fine to coarse gravel, gray, no hydrocarbon odor.		
2			100							
3–4										
4–5		6					FILL			
5–6		0	100					Moist to wet, silty, gravelly, fine- to medium-grained SAND, with lenses of plant material, gray, very faint hydrocarbon odor from 7 to 8 feet below ground surface (bgs).		
7–9										
9–10			100				ML	Wet, clayey SILT, brown, weak hydrocarbon odor.		
10–11										
11–12							CL	Damp, silty CLAY, mottled with oxide spots, grayish green, no hydrocarbon odor.		
12–13										
13		0								
14			100				SM	Damp to moist, silty, fine-grained SAND, gray, no hydrocarbon odor to 15.7 feet bgs.		
15		110			B-7-16					
16		27						Moist, fine- to medium-grained SAND, with fine to coarse gravel and trace silt, buff.		
17–18			100				SP			
19										
20		20								
20–25								Boring terminated at 20 feet bgs. Backfilled with bentonite chips, capped with asphalt.		

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B07

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Log of Exploratory Boring:

Notes
NE = not encountered

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	57' W of building 14' S of NW corner
Surface Condition:	Asphalt
Total Depth:	12
First GW Depth:	NE

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt, gravel.		
1								Damp, fine-grained SAND, trace fine gravel and silt, tan, mottled with oxide staining, no hydrocarbon odor.		
2			85							
3										
4										
5										
6			75				FILL	Dry to wet (10 to 10.2 feet below ground surface), angular slag to 0.75 inches, black, no hydrocarbon odor.		
7										
8										
9										
10		0	100					Damp, silty SAND, gray, no hydrocarbon odor.		
11							ML	Damp, clayey SILT, gray with oxide mottling.		
12								Boring terminated at 12 feet below ground surface. Backfilled with bentonite chips, capped with asphalt.		
13										
14										
15										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B08

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	41' N, 31' W of SW corner
Surface Condition:	Asphalt
Total Depth:	12
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt, gravel.		
1								Dry to moist (moist at 9.5 feet below ground surface), gravelly SAND, no hydrocarbon odor.		
2			100							
3										
4										
5										
6			100				FILL			
7										
8										
9										
10			100							
11		18					CL	Damp, silty CLAY, medium gray to grayish green with oxide mottling, very faint hydrocarbon odor at 11.5 feet below ground surface (bgs).		
12					B-9-12					
13								Boring terminated at 12 feet bgs. Backfilled with bentonite chips, capped with asphalt.		
14										
15										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B09

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Log of Exploratory Boring:

Notes
NE = not encountered

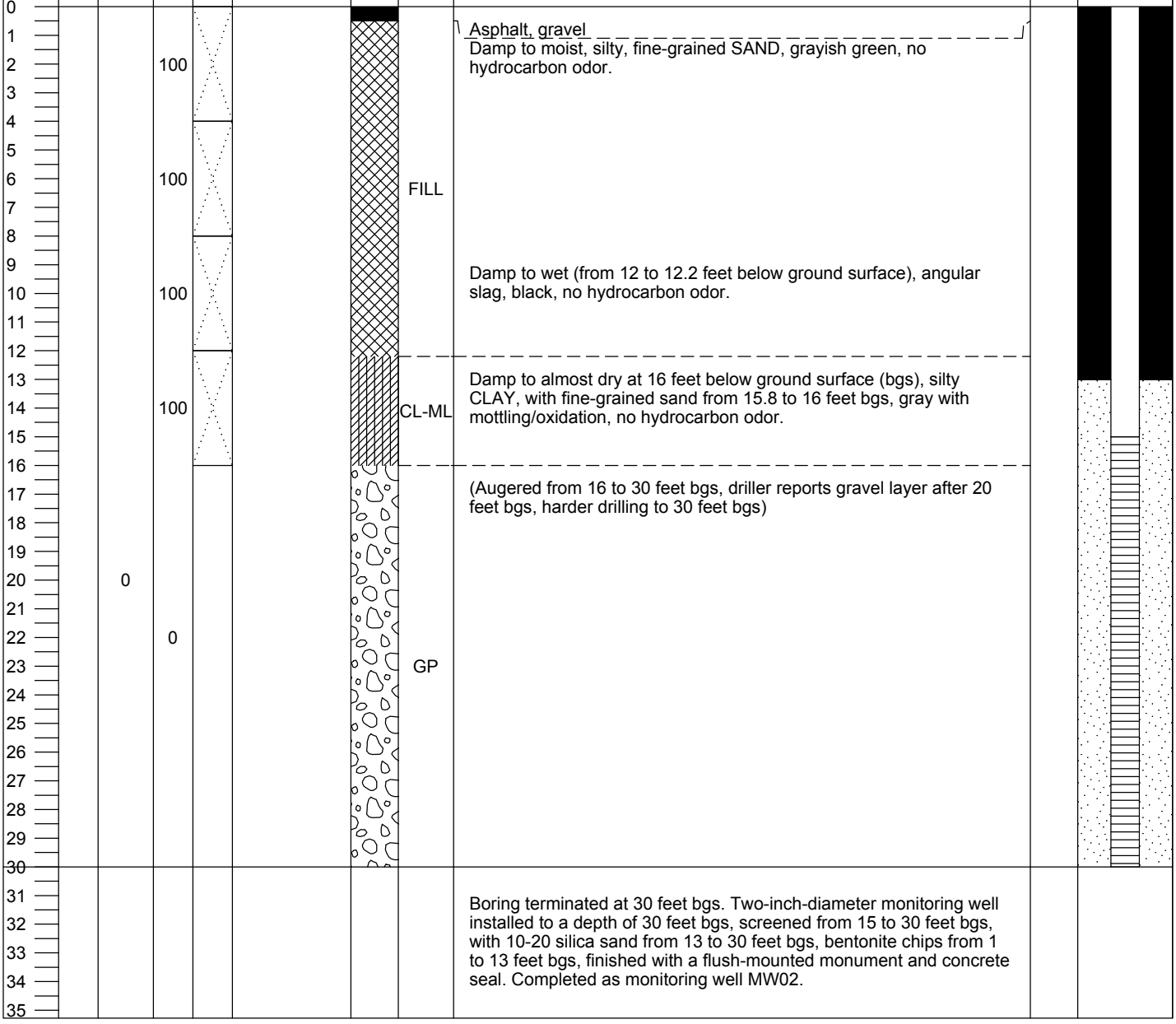
Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	60' W of building 7' N of SW corner
Surface Condition:	Asphalt
Total Depth:	30
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0–2			100				FILL	Asphalt, gravel Damp to moist, silty, fine-grained SAND, grayish green, no hydrocarbon odor.		
2–6			100				FILL			
6–10			100				FILL	Damp to wet (from 12 to 12.2 feet below ground surface), angular slag, black, no hydrocarbon odor.		
10–14			100				CL-ML	Damp to almost dry at 16 feet below ground surface (bgs), silty CLAY, with fine-grained sand from 15.8 to 16 feet bgs, gray with mottling/oxidation, no hydrocarbon odor.		
14–20		0					GP	(Augered from 16 to 30 feet bgs, driller reports gravel layer after 20 feet bgs, harder drilling to 30 feet bgs)		
20–30			0				GP			
30–35								Boring terminated at 30 feet bgs. Two-inch-diameter monitoring well installed to a depth of 30 feet bgs, screened from 15 to 30 feet bgs, with 10-20 silica sand from 13 to 30 feet bgs, bentonite chips from 1 to 13 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW02.		



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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B10/MW02

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	12' W, 8.8' S of B6
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete		
1								Damp to dry, silty, fine-grained SAND, some fine to coarse gravel, tan, no hydrocarbon odor.		
2			30							
3										
4										
5										
6			100				FILL	Damp, wet from 6 to 6.8 feet below ground surface (bgs), fine-grained, sandy SILT with clay, slightly plastic, no hydrocarbon odor.		
7										
8								Dry, angular slag, black, no hydrocarbon odor.		
9										
10			100							
11										
12		25			B-11-12					
13		0	100				SP-SM	Damp, wet from 11.5 to 12.5 feet bgs, clayey, silty SAND, gray, moderate hydrocarbon odor in wet soil, no hydrocarbon odor in damp soil.		
14		0						No Recovery.		
15			0							
16								Boring terminated at 16 feet bgs. Backfilled with bentonite chips, capped with concrete.		
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B11

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN / Don
Drilling Method:	Combo
Location:	23' S, 12' W of B6
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete		
1								Damp to dry, silty, fine-grained SAND, some fine to coarse gravel, tan, no hydrocarbon odor.		
2			80							
3										
4										
5										
6			100					Damp, wet from 6 to 6.8 feet below ground surface (bgs), fine-grained, sandy SILT with clay, slightly plastic, gray, no hydrocarbon odor.		
7							FILL			
8								Dry to wet (from 11.5 feet bgs), angular slag, black, moderate hydrocarbon odor in wet soil, no hydrocarbon odor in dry soil.		
9										
10			75							
11										
12		80			B-12-12			Damp, clayey, silty SAND, gray, no hydrocarbon odor.		
13										
14			50					No Recovery.		
15										
16										
17								Boring terminated at 16 feet below ground surface. Backfilled with bentonite chips, capped with concrete.		
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 10/7/2004
Date Finished: 10/7/2004
Logged By: WHR
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B12

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	14.3' N, 19' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	19
First GW Depth:	11.5

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Asphalt	3" Asphalt		
1							FILL	Damp, very dense, silty SAND, with gravel, brown, no hydrocarbon odor.		
2	50/6	0.0	33		B-13-02				Dp	
3							FILL	Same as above.		
4	50/6	0.0	33		B-13-3.5		FILL	Same as above, medium- to coarse-grained sand, with subangular to subrounded gravel.	Dp	
5	50/6	0.0	33		B-13-5				Dp	
6										
7	50/6	0.0	33		B-13-6.5		FILL	Same as above.	Dp	
8	50/6	0.0	33		B-13-8		FILL	Same as above.	Dp	
9										
10	50/6	12	33		B-13-9.5		FILL	Same as above.	Dp	
11	10				B-13-11				▽	
12	11 16	275	100				FILL	Same as above, wet, medium dense, weak hydrocarbon odor.	Wet	
13	50/6	19.1	33		B-13-13				Wet	
14	50/6	121	33		B-13-15		FILL	Same as above.	Wet	
15							FILL			
16	50/6		33					Wet, very dense, silty SAND to sandy SILT, with gravel, dark gray, weak hydrocarbon odor.	Wet	
17										
18	13 15 15	19.0	100				ML	Wet, medium dense, sandy SILT, gray, weak hydrocarbon odor	Wet	
19	20	12.5	100		B-13-19				Wet	
20								Terminate boring at 19 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 18.5 feet bgs, screened from 8 to 18 feet bgs, with 10-20 silica sand from 6 to 19 feet bgs, bentonite chips from 5 to 6 feet bgs, bentonite slurry from 2 to 5 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW01.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/20/2006
Date Finished: 3/20/2006
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B13/RW01

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Elijah
Drilling Method:	Air Knife
Location:	14.5' N, 23.5' W of SW corner of bldg
Surface Condition:	Asphalt
Total Depth:	14
First GW Depth:	6.5

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0		0.0					FILL	Asphalt (3 inches). Underlain by damp, gravelly, silty SAND, black, no hydrocarbon odor.	Dp	
1		0.0						Damp, sandy SILT, with gravel and organics, olive gray, no hydrocarbon odor. (Soil cuttings)	Dp	
2										
3								Damp, SILT, with organics, olive gray, no hydrocarbon odor. (Soil cuttings)		
4										
5		0.0	100		B-14-05		ML	Damp to moist, sandy SILT, dark gray, no hydrocarbon odor.	Dp	
6									▽	
7								Wet, SAND, tan, no hydrocarbon odor. (Soil cuttings)		
8		0.0	100		B-14-7.5		ML	Damp to moist, sandy SILT, dark gray, no hydrocarbon odor	Wet	
9										
10								Same as above. (Soil cuttings)		
11										
12		0.0	100		B-14-12		ML	Damp, sandy SILT, dark gray with green, no hydrocarbon odor.	Wet	
13								Same as above (Soil cuttings)		
14										
15								Terminate boring at 14 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 13.5 feet bgs, screened from 8 to 13 feet bgs, with 10-20 silica sand from 6 to 14 feet bgs, bentonite chips from 5 to 6 feet bgs, bentonite slurry from 2 to 5 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW07.		
16										
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/20/2006
Date Finished: 3/20/206
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B14/RW07

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	21' N, 44' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	19
First GW Depth:	7.5

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							Asphalt	Asphalt		
1							FILL	Damp, silty, gravelly SAND, brown, no hydrocarbon odor.		
2	13									
3	15 17	0.0					FILL	Damp, dense, gravelly, silty SAND, brown, no hydrocarbon odor.	Dp	
4										
5	7				B-15-05					
6	8 18	0.0	33				FILL	Moist, medium dense, silty SAND, tan, no hydrocarbon odor.	Dp	
7										
8	7				B-15-09				▽	
9	8 12	0.0	33				FILL	Wet, medium dense, silty SAND, with gravel, brown, no hydrocarbon odor.	Wet	
10	50/6	0.0	33		B-15-10		FILL	Same as above, moist, very dense, weak hydrocarbon odor.	Moist	
11	50/6	0.0	33				ML	Damp, hard, sandy SILT, olive, no hydrocarbon odor.	Dp	
12										
13	50/6	0.0	33				ML	Same as above.	Dp	
14	50/4	0.0	33				ML	Dry to damp, hard, sandy SILT, greenish tan, no hydrocarbon odor.	Dp	
15	50/60	210	33		B-15-16.5		SM	Damp, very dense, silty SAND, tan, moderate odor	Dp	
16										
17	50/6	181	33				SM	Same as above.	Dp	
18	50/6	181	33				SM	Same as above.	Dp	
19										
20								Terminate boring at 19 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 18.5 feet bgs, screened from 8 to 18 feet bgs, with 10-20 silica sand from 6 to 19 feet bgs, bentonite chips from 5 to 6 feet bgs, bentonite slurry from 2 to 5 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW02.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/20/2006
Date Finished: 3/20/2006
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B15/RW02

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Setm Auger
Location:	2' S, 32' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	16
First GW Depth:	9.5

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt		
1	10 12 10	0.0	100				FILL	Damp, medium dense, silty SAND, with gravel, tan no hydrocarbon odor.	Dry	
2	50/6	0.0	33				FILL	Same as above, very dense.	Dp	
3	50/6	0.0	33				FILL	Same as above.	Dp	
4					B-16-05					
5	50/6	0.0	33				FILL	Same as above.	Dp	
6	50/6	0.0	33				FILL	Same as above.	Dp	
7										
8	50/6	0.0	33				FILL	Same as above.	Dp	
9	50/6	0.0	33		B-16-10		FILL	Wet, very dense, silty SAND, with rounded gravel, tan, no hydrocarbon odor.	▽ Dp	
10										
11	50/6	0.0	33				FILL	Same as above.	Wet	
12	50/6	0.0	33				FILL	Same as above.	Wet	
13										
14	50/6 12	0.0	50				FILL	Same as above.	Wet	
15	12 50/6	0.0	50				ML	Damp, hard, SILT, greenish gray, no hydrocarbon odor.	Wet	
16								Terminate boring at 16 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 15.5 feet bgs, screened from 8 to 15 feet bgs, with 10-20 silica sand from 6 to 16 feet bgs, bentonite chips from 5 to 6 feet bgs, bentonite slurry from 2 to 5 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW03.		
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/20/2006
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Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B16/RW03

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Log of Exploratory Boring:

Notes
NE = not encountered
RW-06, 4" well for remediation

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	Cascade / Elijah
Drilling Method:	Air Knife
Location:	17.5' N, 54.75' W of SW corner of bldg
Surface Condition:	Asphalt
Total Depth:	14
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0							FILL	Asphalt, underlain by dry, silty SAND, tan, no hydrocarbon odor.		
1								Damp, SILT, greenish brown, no hydrocarbon odor. (Soil cuttings)		
2					B-17-2.5					
3		0.0					FILL	Damp, sandy SILT to silty SAND, greenish gray/brown, no hydrocarbon odor.	Dp	
4										
5					B-17-5					
6		800					FILL	Damp, silty SAND, with gravel, greenish gray/brown, moderate hydrocarbon odor.	Dp	
7		0.0						Damp, sandy SILT to silty SAND, with gravel, greenish gray/brown, moderate hydrocarbon odor. (Soil cuttings)		
8		0.0						Dry, GRAVEL, black, no hydrocarbon odor, possibly slag. (Soil cuttings)		
9		0.0								
10		0.0						Damp, SILT, with sand and gravel, greenish gray/rust-brown, no hydrocarbon odor. (Soil cuttings)		
11										
12										
13								Damp, SILT, with sand, greenish gray, no hydrocarbon odor. (Soil cuttings)		
14		0.0								
15								Terminate boring at 14 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 13.5 feet bgs, screened from 8 to 13 feet bgs, with 10-20 silica sand from 6 to 14 feet bgs, bentonite chips from 5 to 6 feet bgs, bentonite slurry from 2 to 5 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW06.		
16										
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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851 North Broadway
Everett, Washington

Date Started: 3/20/2006
Date Finished: 3/21/2006
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B17/RW06

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	35.8' N, 59.5' W of SW corner of bldg
Surface Condition:	Asphalt
Total Depth:	18
First GW Depth:	11

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1	13							Asphalt, gravel		
	13	0.0						Damp, very stiff, sandy SILT, with gravel, greenish gray, no hydrocarbon odor.		
2	15									
	10							Same as above, stiff.		
3	9									
	6						FILL			
4	14							Same as above, very stiff.		
	12									
5	10									
	10							Same as above, moist.		
6	11									
	12									
7	22									
	50/6	0.0					FILL	Same as above, hard.		
8										
9	50/6						FILL	Dry, very dense, GRAVEL, black, no hydrocarbon odor.		
10	50/6	830			B-19-10		OL	Damp, hard, organic SILT, black, no hydrocarbon odor	▽	
11										
12	50/6						OL	Same as above, wet.		
13	50/6						OL	Same as above.		
14										
15	50/6						OL	Same as above, damp.		
	50/6				B-19-15.5					
16	50/4	0.0					SM	Damp, very dense, silty SAND, with gravel, green, no hydrocarbon odor		
17										
18	50/6	0.0					SM	Same as above.		
19								Terminate boring at 18 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 17.5 feet bgs, screened from 7 to 17 feet bgs, with 10-20 silica sand from 5 to 18 feet bgs, bentonite chips from 4 to 5 feet bgs, bentonite slurry from 2 to 4 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW05.		
20										
21										
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24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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Everett, Washington

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SES Project No.: 0440-002

BORING LOG
B18/RW05

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	14.5' S, 49.5' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	18
First GW Depth:	7

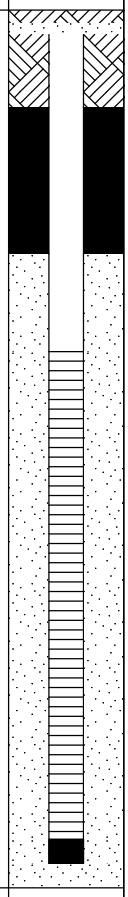
Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content
0								Asphalt	
1									
2	10							Damp, medium dense, silty, gravelly, SAND, tan, no hydrocarbon odor.	Dp
3	10								
4	10								
	12							Same as above, dense.	Dp
	19	0.0							
5	16						FILL		
	12							Same as above.	
6	18								
	17								
7	18	0.0						Same as above, moist to wet, very dense.	▽ Wet Mst
	20								
8	30								
	50/6							Same as above, moist.	
9	50/6						OL	Damp, hard, organic SILT, brownish black, very faint hydrocarbon odor.	Dp
10	50/6	830			B-19-10		OL		
11	50/6							Same as above, moist, moderate hydrocarbon odor.	
12	50/6						OL	Same as above, no hydrocarbon odor.	Mst
13									
14	50/6						OL	Same as above, very faint hydrocarbon odor.	
15	50/6						ML	Damp to moist, hard, sandy SILT, green, very faint hydrocarbon odor.	Mst
16									
17	50/6	0.0					SM	Damp, very dense, silty SAND, green, no hydrocarbon odor.	Dp
18	50/6						SM	Same as above.	Dp
19								Terminate boring at 18 feet below ground surface (bgs). Four-inch-diameter recovery well installed to a depth of 17.5 feet bgs, screened from 7 to 17 feet bgs, with 10-20 silica sand from 5 to 18 feet bgs, bentonite chips from 4 to 5 feet bgs, bentonite slurry from 2 to 4 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as recovery well RW04.	
20									
21									
22									
23									
24									
25									

Well Detail



SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/21/2006
Date Finished: 3/21/2006
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B19/RW04

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	22.9' N, 46' W of SW corner of bldg
Surface Condition:	Asphalt
Total Depth:	12
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0		0.0						Asphalt Damp, silty, gravelly SAND, black, no hydrocarbon odor. (Soil cuttings)	Dp	
4								Same as above, bluish gray. (Soil cuttings)	Dp	
5	7 6 12	24.3	100				FILL	Damp, medium dense, silty, gravelly, SAND, bluish gray, very faint hydrocarbon odor.	Dp	
10		0.0					FILL	Damp to moist, silty, gravelly, SAND, bluish gray, no hydrocarbon odor.	Dp/Mst	
12								Same as above (Soil cuttings) Terminate boring at 12 feet below ground surface (bgs). Two-inch-diameter observation well installed to a depth of 12 feet bgs, screened from 6 to 11 feet bgs, with 10-20 silica sand from 4 to 12 feet bgs, bentonite chips from 1 to 4 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as observation well OW02.		

SOUND ENVIRONMENTAL STRATEGIES
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851 North Broadway
Everett, Washington

Date Started: 3/21/2006
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Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B20/OW02

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	Cascade / Dave
Drilling Method:	Hollow Stem Auger
Location:	37' N, 36.5' W of SW corner of bldg
Surface Condition:	Asphalt
Total Depth:	12
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt		
1								Damp, silty, gravelly SAND, tan, no hydrocarbon odor. (Soil cuttings)	Dp	
2										
3										
4										
5	12	0.0							Dp	
6	12 14	0.0					FILL	Damp, medium dense, silty, gravelly, SAND, tannish brown, no hydrocarbon odor.	Dp	
7									Dp	
8								Damp, sandy SILT, bluish gray, no hydrocarbon odor. (Soil cuttings) Same as above, moist. (Soil cuttings)		
9										
10								Same as above, damp. (Soil cuttings)	Dp	
11	17 50	0.0					OL	Damp, hard, organic SILT, green with black, no hydrocarbon odor. Same as above (Soil cuttings)	Dp	
12								Terminate boring at 12 feet below ground surface (bgs). Two-inch-diameter observation well installed to a depth of 12 feet bgs, screened from 6 to 11 feet bgs, with 10-20 silica sand from 4 to 12 feet bgs, bentonite chips from 1 to 4 feet bgs, finished with a flush-mounted monument and concrete seal. Completed as observation well OW01.		
13										
14										
15										
16										
17										
18										
19										
20										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 3/21/2006
Date Finished: 3/21/2006
Logged By: TJL
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
B21/OW01

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	107' S, 18.1' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	19
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt 3", crushed rock fill to 6" bgs.		
2		0.0	100					Damp, silty SAND, gray, no hydrocarbon odor.		
3									Dmp	
4		0.0			PP1-04					
5		0.0						Same as above, with wood waste.		
6			100					Same as above, moist, trace fine subrounded gravel.		
7		0.0			P01-07					
8		0.0					FILL	Damp, SILT with sand, dark gray, no hydrocarbon odor.	Dmp	
9		0.0						Moist, SILT, some fine subrounded gravel, rootlets, and wood waste.	Mst	
10		0.0	100					Damp, SILT, some fine-grained sand, gray, no hydrocarbon odor.		
11									Dmp	
12		0.0						Moist, SILT with fine-grained sand, trace fine subrounded gravel and rootlets/wood waste, slag at 13 feet below ground surface (bgs), no hydrocarbon odor.		
13									Mst	
14			100							
15					P01-15					
16								Damp, SILT, some fine-grained sand, no hydrocarbon odor.		
17							ML	Same as above, dark gray, rootlets.	Dmp	
18			100				SP-SM	Damp, fine-grained SAND with silt, some fine to coarse subrounded gravel, brown, no hydrocarbon odor.		
19					P01-19					
20								Boring terminated at 19 feet bgs. Backfilled with bentonite chips, capped with asphalt.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P01

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	107' S, 35' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	19
First GW Depth:	17

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt underlain by crushed rock.		
2		0.0	100					Damp, medium-grained SAND with silt and fine subrounded gravel, no hydrocarbon odor.	Dmp	
3										
4										
5		0.0						Damp, fine- to medium-grained SAND, some silt, trace fine subrounded gravel, no hydrocarbon odor.	Dmp	
6		0.0	100		P02-06					
7										
8										
9		0.2					FILL	Damp, silty SAND, some fine subrounded gravel and slag, dark gray, no hydrocarbon odor.	Dmp	
10			100							
11								Damp, SILT, some fine-grained sand and slag, dark grey, no hydrocarbon odor.		
12		0.6			P02-12				Dmp	
13		0.0						Same as above, rootlets.	Dmp	
14		0.5	100		P02-14					
15		0.0						Damp, SILT, trace slag, no hydrocarbon odor.		
16								Damp, SILT, few fine-grained sand, brownish gray, no hydrocarbon odor.	Dmp	
17					P02-17				▽	
18			100				SP	Wet (perched water), fine to medium-grained SAND, some silt, dark gray, no hydrocarbon odor.	Wet	
19							SP	Damp, fine-grained SAND with silt, some fine to coarse subrounded gravel, brownish gray, no hydrocarbon odor.	Dmp	
20								Boring terminated at 19 feet below ground surface. Backfilled with bentonite chips, capped with asphalt.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
www.soundenvironmental.com

TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P02

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	107' S, 46.8' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	19
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt underlain by crushed rock.		
2		0.0	100					Damp, fine to medium-grained SAND with fine to coarse subrounded gravel, brown, no hydrocarbon odor.	Dmp	
3								Damp, silty SAND, gray, no hydrocarbon odor.		
4		0.0			P03-04					
5								Same as above, some slag fragments.		
6		0.0	100					Same as above, some fine to coarse subrounded gravel, trace slag fragments, rootlets, no hydrocarbon odor.	Dmp	
7		0.0 0.8			P03-07					
8							FILL			
9		0.0								
10		0.0	100					Same as above, dark gray.		
11										
12		0.0			P03-12					
13										
14		0.0	100		P03-14			Same as above, moist.	Mst	
15		0.0								
16							ML	Damp, SILT, some fine-grained sand, gray, no hydrocarbon odor.	Dmp	
17		0.0						Damp, silty SAND with fine to coarse gravel, cobble at 17 feet below ground surface, reddish brown, no hydrocarbon odor.		
18			100				SM		Dmp	
19		0.0			P03-19					
20								Boring terminated at 19 feet below ground surface. Backfilled with bentonite chips, capped with asphalt.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P03

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	84.0' S, 70.0' W of NW corner of bldg
Surface Condition:	Concrete
Total Depth:	19
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete underlain by crushed rock.		
1								Damp, fine- to medium-grained SAND, some fine subrounded gravel, trace slag, brown, no hydrocarbon odor.		
2		0.0	100						Dmp	
3										
4		0.0			P04-04					
5		0.0						Damp, silty SAND, some fine subrounded gravel, trace slag, brown, no hydrocarbon odor.		
6			100							
7		0.0			P04-07					
8		0.0					FILL	Same as above.		
9										
10		0.0							Dmp	
11										
12								Slag from 8 to 14 feet below ground surface (bgs).		
13		0.0								
14										
15										
16		0.0			P04-16			Damp, silty SAND, trace slag, dark gray, no hydrocarbon odor.		
17								Damp, SILT, some fine sand and subrounded gravel, gray, no hydrocarbon odor.	Dmp	
18			100				ML			
19		0.0			P04-19			Same as above, moist, trace fine subrounded gravel.	Mst	
20								Boring terminated at 19 feet bgs. Backfilled with bentonite chips to surface grade, capped with concrete.		
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P04

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Log of Exploratory Boring:

Notes
NE = not encountered

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	66.5' S, 70.0' W of NW corner of bldg
Surface Condition:	Concrete
Total Depth:	19
First GW Depth:	NE

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete (3 inches thick)		
1								No recovery, rock in sampler.		
2			0							
3										
4								Damp, dense, silty SAND, some fine to medium subrounded gravel, brown, no hydrocarbon odor.		
5		0.0			P05-06					
6			100							
7		0.0						Same as above, some cobles.	Dmp	
8										
9							FILL	Slag from 8 to 14 feet below ground surface (bgs).		
10			100							
11										
12										
13										
14			0							
15										
16								Moist slag from 16 to 18 feet bgs.		
17									Mst	
18			100				SM-ML	Damp, SILT with sand, some fine to coarse gravel, brown, no hydrocarbon odor.		
19		0.0			P05-19				Dmp	
								Boring terminated at 19' bgs. Backfilled with bentonite chips, capped with concrete.		
20										
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P05

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	44.4' S, 70.0' W of NW corner of bldg
Surface Condition:	Concrete
Total Depth:	17.5
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Concrete (4 inches thick).		
1		0.0						Damp, fine- to medium-grained SAND with silt, some fine to medium subrounded gravel, brown, no hydrocarbon odor.		
2			100						Dmp	
3								Same as above, brownish-gray.		
4		0.0			P06-04					
5		0.0						Damp, silty SAND, some fine subrounded gravel, wood waste and slag, gray, no hydrocarbon odor.	Dmp	
6		0.0	100		P06-06			Same as above.		
7							FILL	Slag from 6 to 14 feet below ground surface (bgs).		
8										
9										
10			100							
11										
12										
13										
14			100							
15		0.0			P06-15			Damp, silty SAND, some fine to coarse subrounded gravel, brown, no hydrocarbon odor.		
16							SM		Dmp	
17		3.5	100		P06-17					
18								Refusal at 17.5 feet bgs. Backfilled with bentonite chips, capped with concrete.		
19										
20										
21										
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/23/2009
Date Finished: 6/23/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P06

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	3.6' S, 58.0' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	20
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0								Asphalt (4 inches)		
1		0.0						Damp, fine- to medium-grained SAND with fine subrounded gravel, brown, no hydrocarbon odor.	Dmp	
2			100					Damp, silty SAND, some fine subrounded gravel, brown, no hydrocarbon odor.		
3									Dmp	
4		0.0			P07-04					
5										
6		0.0	100					Damp, fine- to medium-grained SAND with angular pieces of slag, brown, no hydrocarbon odor.	Dmp	
7										
8		0.5			P07-08			Damp, SILT, some fine-grained sand, brick and slag debris, dark gray, no hydrocarbon odor.		
9								Same as above, no sand, no brick debris.		
10		0.8	100		P07-10		FILL	Same as above, moist.		
11								Damp, SILT, some fine-grained sand, gray, no hydrocarbon odor.	Dmp	
12										
13		1.8	100							
14								Same as above, gray with red mottling.		
15			100					Same as above, with slag debris.		
16		1,893			P07-16			Damp, silty SAND, some fine gravel, brown, slight hydrocarbon odor.	Dmp	
17			100					Damp, SILT, some fine-grained sand and fine to coarse subrounded gravel, slight hydrocarbon odor.	Dmp	
18		1.9						Damp, silty SAND, some fine to medium subrounded gravel, some angular slag, gray, no hydrocarbon odor.		
19			100						Dmp	
20		3.0			P07-20		SM	Damp, silty SAND, some fine to medium subrounded gravel, gray, no hydrocarbon odor.		
21								Boring terminated 20 feet below ground surface. Backfilled with bentonite chips, capped with asphalt.		
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/24/2009
Date Finished: 6/24/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P07

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Log of Exploratory Boring:

Notes

Drilling Co./Driller:	ESN
Drilling Method:	Direct
Location:	5.0' S, 34.6' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	22
First GW Depth:	15

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt (6 inches), underlain by damp, fine- to medium-grained SAND with fine to coarse subrounded gravel, brown, no hydrocarbon odor.	Dmp	
2		0.0	100					Damp, silty SAND with some fine to medium subrounded gravel, trace slag, gray, no hydrocarbon odor.		
3								Same as above.		
4		0.0			P08-04				Dmp	
5		1.0						Same as above.		
6		1.0	100					3-inch layer of slag.		
7								Same as above, with cobbles.		
8		6.1			P08-08					
9		2.0					FILL	Damp, SILT, some fine-grained sand, slag and brick debris, wood waste, and rootlets, dark gray, no hydrocabon odor.		
10		1.1	100							
11		1.1						Damp, SILT, some sand and rootlets, grayish brown, no hydrocarbon odor.	Dmp	
12		1.1			P08-12					
13		5.5						Same as above, slight hydrocarbon odor.		
14			100							
15		2,331			P08-15			Moist, fine to medium-grained SAND, with silt and some fine gravel, gray, moderate hydrocarbon odor, sheen observed on water in sample.	Mst ▽	
16		1,600						Wet, fine to medium-grained SAND, gray, moderate hydrocarbon odor.	Wet	
17			100							
18								Damp, silty SAND, some fine to coarse subrounded gravel, gray, slight hydrocarbon odor.		
19		135					SM	Damp, silty SAND, trace fine subrounded gravel, gray, slight hydrocarbon odor.	Dmp	
20		38			P08-20					
21		35						Same as above, some fine subrounded gravel, no hydrocarbon odor.		
22		40			P08-22					
23								Boring terminated at 22 feet below ground surface. Backfilled with bentonite chips and capped with asphalt.		
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/24/2009
Date Finished: 6/24/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P08

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	4.7' S, 10.5' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	22
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt (6 inches) Damp, fine to medium-grained SAND, some fine subrounded gravel, brown, no hydrocarbon odor.	Dmp	
2			100							
3		2.4						Damp, silty SAND, some fine subrounded gravel, gray, no hydrocarbon odor.		
4		6.6			P09-04					
5		0.0						Same as above, some wood waste.	Dmp	
6		0.0	100				FILL			
7		4.9			P09-07					
8										
9								Moist, medium- to coarse-grained SAND, some fine subrounded gravel, no hydrocarbon odor.		
10			100						Mst	
11										
12		8.2			P09-12					
13		1,500						Damp, SILT, some fine-grained sand, brown, no hydrocarbon odor.		
14			100				ML	Same as above, moderate hydrocarbon odor. Same as above, strong hydrocarbon odor.	Dmp	
15		8,762			P09-15					
16		7,730						Same as above, free product in soil sample.		
17								Damp, silty SAND, some fine subrounded gravel, gray, moderate hydrocarbon odor.		
18		1,750	100							
19							SM		Dmp	
20		678			P09-20					
21			100							
22		75			P09-22					
23								Refusal at 22 feet below ground surface. Backfilled with bentonite chips and capped with asphalt.		
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/24/2009
Date Finished: 6/24/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P09

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	29.2' S, 42.7' W of NW corner of bldg
Surface Condition:	Asphalt
Total Depth:	20
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0										
1		0.0						Asphalt (4 inches)		
2		0.0	100					Damp, fine- to medium-grained SAND, some fine subrounded gravel, brown, no hydrocarbon odor.		
3										
4		2.1			P10-04					
5									Dmp	
6		0.8	100							
7		0.6								
8		1.3			P10-08					
9							FILL			
10		1.5	100							
11								Same as above, moist.	Mst	
12		2.6			P10-12					
13		11.4						Damp, SILT, some sand, gray, moderate hydrocarbon odor.		
14		54.4	100						Dmp	
15		298								
16		150			P10-16					
17								Same as above, some fine to coarse subrounded gravel, trace slag debris, gray, no hydrocarbon odor.		
18		36.9	100						Dmp	
19							SM	Damp, silty SAND, some fine subrounded gravel, gray, no hydrocarbon odor.		
20		68			P10-20					
21								Boring terminated 20 feet below ground surface. Backfilled with bentonite chips and capped with asphalt.		
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/24/2009
Date Finished: 6/24/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P10

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Log of Exploratory Boring:

Notes
NE = not encountered

Moisture Content:
Dry = Dry, Dp = Damp, Mst = Moist, Wet = Wet

Hydrocarbon Odor: NO = no odor, VFO = very faint odor
WO = weak odor, MO = moderate odor, SO = strong odor

Water Levels
▼ After Completion
▽ During Drilling

Drilling Co./Driller:	ESN
Drilling Method:	Direct Push
Location:	76.4' S, 53.0' W of NW corner of bldg
Surface Condition:	Bark
Total Depth:	20
First GW Depth:	NE

Depth (feet)	Blow Count	PID	Sample Recovery	Sample Interval	Sample ID	Lithography	USCS Class	Description	Moisture Content	Well Detail
0		0.0						Bark/topsoil.		
1								Damp, fine- to medium-grained SAND, some fine to coarse subrounded gravel, brown, no hydrocarbon odor.		
2			100							
3										
4		1.6			P11-04				Dmp	
5		1.2								
6										
7		1.1								
8		12.0			P11-08					
9								Damp, silty SAND, some gravel and slag, dark gray, moderate hydrocarbon odor.		
10			100				FILL			
11										
12		11.2			P11-12					
13								Damp, SILT with sand, trace fine subrounded gravel and wood waste, no hydrocarbon odor.		
14			100						Dmp	
15										
16		5.6			P11-16			Damp, SILT, some fine sand and slag, grayish brown, no hydrocarbon odor.		
17			100							
18		10.1								
19								Damp, SILT with gravel and slag, dark brown, no hydrocarbon odor.		
20		34.8			P11-20					
21								Boring terminated at 20 feet below ground surface. Backfilled with bentonite chips to surface grade.		
22										
23										
24										
25										

SOUND ENVIRONMENTAL STRATEGIES
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TOC Holdings Co. Facility No. 01-169
851 North Broadway
Everett, Washington

Date Started: 6/24/2009
Date Finished: 6/24/2009
Logged By: RAH
Chk By: JAC
SES Project No.: 0440-002

BORING LOG
P11

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APPENDIX E
Laboratory Analytical Reports

Friedman & Bruya, Inc. #906216

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

June 24, 2009

Erin Rothman, Project Manager
Sound Environmental Strategies Corporation
2400 Airport Way S., Suite 200
Seattle, WA 98134-2020

Dear Ms. Rothman:

Included are the results from the testing of material submitted on June 23, 2009 from the TOC_01-169_20090623 WORFDB2, F&BI 906216 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Mark Chandler, Ryan Bixby
SOU0624R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 23, 2009 by Friedman & Bruya, Inc. from the Sound Environmental Strategies TOC_01-169_20090623 WORFDB2, F&BI 906216 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Sound Environmental Strategies
906216-01	P01-04
906216-02	P01-07
906216-03	P01-10
906216-04	P01-15
906216-05	P01-19
906216-06	P02-06
906216-07	P02-12
906216-08	P02-14
906216-09	P02-17
906216-10	P03-04
906216-11	P03-07
906216-12	P03-12
906216-13	P03-14
906216-14	P03-19
906216-15	P04-04
906216-16	P04-07
906216-17	P04-16
906216-18	P04-19
906216-19	P05-06
906216-20	P05-19
906216-21	P06-04
906216-22	P06-06
906216-23	P06-15
906216-24	P06-17

All quality control requirements were acceptable.

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216
Date Extracted: 06/23/09
Date Analyzed: 06/23/09 and 06/24/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
P01-07 906216-02	<2	91
P01-10 906216-03	<2	107
P01-19 906216-05	<2	97
P02-12 906216-07	<2	118
P02-14 906216-08	<2	134
P02-17 906216-09	<2	92
P03-12 906216-12	<2	120
P03-14 906216-13	<2	125
P03-19 906216-14	<2	97
P04-07 906216-16	<2	106

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216
Date Extracted: 06/23/09
Date Analyzed: 06/23/09 and 06/24/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
P04-16 906216-17	<2	117
P04-19 906216-18	<2	114
P05-06 906216-19	<2	93
P05-19 906216-20	<2	113
P06-06 906216-22	<2	106
P06-15 906216-23	<2	112
P06-17 906216-24	7	111
Method Blank	<2	100

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216
Date Extracted: 06/23/09
Date Analyzed: 06/23/09 and 06/24/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
P01-07 906216-02	<50	<250	96
P01-10 906216-03	<50	<250	95
P01-19 906216-05	<50	<250	96
P02-12 906216-07	<50	<250	101
P02-14 906216-08	<50	<250	96
P02-17 906216-09	<50	<250	90
P03-12 906216-12	<50	<250	94
P03-14 906216-13	<50	<250	92
P03-19 906216-14	<50	<250	97
P04-07 906216-16	<50	<250	100
P04-16 906216-17	<50	<250	89
P04-19 906216-18	<50	<250	102

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216
Date Extracted: 06/23/09
Date Analyzed: 06/23/09 and 06/24/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
P05-06 906216-19	<50	<250	96
P05-19 906216-20	<50	<250	94
P06-06 906216-22	<50	<250	100
P06-15 906216-23	<50	<250	99
P06-17 906216-24	<50	<250	94
Method Blank	<50	<250	99

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P01-07	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-02
Date Analyzed:	06/23/09	Data File:	062318.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	42	152
Toluene-d8	92	36	149
4-Bromofluorobenzene	76	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P01-10	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-03
Date Analyzed:	06/23/09	Data File:	062319.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	124	42	152
Toluene-d8	115	36	149
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P01-19	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-05
Date Analyzed:	06/23/09	Data File:	062320.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	119	42	152
Toluene-d8	115	36	149
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P02-12	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-07
Date Analyzed:	06/23/09	Data File:	062321.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	164 vo	42	152
Toluene-d8	158 vo	36	149
4-Bromofluorobenzene	131	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P02-14	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-08
Date Analyzed:	06/23/09	Data File:	062322.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	138	42	152
Toluene-d8	135	36	149
4-Bromofluorobenzene	117	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P02-17	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-09
Date Analyzed:	06/23/09	Data File:	062323.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	127	42	152
Toluene-d8	122	36	149
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P03-12	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-12
Date Analyzed:	06/23/09	Data File:	062324.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	130	42	152
Toluene-d8	123	36	149
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P03-14	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-13
Date Analyzed:	06/23/09	Data File:	062325.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	122	42	152
Toluene-d8	119	36	149
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P03-19	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-14
Date Analyzed:	06/24/09	Data File:	062326.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	42	152
Toluene-d8	101	36	149
4-Bromofluorobenzene	83	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P04-07	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-16
Date Analyzed:	06/24/09	Data File:	062327.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	42	152
Toluene-d8	106	36	149
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P04-16	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-17
Date Analyzed:	06/24/09	Data File:	062328.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	138	42	152
Toluene-d8	131	36	149
4-Bromofluorobenzene	111	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P04-19	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-18
Date Analyzed:	06/24/09	Data File:	062329.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	128	42	152
Toluene-d8	122	36	149
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P05-06	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-19
Date Analyzed:	06/24/09	Data File:	062330.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	42	152
Toluene-d8	91	36	149
4-Bromofluorobenzene	75	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P05-19	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-20
Date Analyzed:	06/24/09	Data File:	062331.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	116	42	152
Toluene-d8	107	36	149
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P06-06	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-22
Date Analyzed:	06/24/09	Data File:	062332.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	42	152
Toluene-d8	111	36	149
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P06-15	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-23
Date Analyzed:	06/24/09	Data File:	062333.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	119	42	152
Toluene-d8	119	36	149
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P06-17	Client:	Sound Environmental Strategies
Date Received:	06/23/09	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	906216-24
Date Analyzed:	06/24/09	Data File:	062334.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	42	152
Toluene-d8	107	36	149
4-Bromofluorobenzene	89	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.099
Toluene	0.15
Ethylbenzene	<0.05
m,p-Xylene	1.2
o-Xylene	0.49
Naphthalene	0.11

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Sound Environmental Strategies
Date Received:	NA	Project:	TOC_01-169_20090623 WORFDB2
Date Extracted:	06/23/09	Lab ID:	090850 mb
Date Analyzed:	06/23/09	Data File:	062317.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	42	152
Toluene-d8	111	36	149
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	106	112	70-130	6

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 906216-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	111	110	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	79-144

Date of Report: 06/24/09
Date Received: 06/23/09
Project: TOC_01-169_20090623 WORFDB2, F&BI 906216

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 906216-24 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Ethanol	mg/kg (ppm)	<50	<50	nm
t-Butyl alcohol (TBA)	mg/kg (ppm)	<3	<3	nm
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.05	<0.05	nm
Diisopropyl ether (DIPE)	mg/kg (ppm)	<0.05	<0.05	nm
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	<0.05	<0.05	nm
t-Amyl methyl ether (TAME)	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.05	<0.05	nm
Benzene	mg/kg (ppm)	0.099	0.096	3
Toluene	mg/kg (ppm)	0.15	0.14	7
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.05	<0.05	nm
Ethylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
m,p-Xylene	mg/kg (ppm)	1.2	1.1	9
o-Xylene	mg/kg (ppm)	0.49	0.47	4
Naphthalene	mg/kg (ppm)	0.11	0.11	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	86	88	19-157	2
t-Butyl alcohol (TBA)	mg/kg (ppm)	12.5	94	101	70-121	7
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	106	82-112	5
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	106	106	85-117	0
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	108	111	84-117	3
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	104	106	84-118	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	115	115	82-120	0
Benzene	mg/kg (ppm)	2.5	109	108	80-112	1
Toluene	mg/kg (ppm)	2.5	103	102	80-116	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	111	110	86-120	1
Ethylbenzene	mg/kg (ppm)	2.5	103	102	81-115	1
m,p-Xylene	mg/kg (ppm)	5	99	98	80-118	1
o-Xylene	mg/kg (ppm)	2.5	102	104	78-122	2
Naphthalene	mg/kg (ppm)	2.5	96	100	70-122	4

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

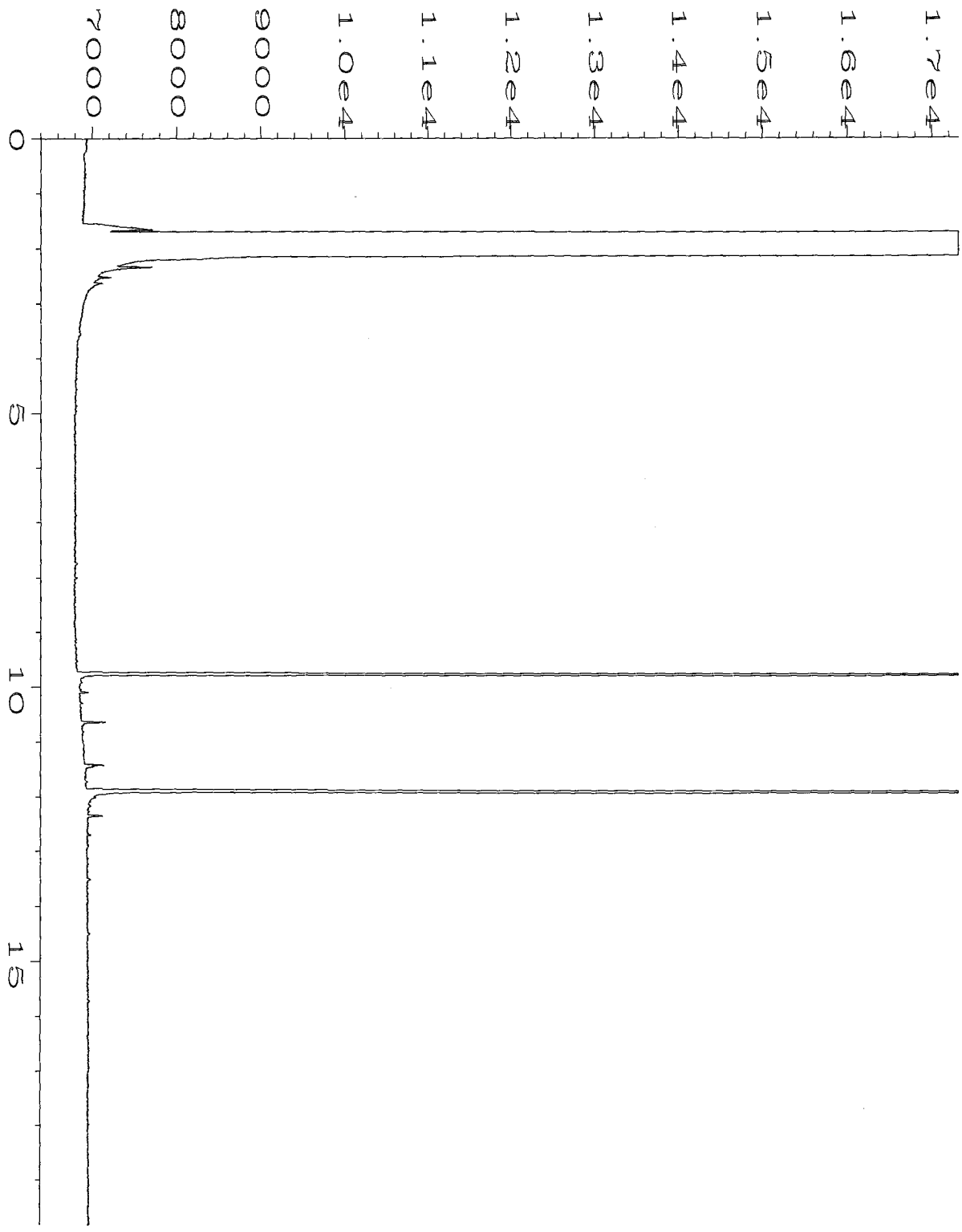
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

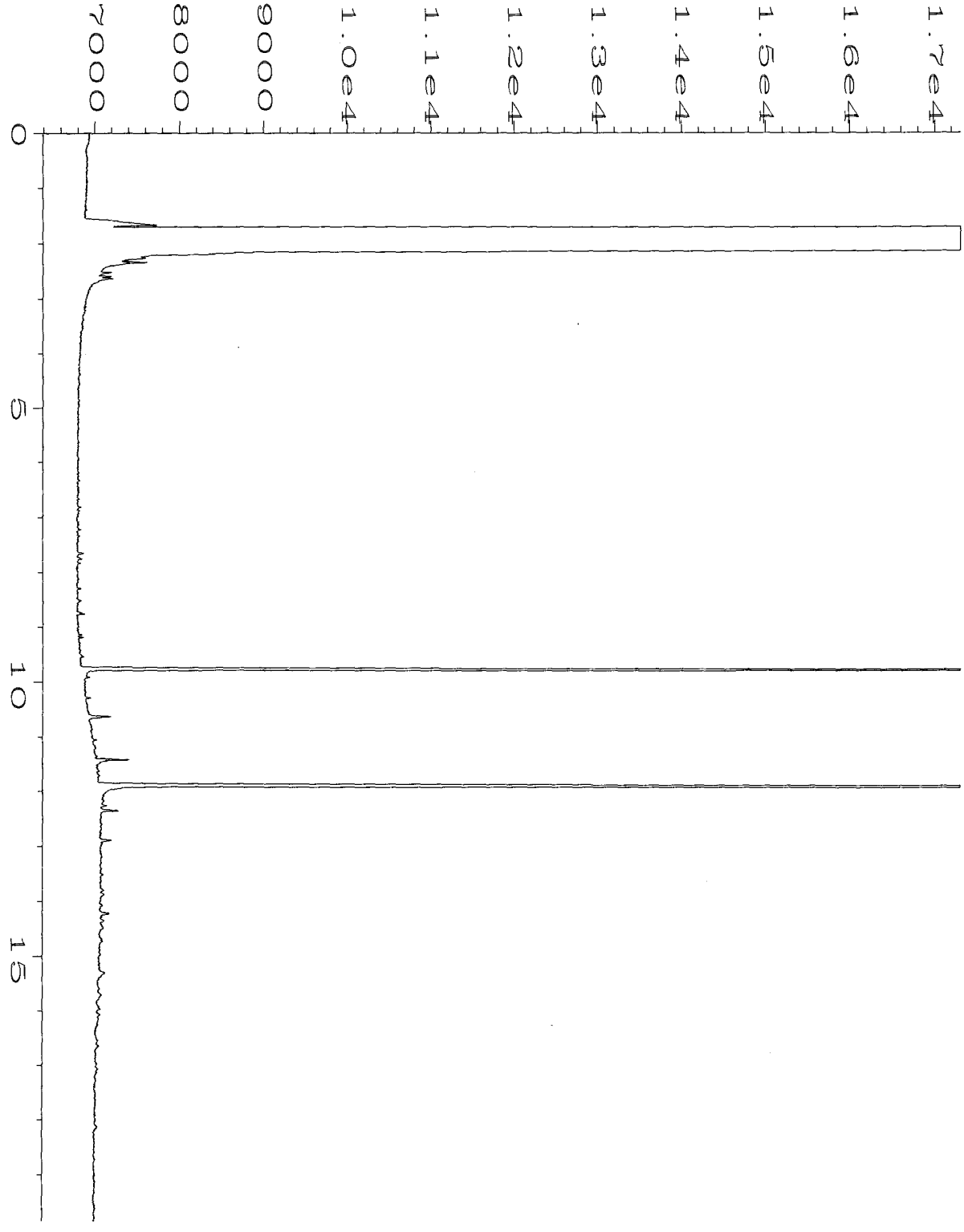
x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.



Data File Name : C:\HPCHEM\1\DATA\06-23-09\034F1201.D
Operator : ay
Instrument : GC1
Sample Name : 906216-02
Run Time Bar Code:
Acquired on : 23 Jun 09 11:55 PM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 12
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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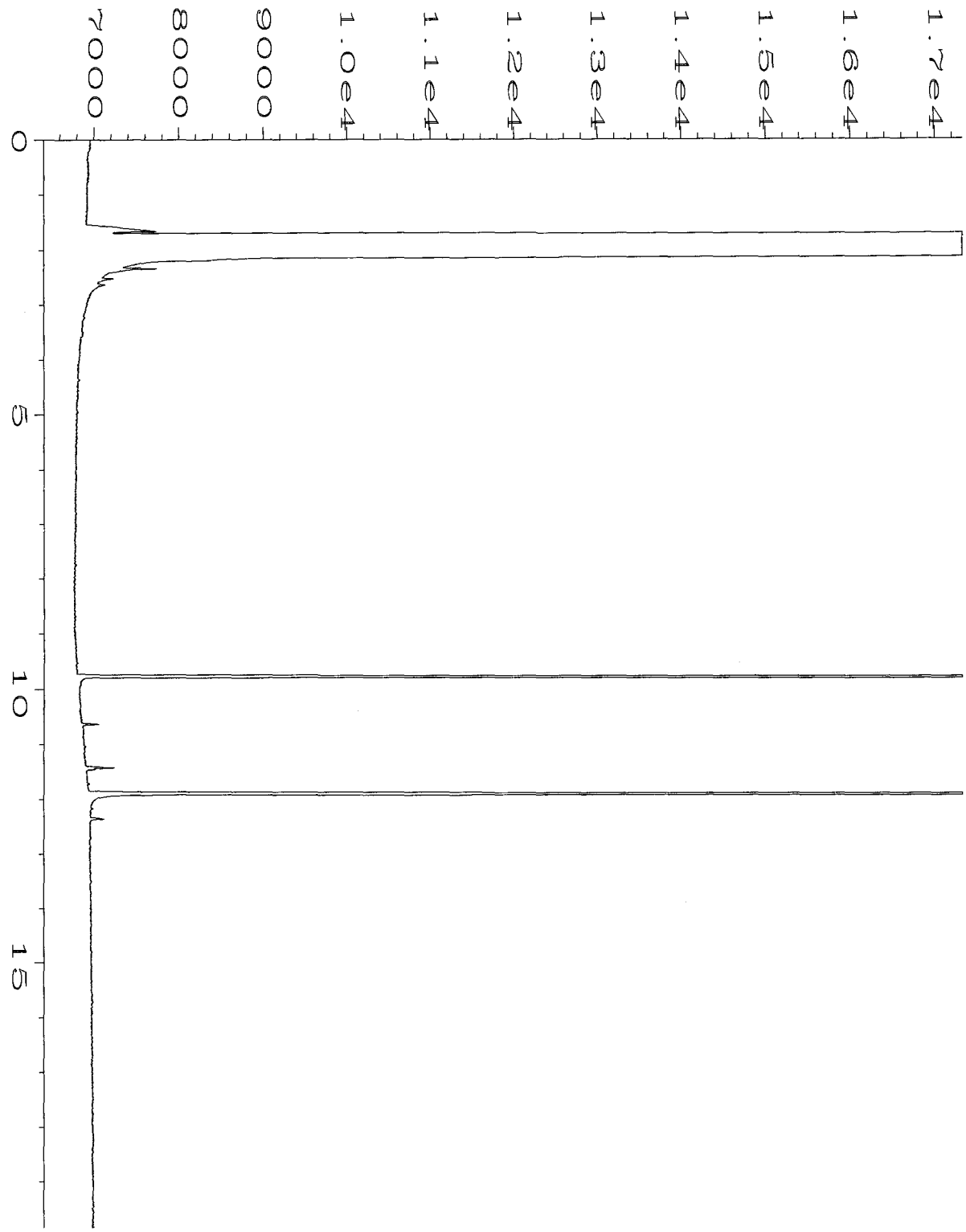
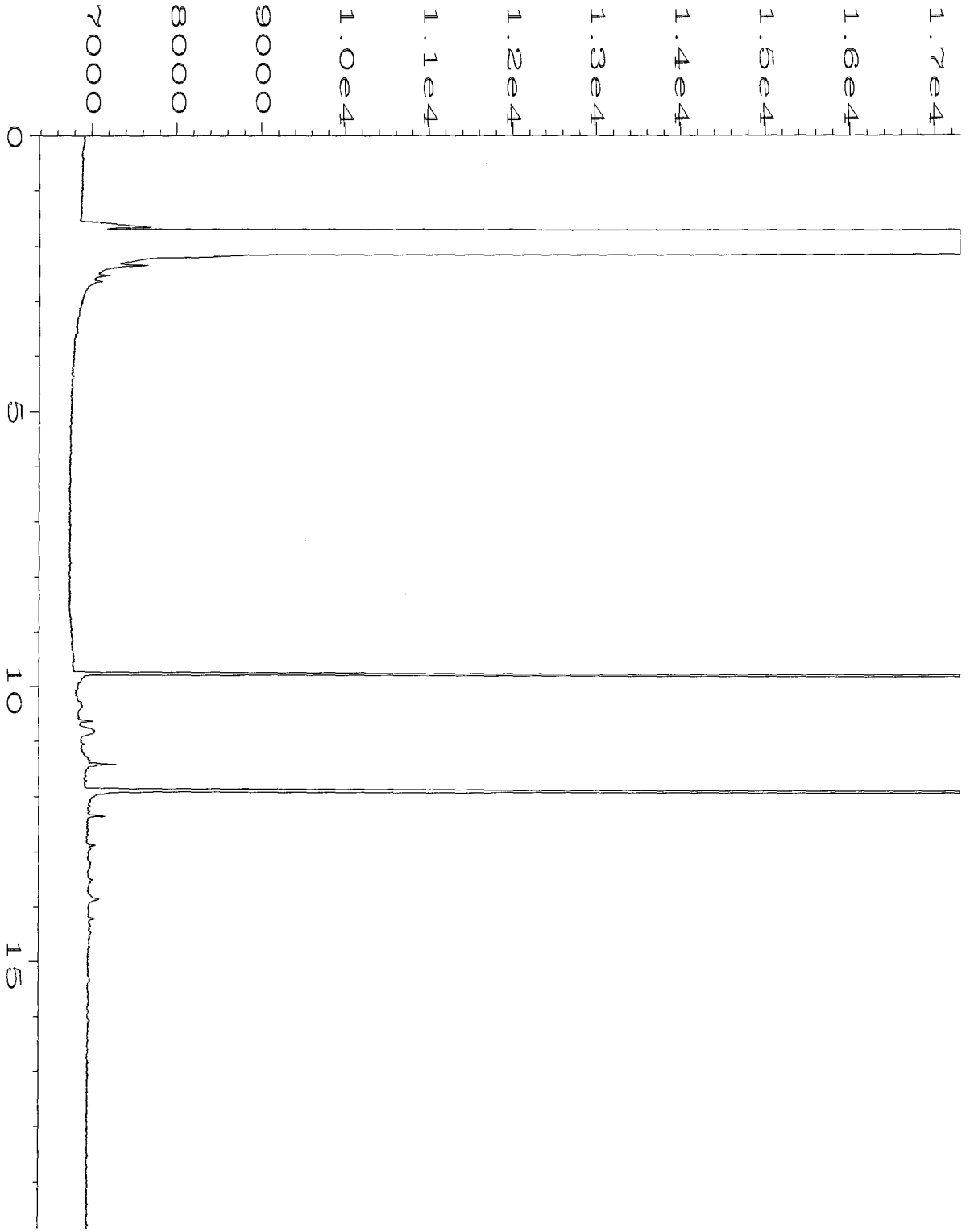
Operator : ay
Instrument : GC1
Sample Name : 906216-03
Run Time Bar Code:
Acquired on : 24 Jun 09 00:22 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 35
Injection Number : 1
Sequence Line : 12
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name : C:\HPCHEM\1\DATA\06-23-09\033F1201.D
Operator : ay
Instrument : GC1
Sample Name : 906216-05
Run Time Bar Code:
Acquired on : 23 Jun 09 11:29 PM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 33
Injection Number : 1
Sequence Line : 12
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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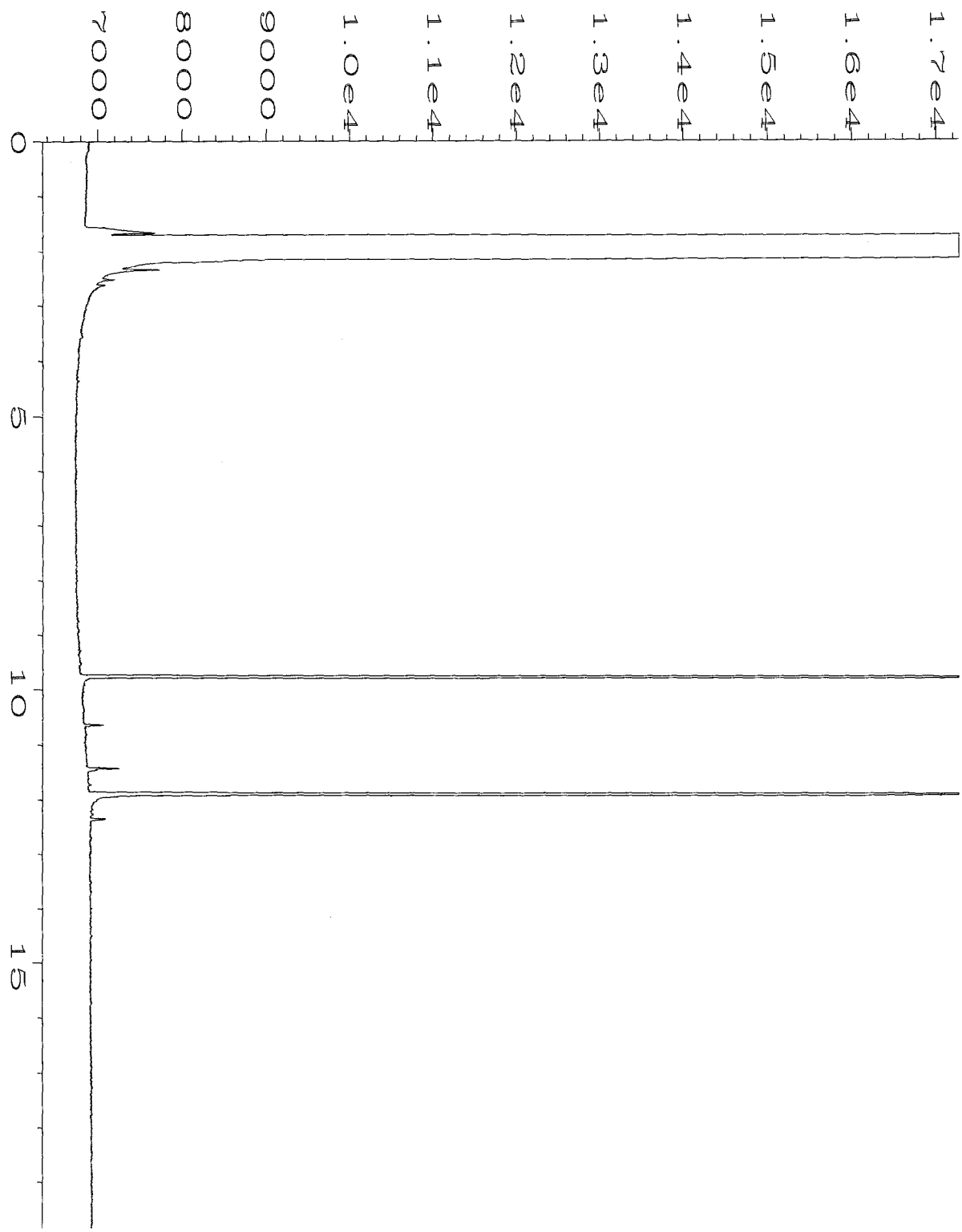
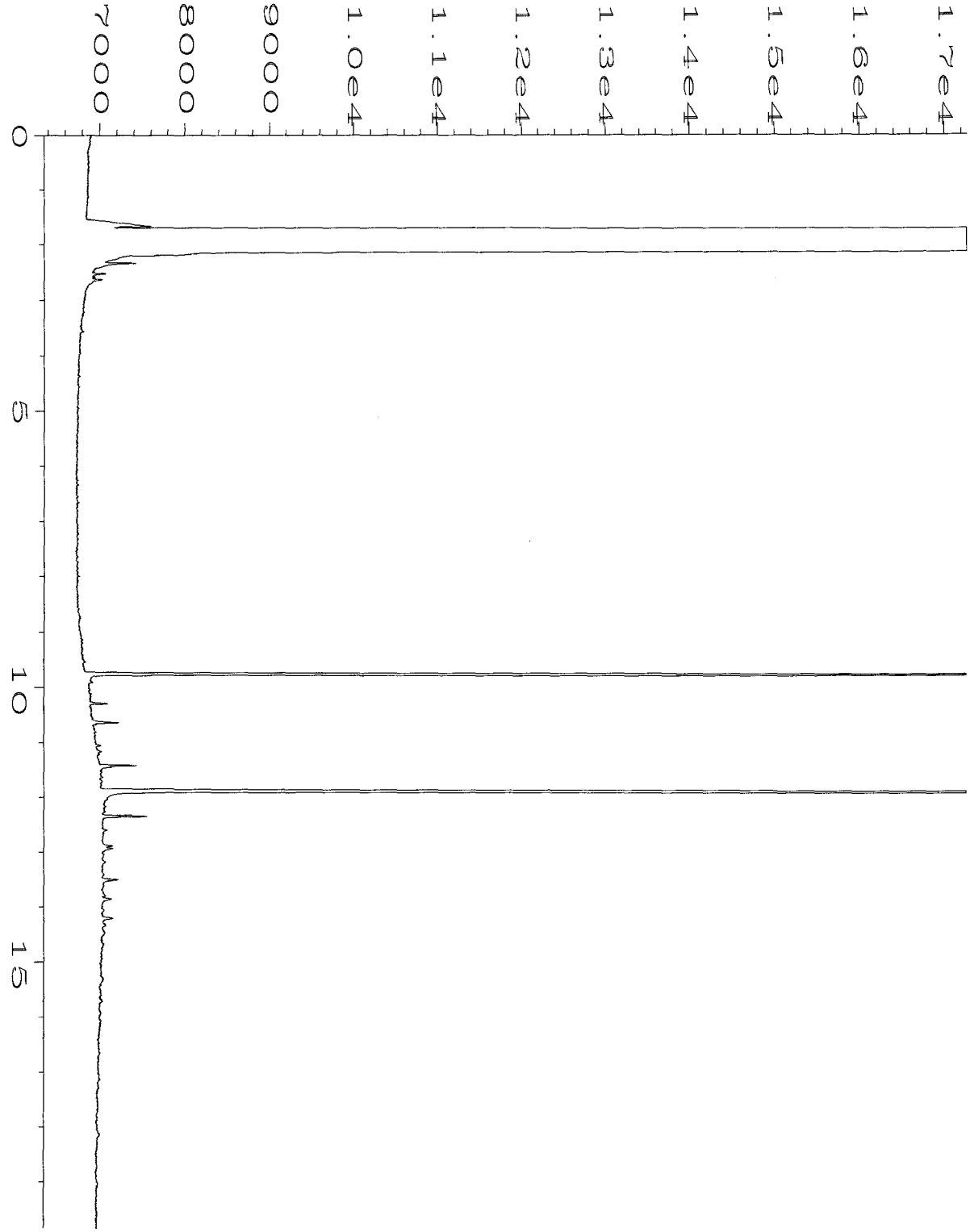
Operator : ay
Instrument : GC1
Sample Name : 906216-07
Run Time Bar Code:
Acquired on : 24 Jun 09 00:48 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 36
Injection Number : 1
Sequence Line : 12
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



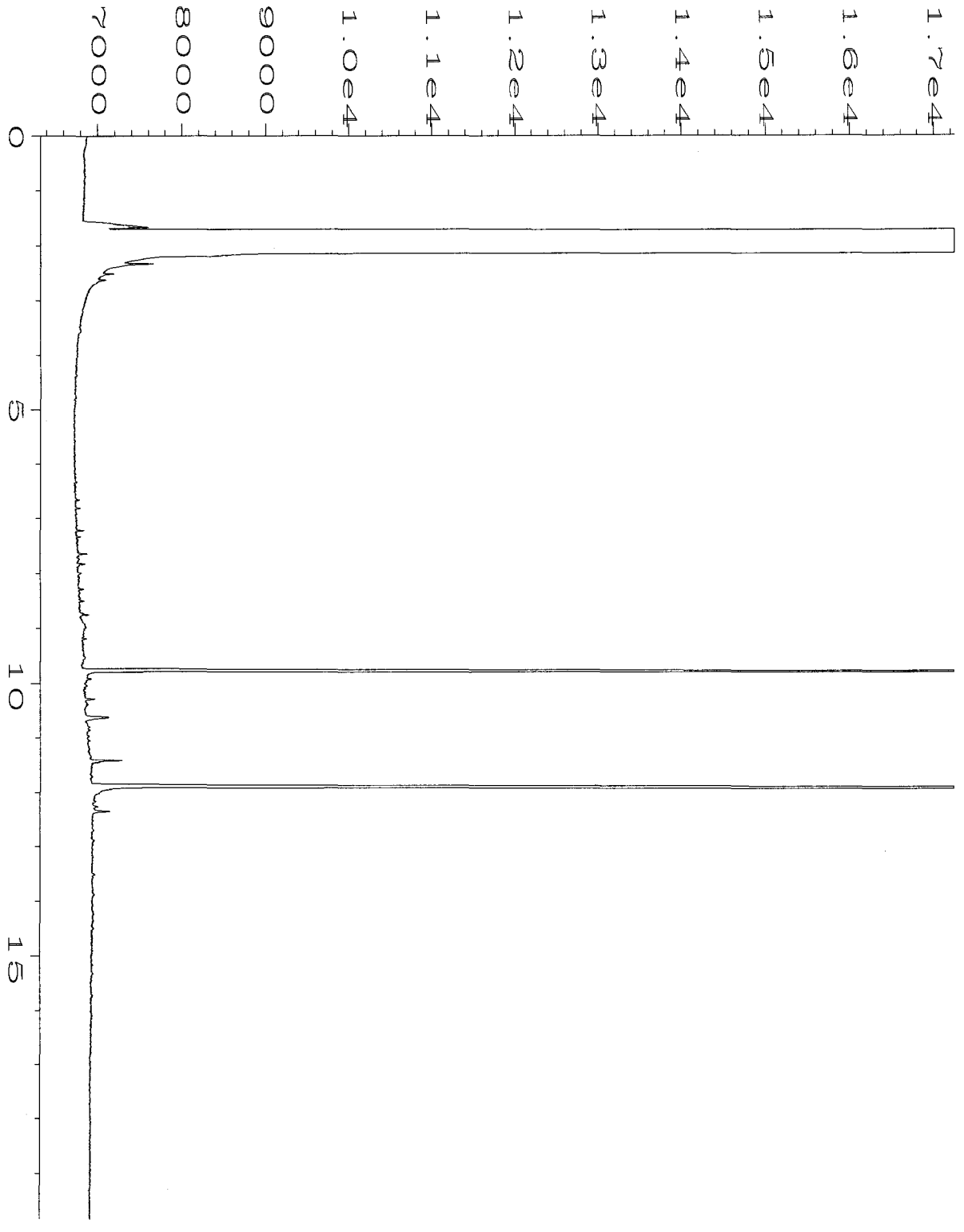
Data File Name : C:\HPCHEM\1\DATA\06-23-09\037F1201.D
Operator : ay
Instrument : GC1
Sample Name : 906216-08
Run Time Bar Code:
Acquired on : 24 Jun 09 01:15 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 37
Injection Number : 1
Sequence Line : 12
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



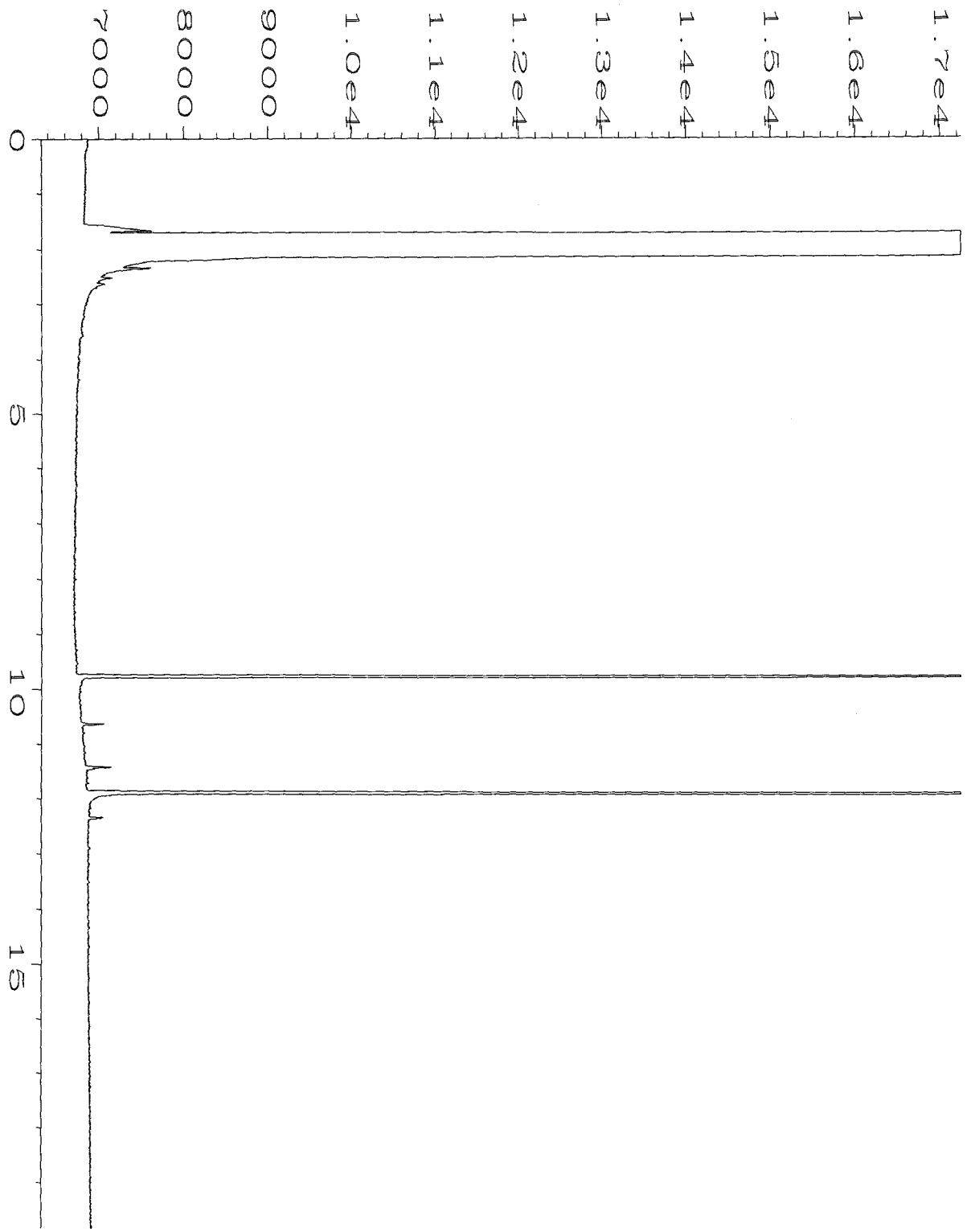
Data File Name : C:\HPCHEM\1\DATA\06-23-09\038F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-09
Run Time Bar Code:
Acquired on : 24 Jun 09 02:34 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 38
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



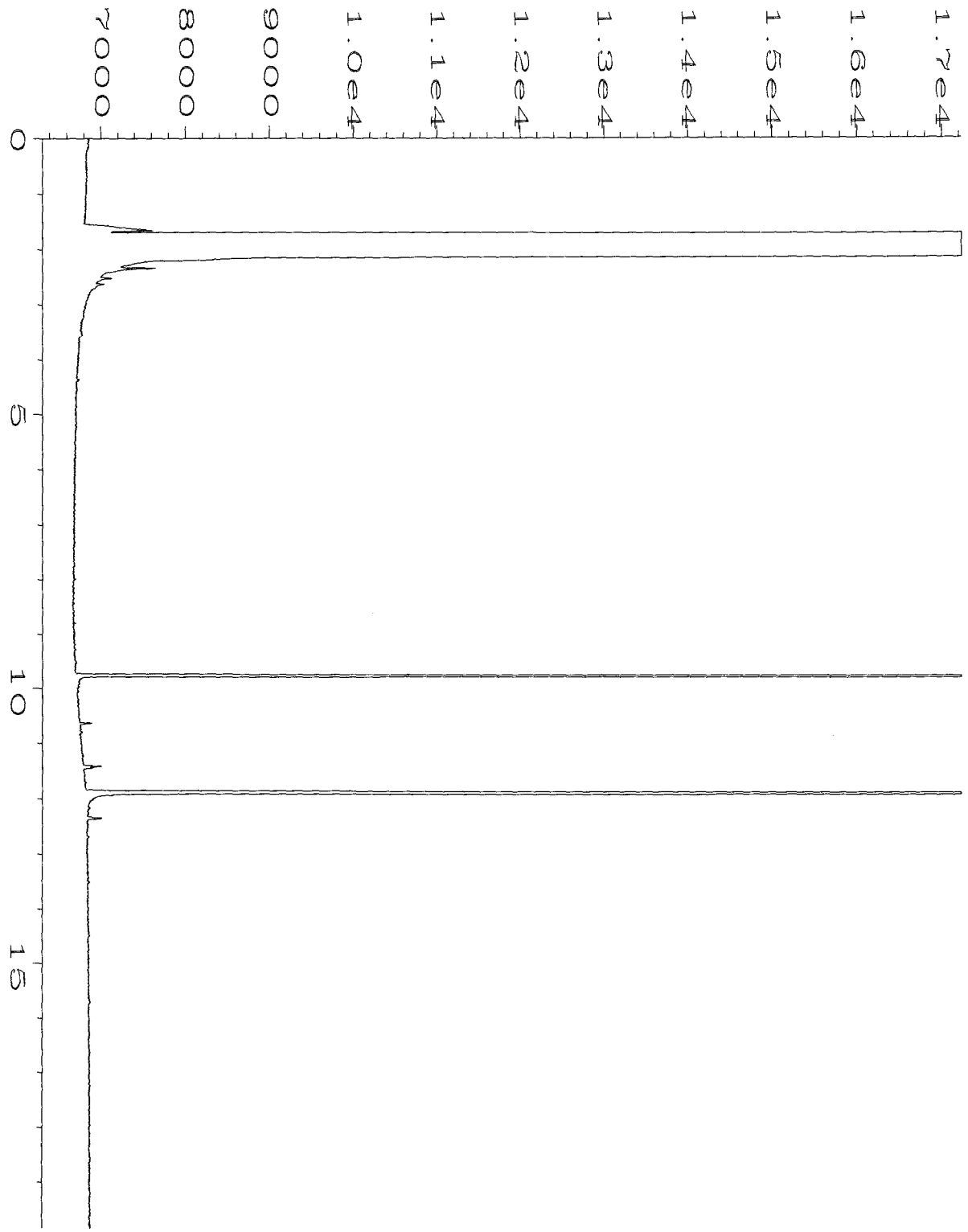
Data File Name : C:\HPCHEM\1\DATA\06-23-09\039F1401.D

Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 39
Sample Name	: 906216-12	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 14
Acquired on	: 24 Jun 09 03:01 AM	Instrument Method	: TPHD.MTH
Report Created on	: 24 Jun 09 02:19 PM	Analysis Method	: TPHD.MTH



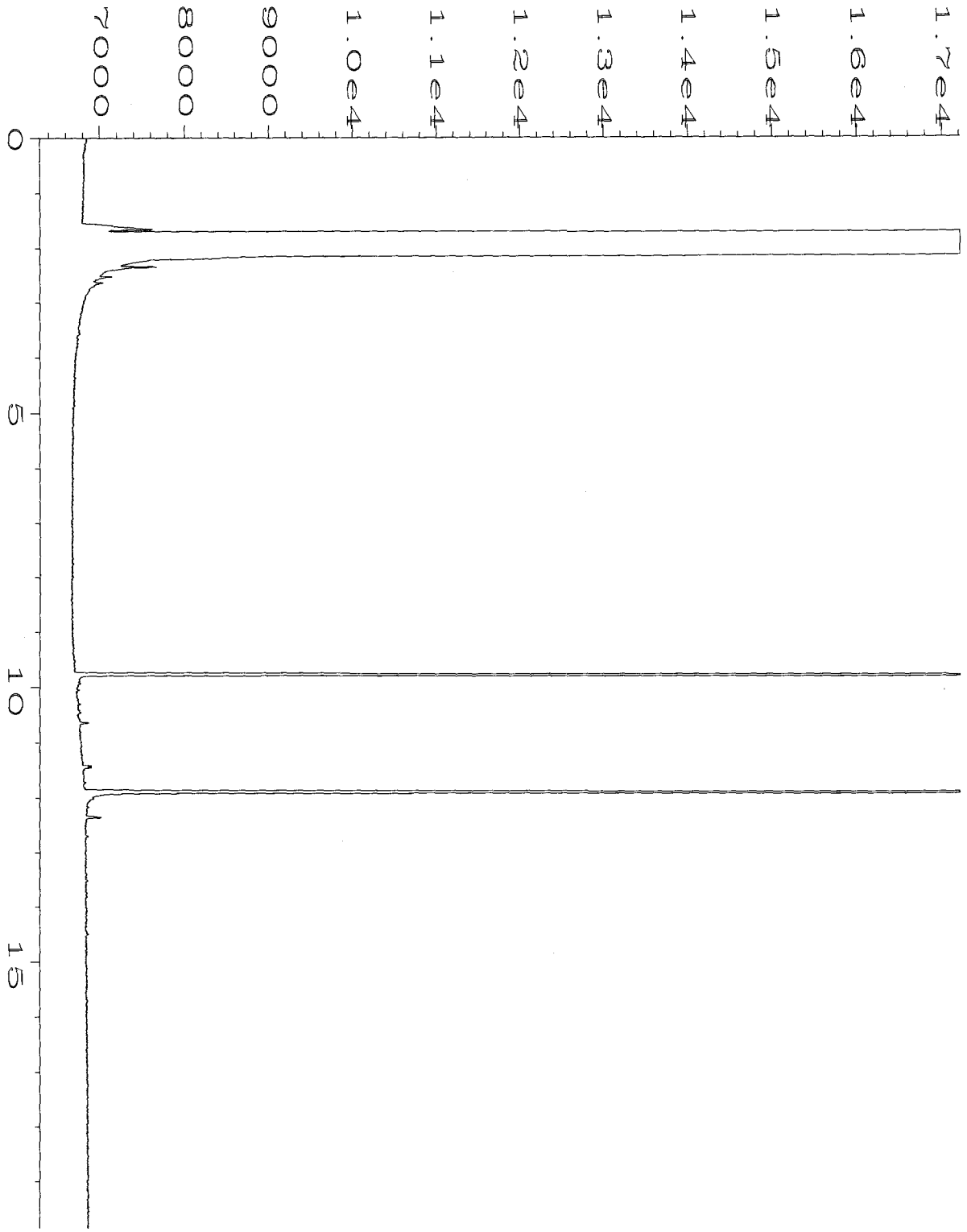
Data File Name : C:\HPCHEM\1\DATA\06-23-09\040F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-13
Run Time Bar Code:
Acquired on : 24 Jun 09 03:28 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 40
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



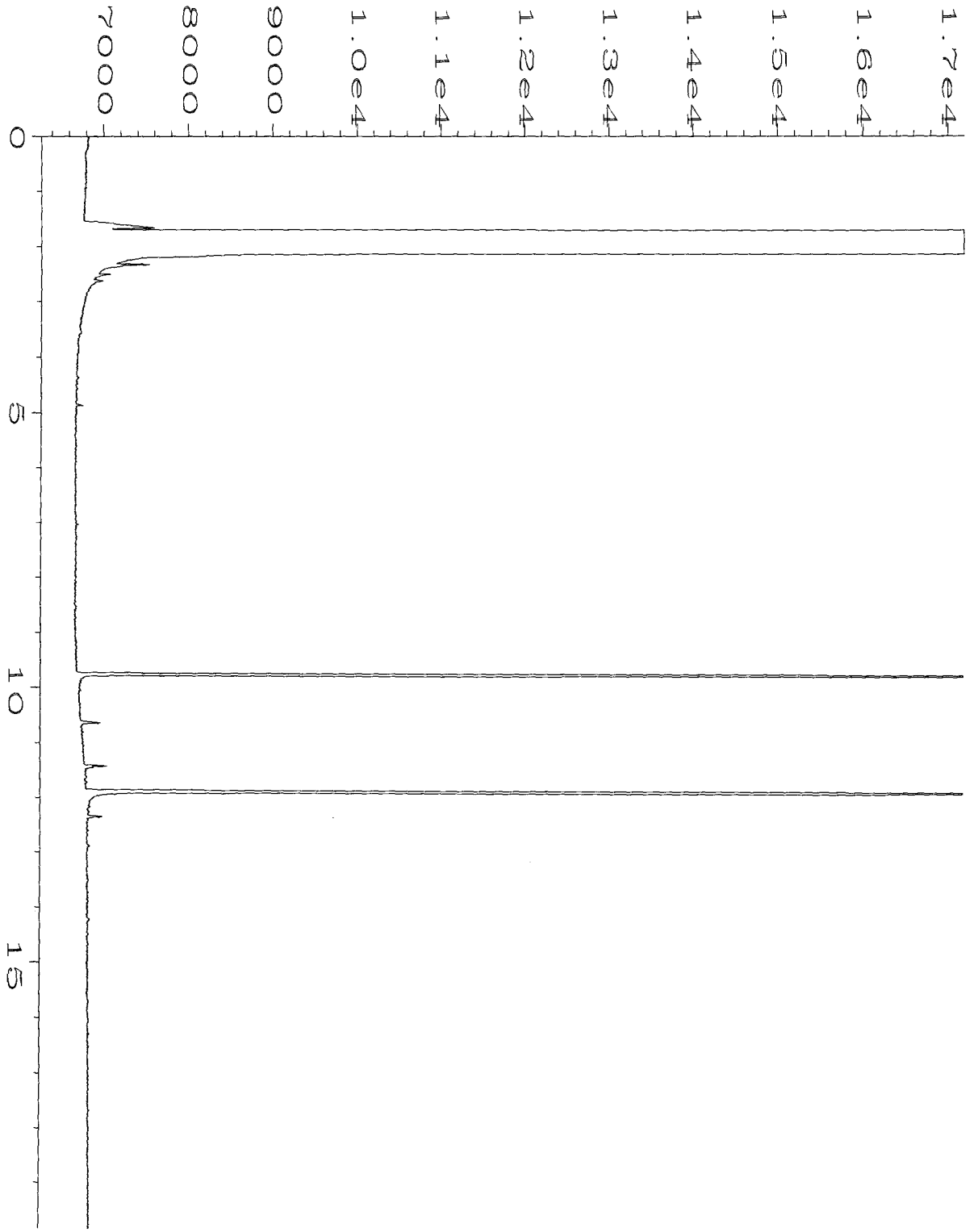
Data File Name : C:\HPCHEM\1\DATA\06-23-09\041F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-14
Run Time Bar Code:
Acquired on : 24 Jun 09 03:54 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 41
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



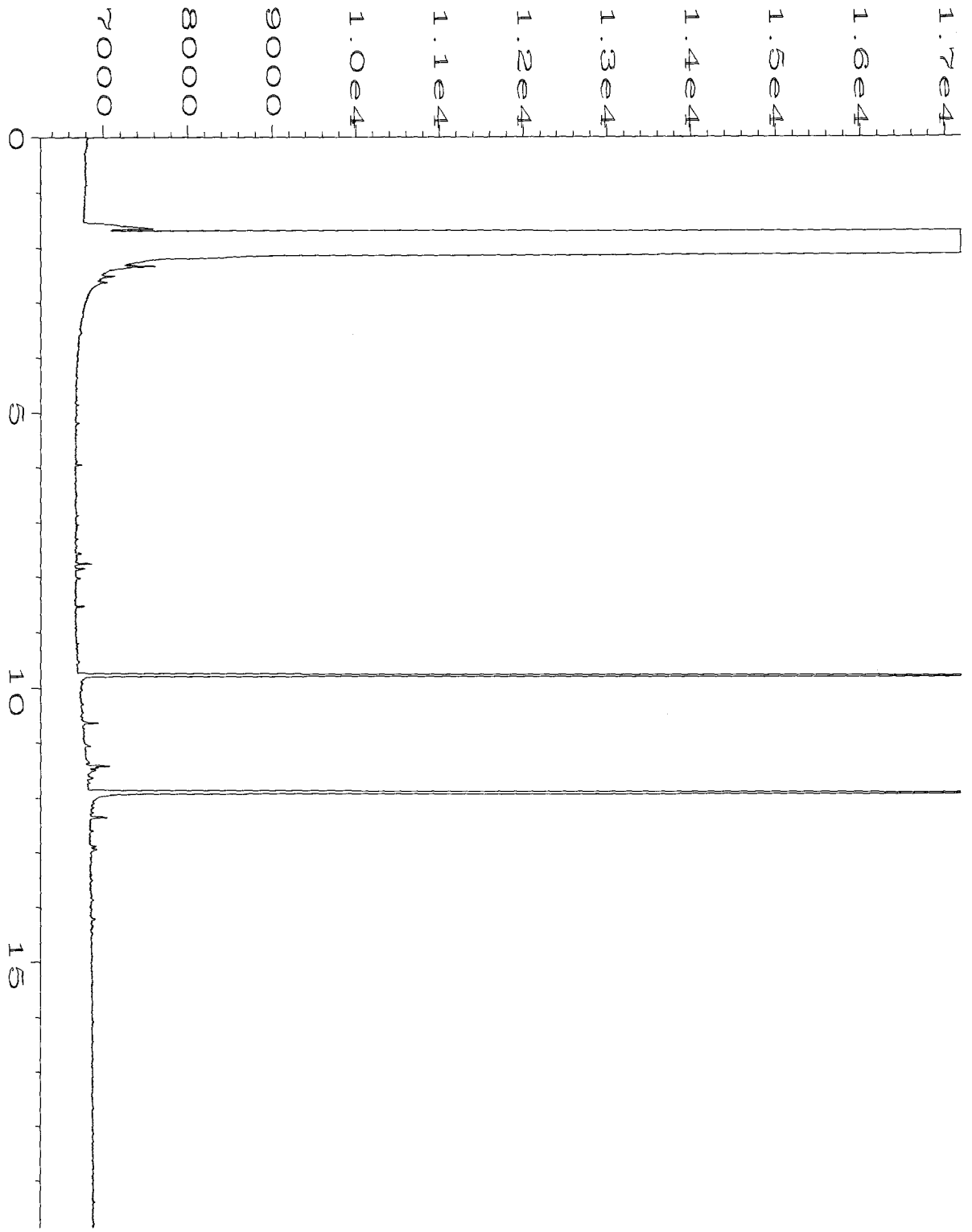
Data File Name : C:\HPCHEM\1\DATA\06-23-09\042F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-16
Run Time Bar Code:
Acquired on : 24 Jun 09 04:20 AM
Report Created on: 24 Jun 09 02:19 PM

Page Number : 1
Vial Number : 42
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



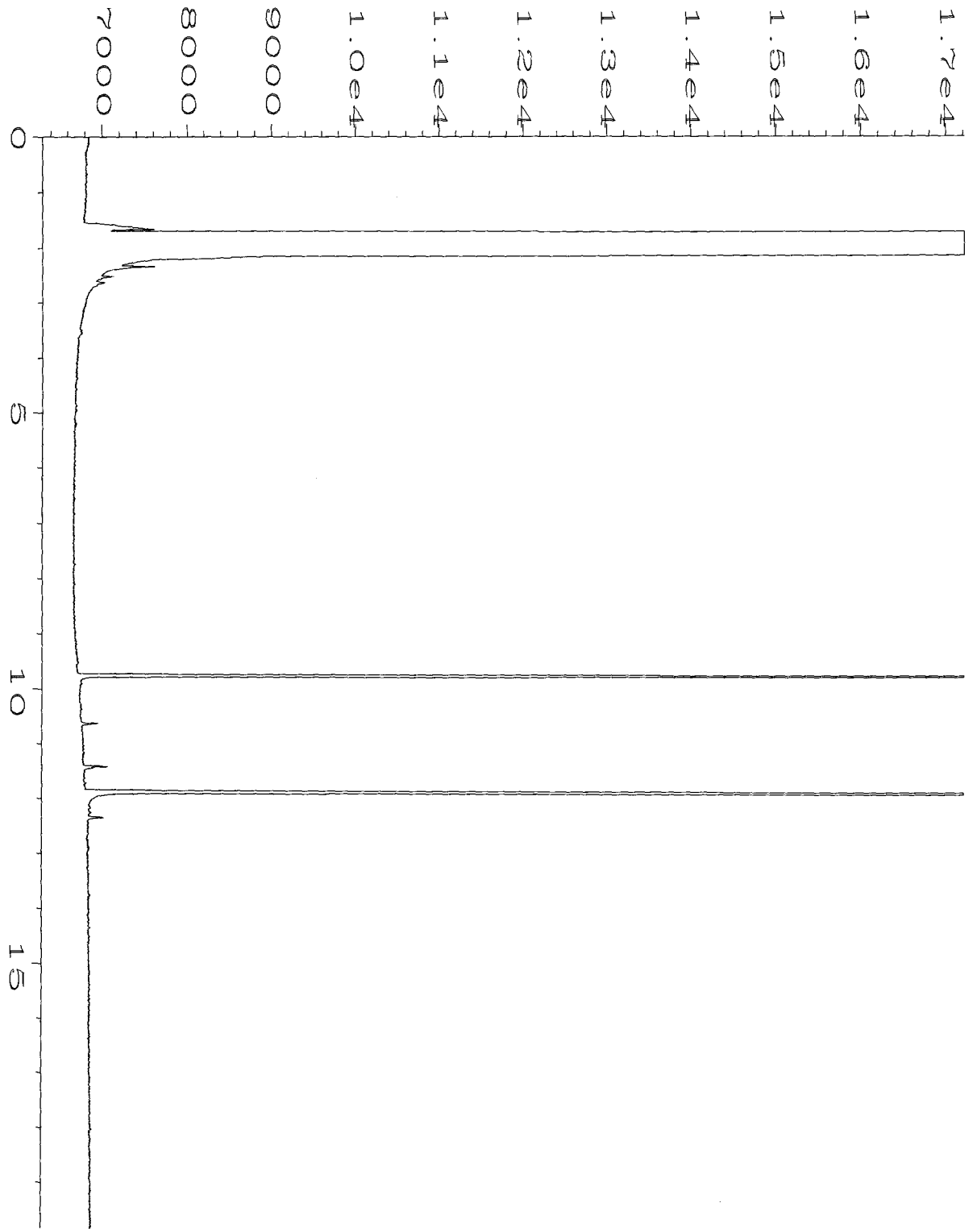
Data File Name : C:\HPCHEM\1\DATA\06-23-09\043F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-17
Run Time Bar Code:
Acquired on : 24 Jun 09 04:47 AM
Report Created on: 24 Jun 09 02:20 PM

Page Number : 1
Vial Number : 43
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



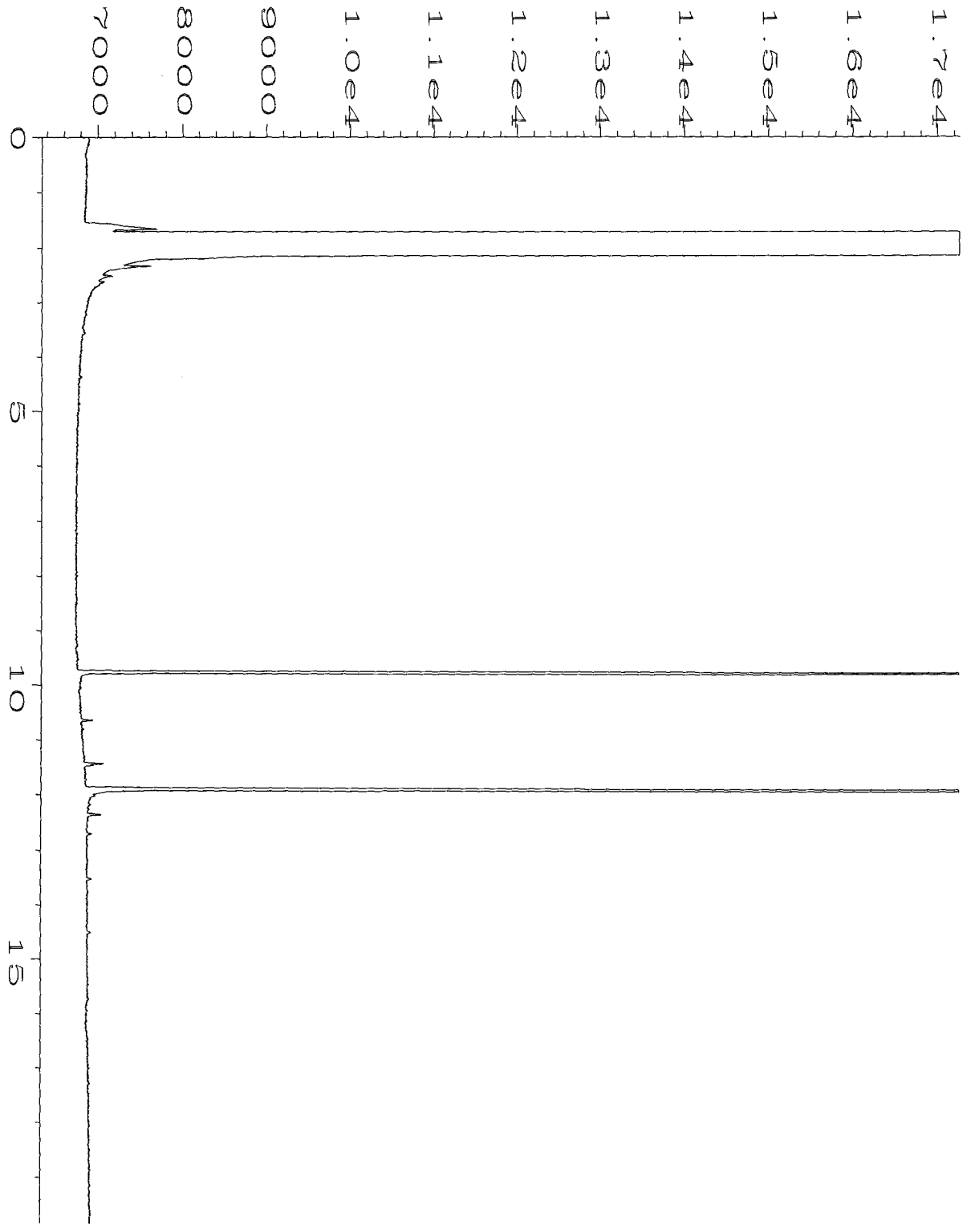
Data File Name : C:\HPCHEM\1\DATA\06-23-09\044F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-18
Run Time Bar Code:
Acquired on : 24 Jun 09 05:14 AM
Report Created on: 24 Jun 09 02:20 PM

Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



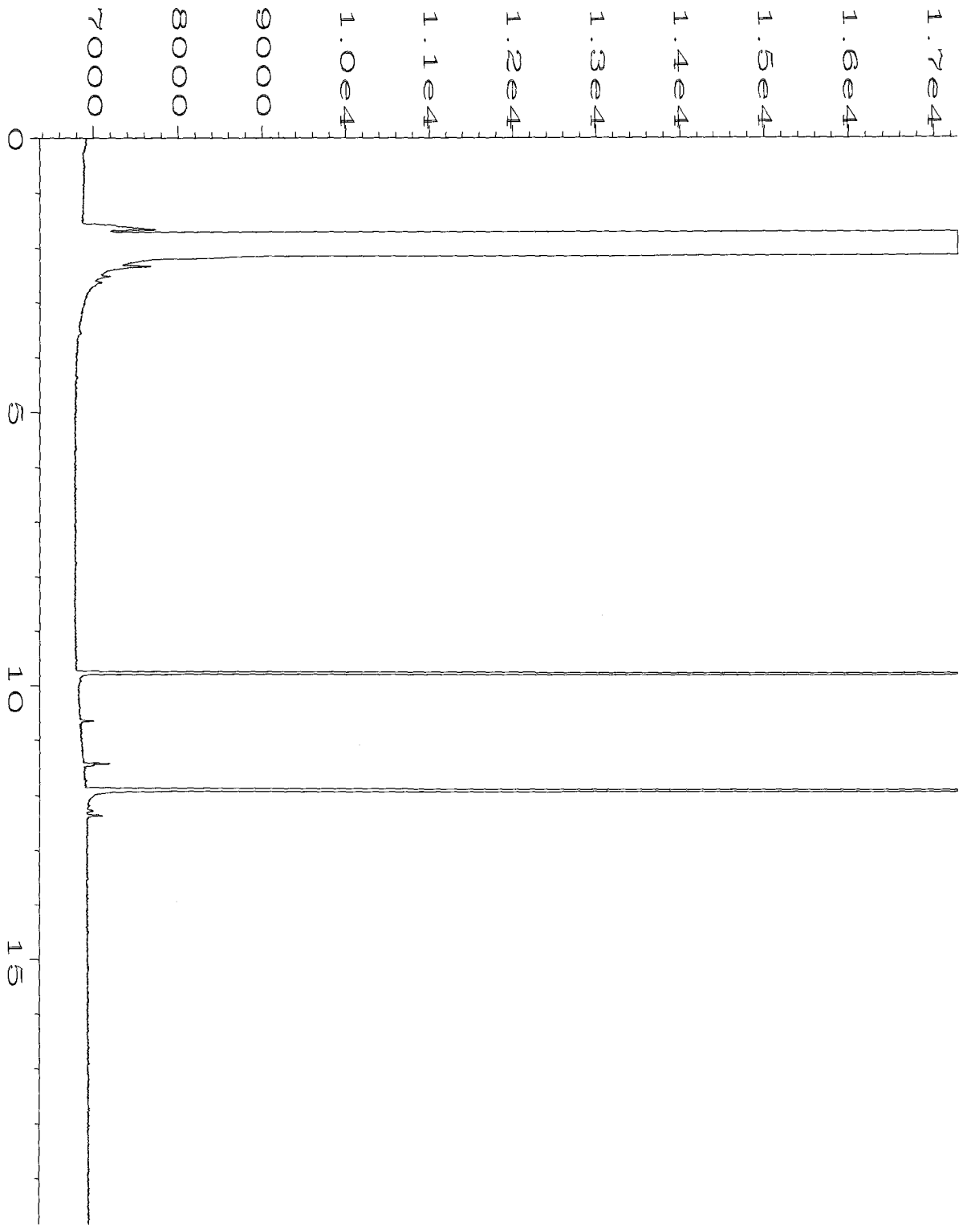
Data File Name : C:\HPCHEM\1\DATA\06-23-09\045F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-19
Run Time Bar Code:
Acquired on : 24 Jun 09 05:41 AM
Report Created on: 24 Jun 09 02:20 PM

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

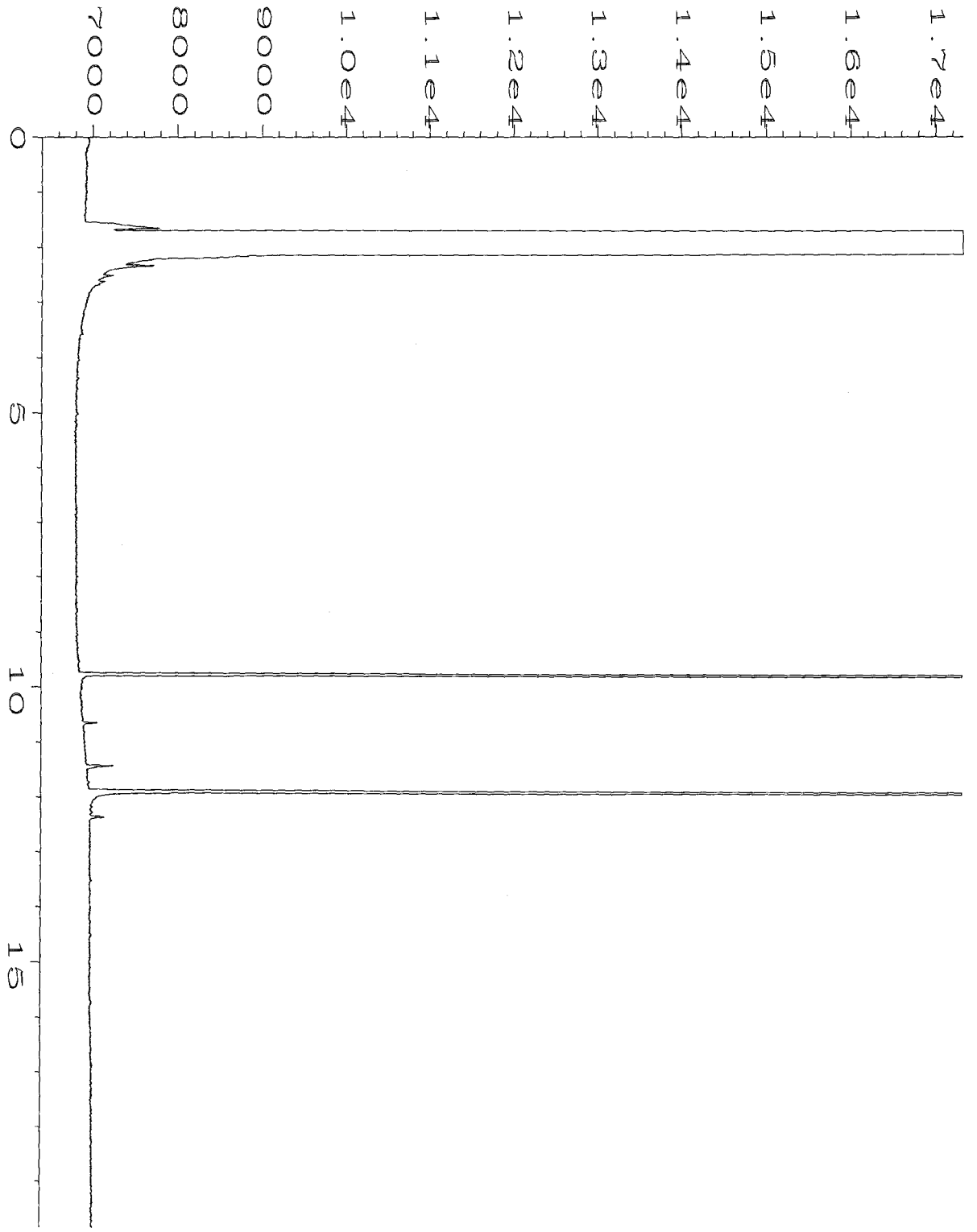


Data File Name : C:\HPCHEM\1\DATA\06-23-09\046F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-20
Run Time Bar Code:
Acquired on : 24 Jun 09 06:07 AM
Report Created on: 24 Jun 09 02:20 PM

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

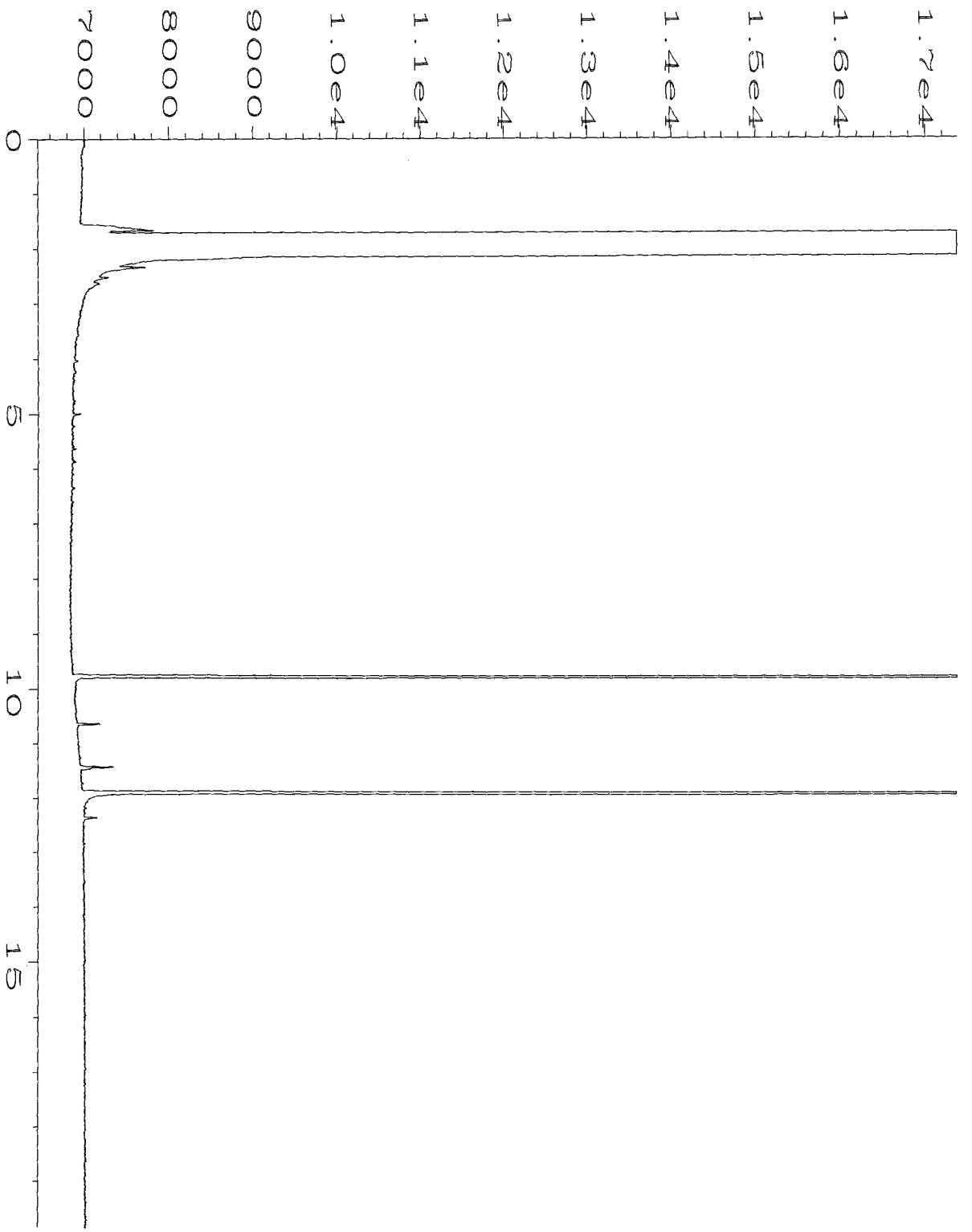


Data File Name	: C:\HPCHEM\1\DATA\06-23-09\047F1401.D		
Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 47
Sample Name	: 906216-22	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 14
Acquired on	: 24 Jun 09 06:34 AM	Instrument Method	: TPHD.MTH
Report Created on	: 24 Jun 09 02:20 PM	Analysis Method	: TPHD.MTH



Data File Name : C:\HPCHEM\1\DATA\06-23-09\048F1401.D
Operator : ay
Instrument : GC1
Sample Name : 906216-23
Run Time Bar Code:
Acquired on : 24 Jun 09 07:00 AM
Report Created on: 24 Jun 09 02:20 PM

Page Number : 1
Vial Number : 48
Injection Number : 1
Sequence Line : 14
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name	: C:\HPCHEM\1\DATA\06-23-09\049F1401.D		
Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 49
Sample Name	: 906216-24	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 14
Acquired on	: 24 Jun 09 07:27 AM	Instrument Method	: TPHD.MTH
Report Created on	: 24 Jun 09 02:20 PM	Analysis Method	: TPHD.MTH

906216

SAMPLE CHAIN OF CUSTODY ME 6/23/09 VS3/D04

Page # 1 of 2

Send Report To Erin Luthman

Company SES

Address 2400 Airport way South Suite 200

City, State, ZIP Seattle WA 98134

Phone # 206 306-1900 Fax # 206 306-1908

SAMPLERS (signature)

PROJECT NAME/NO. Toc 01-169

PO #

REMARKS 24hr TAT

GEMS (Y) N

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☑ RUSH 24hr
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	naphthalene by 8260 / Oxygenates by 8260 / VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Lead	EPH/VPH	Notes
P01-04			01 A-E	6/23/09	0830	Soil	5									Hold
P01-07			02 A-E		0835			X	X		X			X		
P01-10			03 A-E		0840			X	X		X			X		
P01-15			04 A-E		0845											Hold
P01-19			05 A-E		0850			X	X		X			X		
P02-06			06 A-E		0910											Hold
P02-12			07 A-E		0915			X	X		X			X		
P02-14			08 A-E		0925			X	X		X			X		
P02-17			09 A-E		0935			X	X		X			X		
P03-04			10 A-E		0950											Hold
P03-07			11 A-E		0955											Hold
P03-12			12 A-E		1000			X	X		X			X		
P03-14			13 A-E		1005			X	X		X			X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Robert A. Hershey	SES	6/23-09	1510
Received by:	Michael Erdahl	FEBruary	1	
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 8 °C

906216

SAMPLE CHAIN OF CUSTODY

ME 6/23/09 VS 3/DOP

Page # 2 of 2

Send Report To Erin Rathman

Company SES

Address 2400 Airport way S suite 200

City, State, ZIP Seattle WA 98134

Phone # 206 306-1900 Fax # 206 306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Toc 04-169

PO #

REMARKS 24hr TAT

GEMS Y / N

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH 24hr
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Naphthalene only by VOCs by 8260	SVOC's by 8270	RCRA-8 Metals	Lead	EPH/VPH	Notes
P03-19			14 A E	1015				X	X		X			X		
P04-04			15 A E	1050												Hold
P04-07			16 A E	1055				X	X		X			X		
P04-16			17 A E	1140				X	X		X			X	X	
P04-19			18 A E	1915				X	X		X			X		
P05-06			19 A E	1145				X	X		X			X		
P05-19			20 A E	1220				X	X		X			X		
P06-04			21 A E	1300												Hold
P06-06			22 A E	1305				X	X		X			X		
P06-15			23 A E	1335				X	X		X			X		
P06-17			24 A E	1330				X	X		X			X		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Robert A. Harsberger	SES	6-23-09	1510
Received by:	Michael Erdahl	FRB	1	1
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 8 °C

Friedman & Bruya, Inc. #906226

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

June 25, 2009

Erin Rothman, Project Manager
Sound Environmental Strategies Corporation
2400 Airport Way S., Suite 200
Seattle, WA 98134-2020

Dear Ms. Rothman:

Included are the results from the testing of material submitted on June 24, 2009 from the TOC_01-169_20090624 WORFDB2, F&BI 906226 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Mark Chandler, Ryan Bixby
SOU0625R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 24, 2009 by Friedman & Bruya, Inc. from the Sound Environmental Strategies TOC_01-169_20090624 WORFDB2, F&BI 906226 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Sound Environmental Strategies
906226-01	P07-04
906226-02	P07-08
906226-03	P07-10
906226-04	P07-16
906226-05	P07-20
906226-06	P08-04
906226-07	P08-08
906226-08	P08-12
906226-09	P08-15
906226-10	P08-20
906226-11	P08-22
906226-12	P09-04
906226-13	P09-07
906226-14	P09-12
906226-15	P09-15
906226-16	P09-20
906226-17	P09-22
906226-18	P10-04
906226-19	P10-08
906226-20	P10-12
906226-21	P10-16
906226-22	P10-20
906226-23	P11-04
906226-24	P11-08
906226-25	P11-12
906226-26	P11-16
906226-27	P11-20
906226-28	Comp1-20090624

The 8260C calibration standard failed the acceptance criteria for the dilutions of samples P07-16 and P09-15. The data was flagged accordingly. All other quality control requirements were acceptable.

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226
Date Extracted: 06/24/09 and 06/25/09
Date Analyzed: 06/24/09 and 06/25/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
P07-10 906226-03	<2	104
P07-16 d 906226-04 1/10	770	ip
P07-20 906226-05	<2	86
P08-12 906226-08	<2	110
P08-15 906226-09	54	134
P08-20 906226-10	6	98
P09-12 906226-14	9	103
P09-15 d 906226-15 1/40	2,100	ip
P09-22 906226-17	4	92
P10-12 906226-20	<2	89

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226
Date Extracted: 06/24/09 and 06/25/09
Date Analyzed: 06/24/09 and 06/25/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
P10-16 906226-21	79	ip
P10-20 906226-22	4	95
P11-12 906226-25	<2	106
P11-16 906226-26	<2	92
P11-20 d 906226-27 1/10	630	ip
Method Blank	<2	93

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226
Date Extracted: 06/24/09
Date Analyzed: 06/24/09 and 06/25/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
P07-10 906226-03	<50	<250	95
P07-16 906226-04	950 x	<250	100
P07-20 906226-05	<50	<250	97
P08-12 906226-08	<50	<250	99
P08-15 906226-09	71 x	<250	100
P08-20 906226-10	<50	<250	99
P09-12 906226-14	<50	<250	95
P09-15 906226-15	470 x	<250	90
P09-22 906226-17	<50	<250	93
P10-12 906226-20	<50	<250	95
P10-16 906226-21	<50	<250	91
P10-20 906226-22	<50	<250	97

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226
Date Extracted: 06/24/09
Date Analyzed: 06/24/09 and 06/25/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
P11-12 906226-25	<50	<250	99
P11-16 906226-26	<50	<250	97
P11-20 906226-27	150 x	<250	103
Method Blank	<50	<250	101

Analysis For Total Metals By EPA Method 200.8

Client ID:	Comp1-20090624	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/25/09	Lab ID:	906226-28
Date Analyzed:	06/25/09	Data File:	906226-28.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	105	60	125
Indium	90	60	125
Holmium	101	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	14.7
Arsenic	28.3
Selenium	<1
Silver	2.56
Cadmium	<1
Barium	101
Lead	550

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Sound Environmental Strategies
Date Received:	NA	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/25/09	Lab ID:	I9-258 mb
Date Analyzed:	06/25/09	Data File:	I9-258 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	95	60	125
Indium	96	60	125
Holmium	103	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226
Date Extracted: 06/25/09
Date Analyzed: 06/25/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
Comp1-20090624 906226-28	<0.2
Method Blank	<0.2

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P07-10	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-03
Date Analyzed:	06/24/09	Data File:	062410.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	152
Toluene-d8	101	36	149
4-Bromofluorobenzene	88	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P07-16	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-04
Date Analyzed:	06/25/09	Data File:	062427.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	152
Toluene-d8	101	36	149
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	0.052
Ethylbenzene	3.0
m,p-Xylene	16 ve
o-Xylene	7.6 ve
Naphthalene	22 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P07-16	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-04 1/20
Date Analyzed:	06/25/09	Data File:	062436.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	72	42	152
Toluene-d8	102	36	149
4-Bromofluorobenzene	134	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<1,000 ca
t-Butyl alcohol (TBA)	<50
Methyl t-butyl ether (MTBE)	<1
Ethyl t-butyl ether (ETBE)	<1
t-Amyl methyl ether (TAME)	<1
Diisopropyl ether (DIPE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.6
Toluene	<1
Ethylbenzene	3.1
m,p-Xylene	19
o-Xylene	8.6
Naphthalene	50

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P07-20	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-05
Date Analyzed:	06/24/09	Data File:	062411.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	76	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P08-12	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-08
Date Analyzed:	06/24/09	Data File:	062412.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	42	152
Toluene-d8	98	36	149
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P08-15	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-09
Date Analyzed:	06/24/09	Data File:	062413.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	42	152
Toluene-d8	97	36	149
4-Bromofluorobenzene	78	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.11
Toluene	0.094
Ethylbenzene	0.64
m,p-Xylene	2.6
o-Xylene	0.99
Naphthalene	1.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P08-20	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-10
Date Analyzed:	06/24/09	Data File:	062414.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	42	152
Toluene-d8	101	36	149
4-Bromofluorobenzene	81	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.088
Toluene	0.14
Ethylbenzene	0.065
m,p-Xylene	0.32
o-Xylene	0.19
Naphthalene	0.083

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P09-12	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-14
Date Analyzed:	06/24/09	Data File:	062415.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	121	42	152
Toluene-d8	118	36	149
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.58
Toluene	<0.05
Ethylbenzene	0.35
m,p-Xylene	1.2
o-Xylene	0.063
Naphthalene	0.15

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P09-15	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-15
Date Analyzed:	06/24/09	Data File:	062416.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	42	152
Toluene-d8	106	36	149
4-Bromofluorobenzene	118	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	6.0
Toluene	40 ve
Ethylbenzene	26 ve
m,p-Xylene	50 ve
o-Xylene	31 ve
Naphthalene	11 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P09-15	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-15 1/50
Date Analyzed:	06/25/09	Data File:	062437.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	0 ds	67	133
Toluene-d8	0 ds	70	130
4-Bromofluorobenzene	0 ds	76	145

Compounds:	Concentration mg/kg (ppm)
Ethanol	<2,500 ca
t-Butyl alcohol (TBA)	<120
Methyl t-butyl ether (MTBE)	<2.5
Ethyl t-butyl ether (ETBE)	<2.5
t-Amyl methyl ether (TAME)	<2.5
Diisopropyl ether (DIPE)	<2.5
1,2-Dichloroethane (EDC)	<2.5
1,2-Dibromoethane (EDB)	<2.5
Benzene	6.9
Toluene	110
Ethylbenzene	42
m,p-Xylene	180
o-Xylene	73
Naphthalene	18

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P09-22	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-17
Date Analyzed:	06/25/09	Data File:	062430.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	42	152
Toluene-d8	92	36	149
4-Bromofluorobenzene	73	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.077
Toluene	0.25
Ethylbenzene	0.069
m,p-Xylene	0.27
o-Xylene	0.13
Naphthalene	0.076

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P10-12	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-20
Date Analyzed:	06/24/09	Data File:	062418.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	42	152
Toluene-d8	93	36	149
4-Bromofluorobenzene	76	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P10-16	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-21
Date Analyzed:	06/24/09	Data File:	062419.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	120	42	152
Toluene-d8	116	36	149
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.72
m,p-Xylene	1.3
o-Xylene	<0.05
Naphthalene	0.29

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P10-20	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-22
Date Analyzed:	06/25/09	Data File:	062431.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	42	152
Toluene-d8	98	36	149
4-Bromofluorobenzene	80	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.050
Toluene	<0.05
Ethylbenzene	0.13
m,p-Xylene	0.50
o-Xylene	<0.05
Naphthalene	0.059

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P11-12	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-25
Date Analyzed:	06/25/09	Data File:	062423.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	133	42	152
Toluene-d8	129	36	149
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.052
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P11-16	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-26
Date Analyzed:	06/25/09	Data File:	062424.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	42	152
Toluene-d8	112	36	149
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P11-20	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-27
Date Analyzed:	06/25/09	Data File:	062425.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	42	152
Toluene-d8	98	36	149
4-Bromofluorobenzene	85	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	0.59
Toluene	3.3
Ethylbenzene	4.0
m,p-Xylene	16 ve
o-Xylene	11 ve
Naphthalene	7.9

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	P11-20	Client:	Sound Environmental Strategies
Date Received:	06/24/09	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	906226-27 1/10
Date Analyzed:	06/25/09	Data File:	062432.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	42	152
Toluene-d8	101	36	149
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<500
t-Butyl alcohol (TBA)	<25
Methyl t-butyl ether (MTBE)	<0.5
Ethyl t-butyl ether (ETBE)	<0.5
t-Amyl methyl ether (TAME)	<0.5
Diisopropyl ether (DIPE)	<0.5
1,2-Dichloroethane (EDC)	<0.5
1,2-Dibromoethane (EDB)	<0.5
Benzene	0.60
Toluene	3.3
Ethylbenzene	4.1
m,p-Xylene	19
o-Xylene	12
Naphthalene	11

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Sound Environmental Strategies
Date Received:	NA	Project:	TOC_01-169_20090624 WORFDB2
Date Extracted:	06/24/09	Lab ID:	090851 mb
Date Analyzed:	06/24/09	Data File:	062406.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	42	152
Toluene-d8	108	36	149
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	91	96	70-130	5

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 906226-28 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	113	109	63-146	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	112	79-144

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 906192-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	mg/kg (ppm)	51.9	52.1	0	0-20
Arsenic	mg/kg (ppm)	5.71	5.50	4	0-20
Selenium	mg/kg (ppm)	<1	<1	nm	0-20
Silver	mg/kg (ppm)	<1	<1	nm	0-20
Cadmium	mg/kg (ppm)	<1	<1	nm	0-20
Barium	mg/kg (ppm)	56.4	57.3	2	0-20
Lead	mg/kg (ppm)	84.3	86.8	3	0-20

Laboratory Code: 906192-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	51.9	52 b	50-150
Arsenic	mg/kg (ppm)	10	5.71	77 b	50-150
Selenium	mg/kg (ppm)	5	<1	78	50-150
Silver	mg/kg (ppm)	10	<1	87	50-150
Cadmium	mg/kg (ppm)	10	<1	92	50-150
Barium	mg/kg (ppm)	50	56.4	87 b	50-150
Lead	mg/kg (ppm)	20	84.3	83 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	99	70-130
Arsenic	mg/kg (ppm)	10	101	70-130
Selenium	mg/kg (ppm)	5	100	70-130
Silver	mg/kg (ppm)	10	97	70-130
Cadmium	mg/kg (ppm)	10	104	70-130
Barium	mg/kg (ppm)	50	101	70-130
Lead	mg/kg (ppm)	20	102	70-130

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 906192-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.2	103	67	50-150	42 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	102	70-130

Date of Report: 06/25/09
Date Received: 06/24/09
Project: TOC_01-169_20090624 WORFDB2, F&BI 906226

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 906226-27 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Ethanol	mg/kg (ppm)	<50	<50	nm
t-Butyl alcohol (TBA)	mg/kg (ppm)	<3	<3	nm
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.05	<0.05	nm
Diisopropyl ether (DIPE)	mg/kg (ppm)	<0.05	<0.05	nm
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	<0.05	<0.05	nm
t-Amyl methyl ether (TAME)	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.05	<0.05	nm
Benzene	mg/kg (ppm)	0.59	0.56	5
Toluene	mg/kg (ppm)	3.3	3.2	3
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.05	<0.05	nm
Ethylbenzene	mg/kg (ppm)	4.0	3.8	5
m,p-Xylene	mg/kg (ppm)	19	18	5
o-Xylene	mg/kg (ppm)	12	11	9
Naphthalene	mg/kg (ppm)	11	11	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	78	82	19-157	5
t-Butyl alcohol (TBA)	mg/kg (ppm)	12.5	87	93	70-121	7
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	92	93	82-112	1
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	95	95	85-117	0
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	95	98	84-117	3
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	92	93	84-118	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	109	109	82-120	0
Benzene	mg/kg (ppm)	2.5	101	101	80-112	0
Toluene	mg/kg (ppm)	2.5	97	95	80-116	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	105	105	86-120	0
Ethylbenzene	mg/kg (ppm)	2.5	97	95	81-115	2
m,p-Xylene	mg/kg (ppm)	5	94	92	80-118	2
o-Xylene	mg/kg (ppm)	2.5	98	98	78-122	0
Naphthalene	mg/kg (ppm)	2.5	93	97	70-122	4

Note: The sample 906226-27 dup 1/10 was analyzed of 12 hour shift.

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

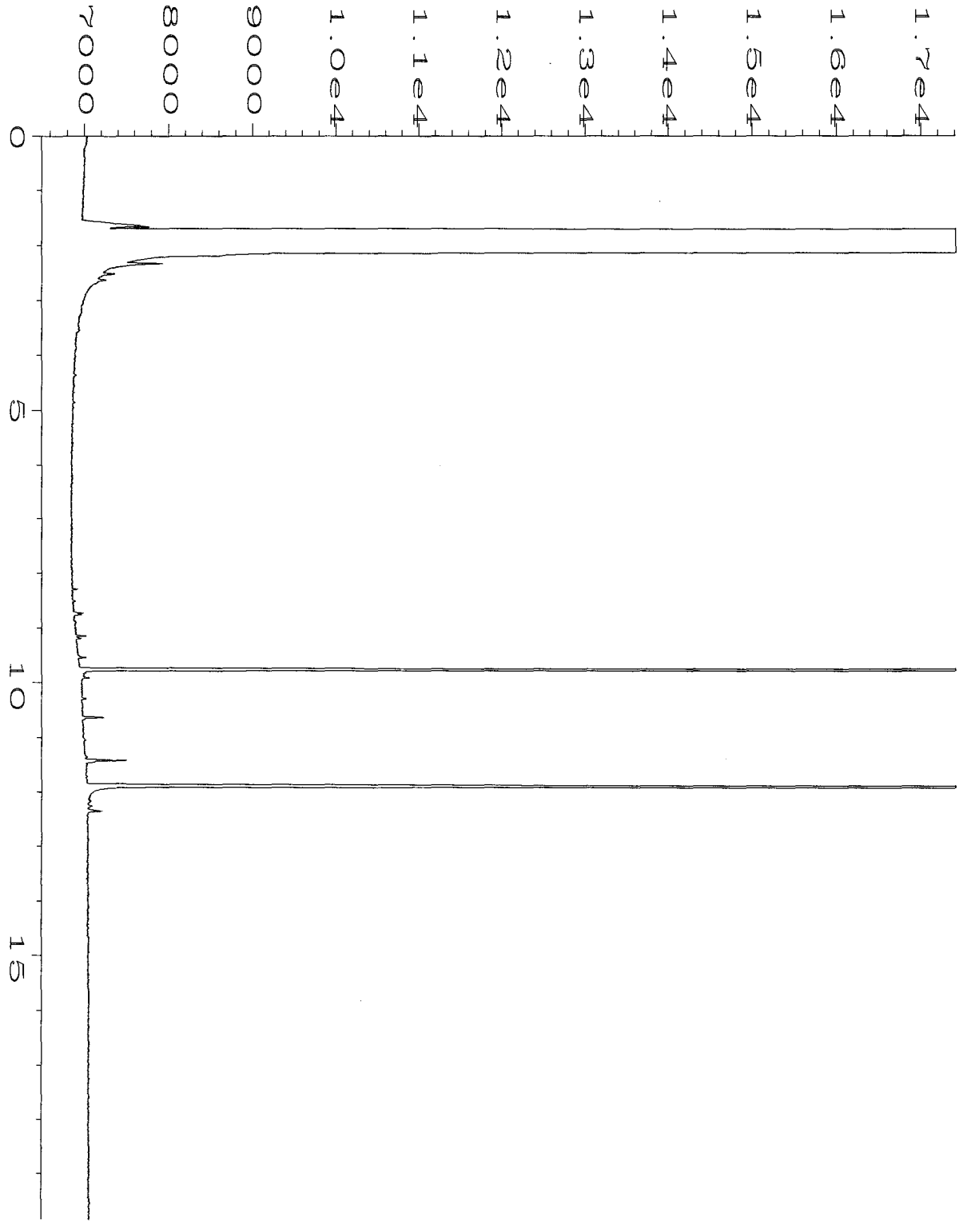
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.



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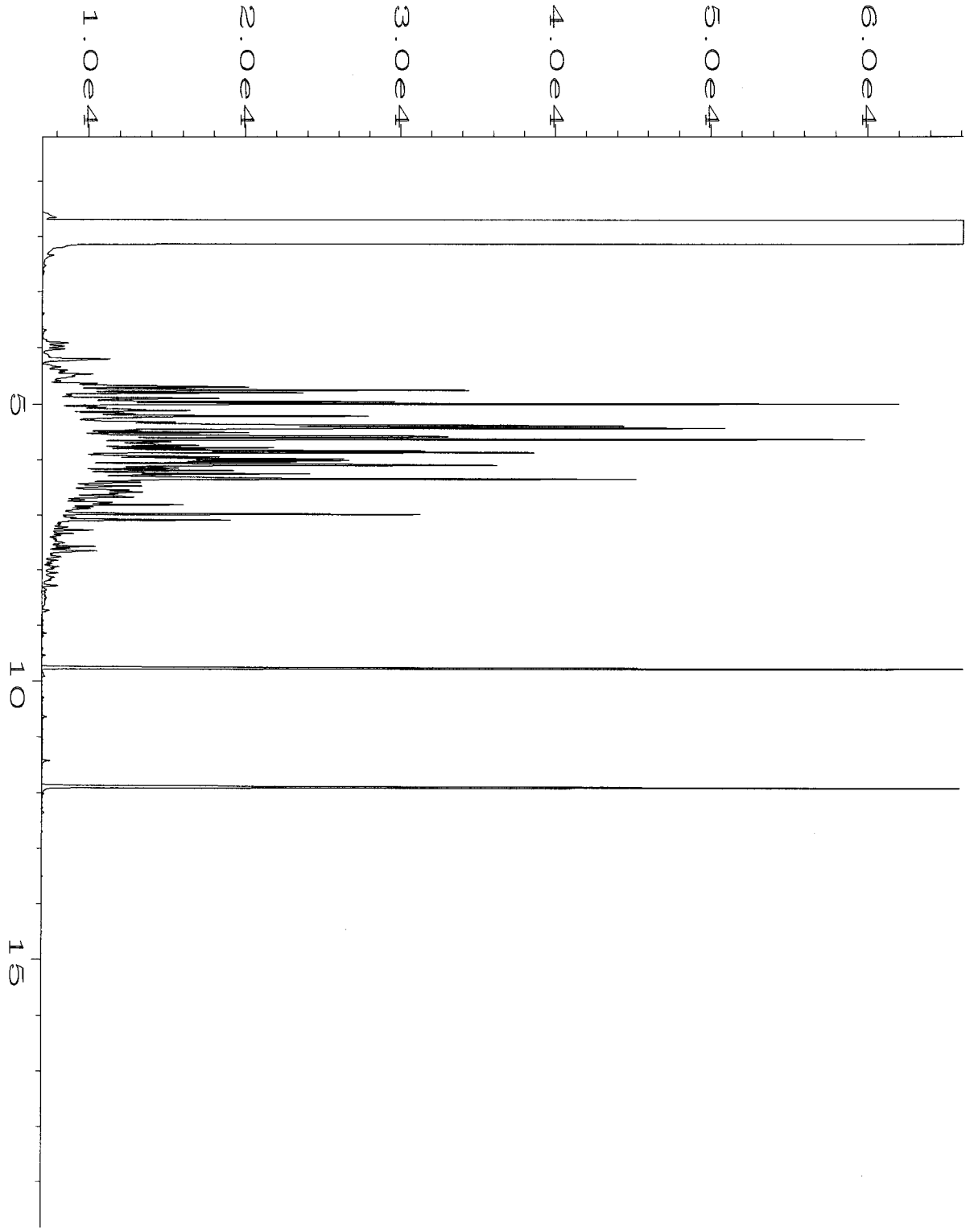
Operator : ay
Instrument : GC1
Sample Name : 906226-03
Run Time Bar Code:
Acquired on : 24 Jun 09 08:29 PM
Report Created on: 25 Jun 09 09:37 AM

Page Number : 1
Vial Number : 15
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 16
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Run Time Bar Code:		Sequence Line	: 6
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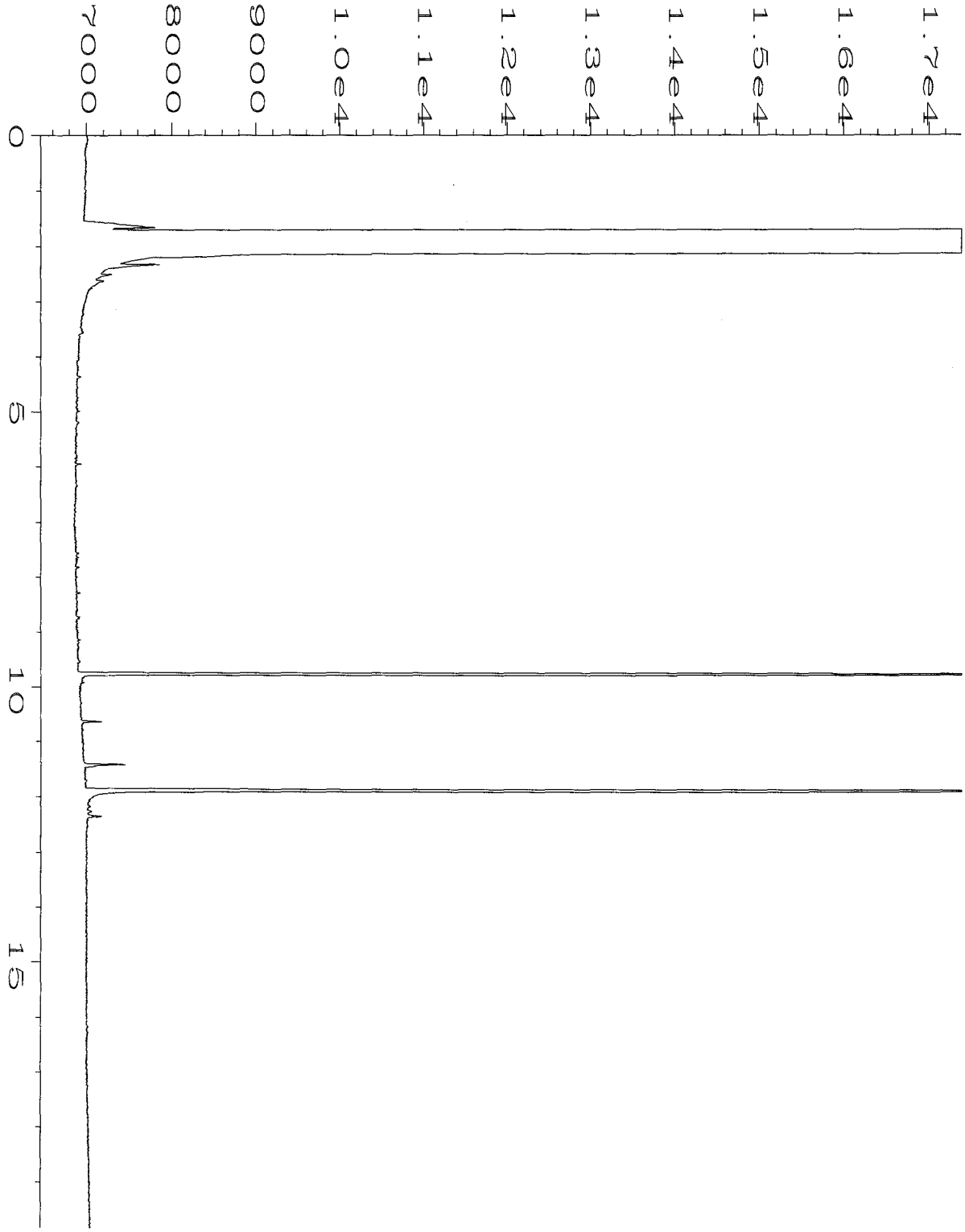
Report Created on	: 25 Jun 09 09:37 AM	Analysis Method	: TPHD.MTH



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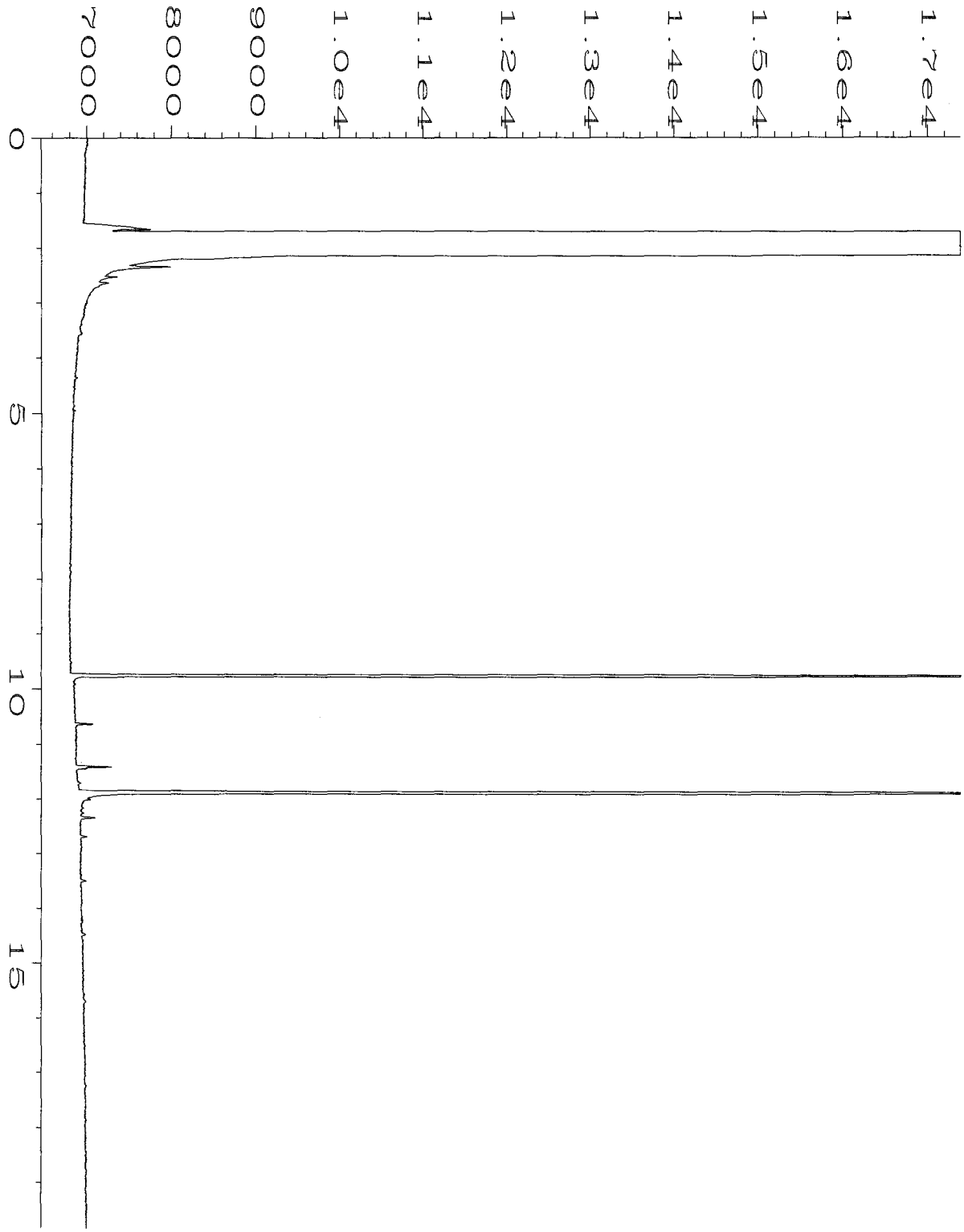
Operator : ay
Instrument : GC1
Sample Name : 906226-05
Run Time Bar Code:
Acquired on : 24 Jun 09 09:22 PM
Report Created on: 25 Jun 09 09:39 AM

Page Number : 1
Vial Number : 17
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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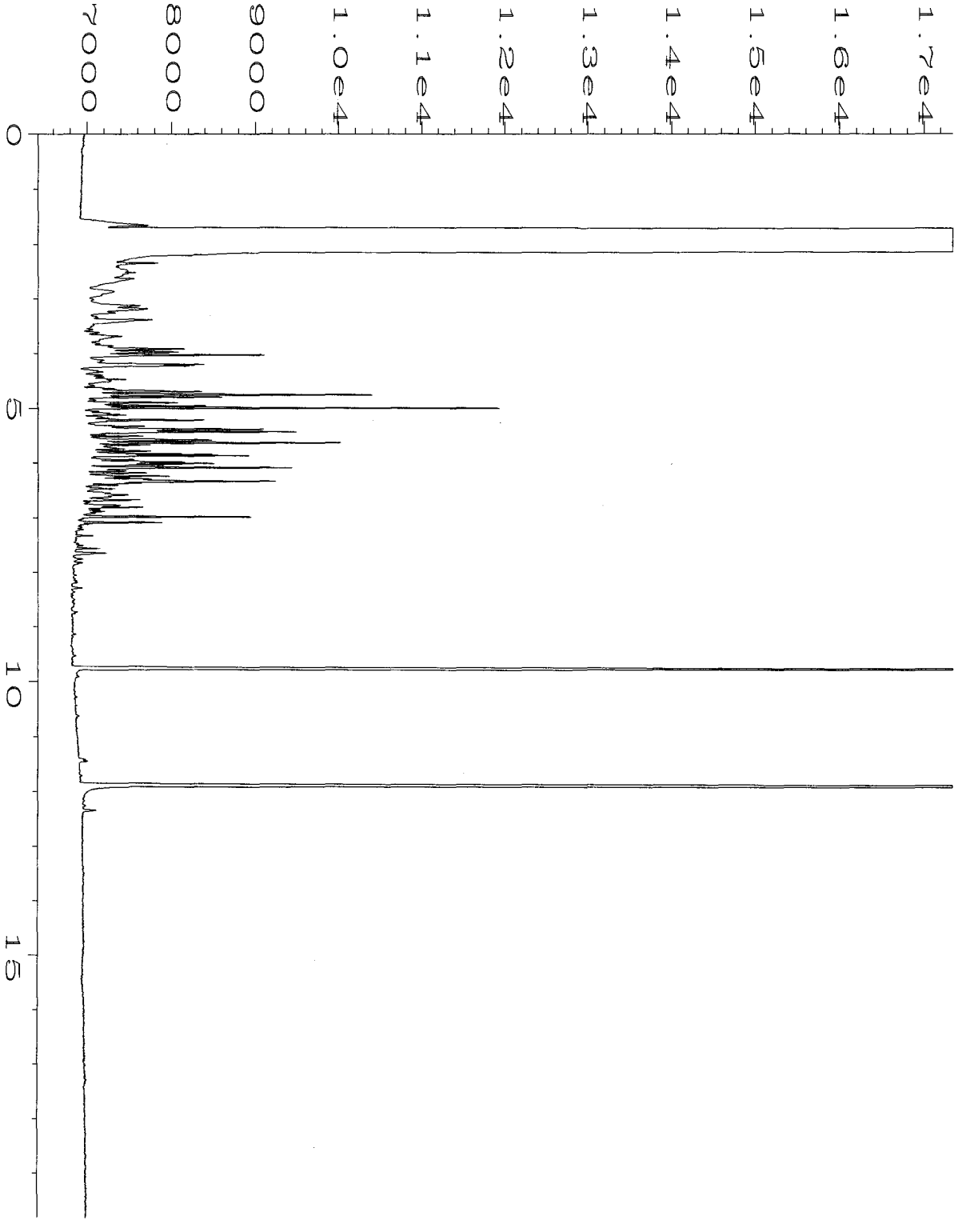
Operator : ay
Instrument : GC1
Sample Name : 906226-08
Run Time Bar Code:
Acquired on : 24 Jun 09 09:49 PM
Report Created on: 25 Jun 09 09:39 AM

Page Number : 1
Vial Number : 18
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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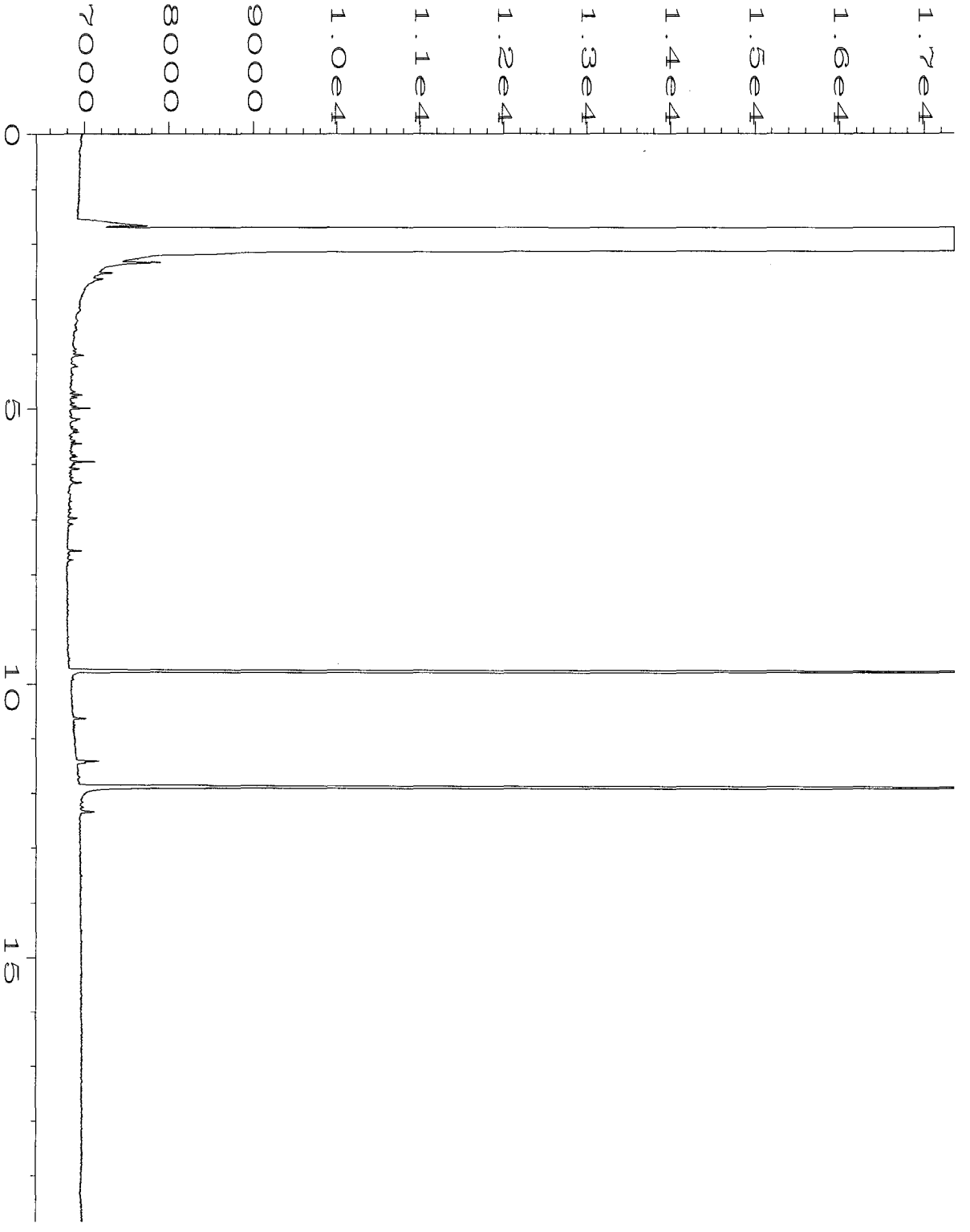
Operator : ay
Instrument : GC1
Sample Name : 906226-09
Run Time Bar Code:
Acquired on : 24 Jun 09 10:15 PM
Report Created on: 25 Jun 09 09:40 AM

Page Number : 1
Vial Number : 19
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 20
Sample Name	: 906226-10	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
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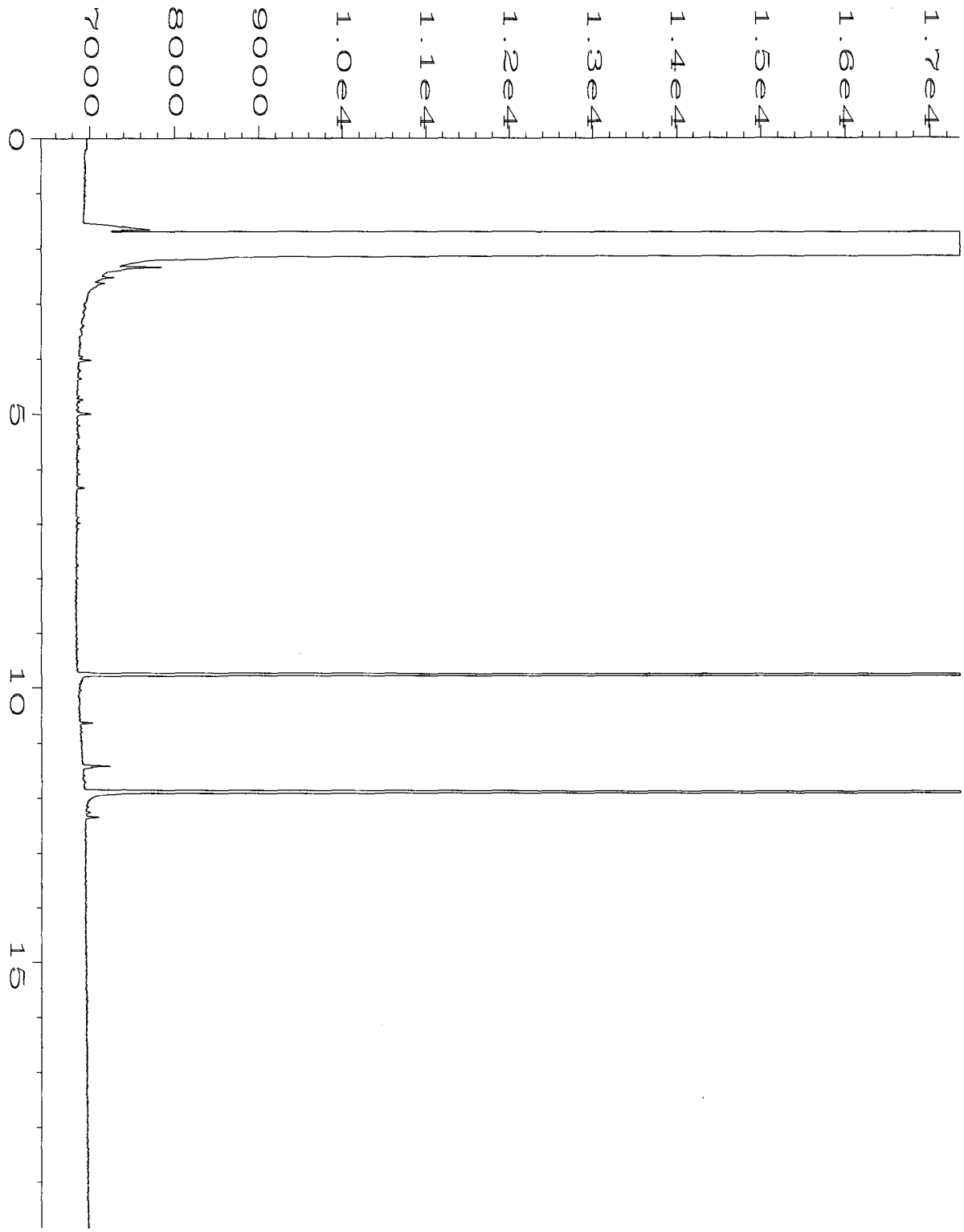
Report Created on	: 25 Jun 09 09:40 AM	Analysis Method	: TPHD.MTH



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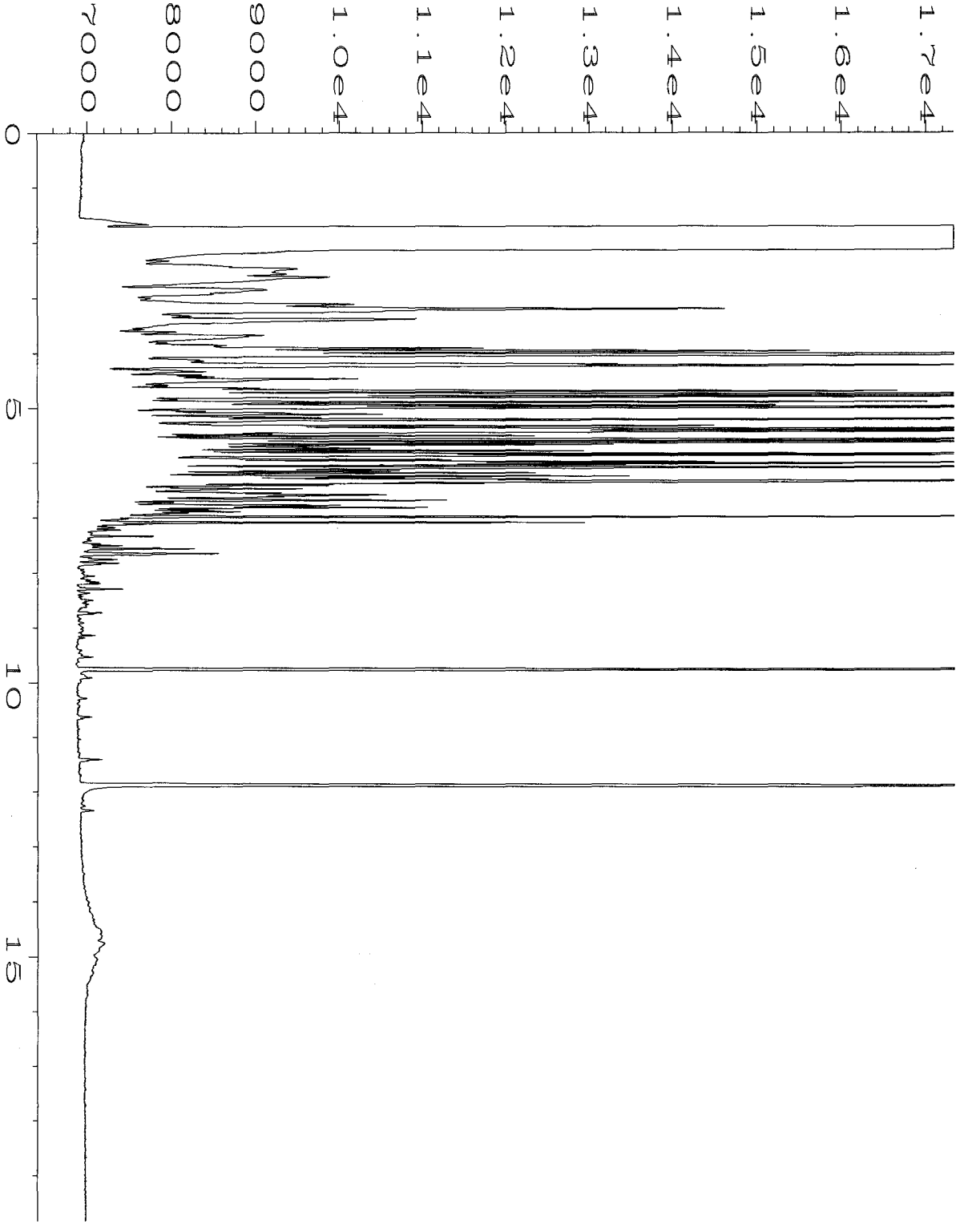
Operator : ay
Instrument : GC1
Sample Name : 906226-14
Run Time Bar Code:
Acquired on : 24 Jun 09 11:09 PM
Report Created on: 25 Jun 09 09:40 AM

Page Number : 1
Vial Number : 21
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 22
Sample Name	: 906226-15	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
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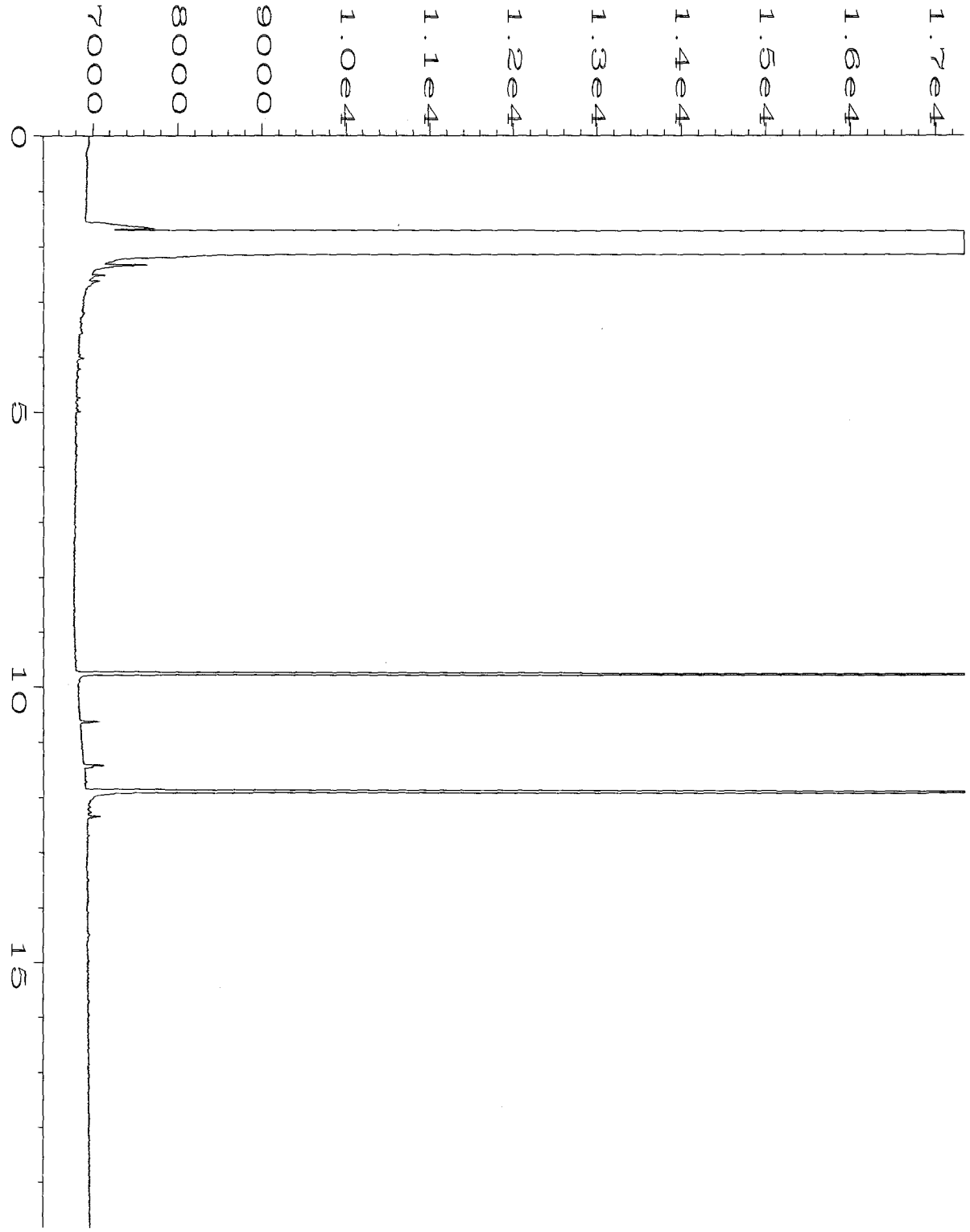
Report Created on	: 25 Jun 09 09:40 AM	Analysis Method	: TPHD.MTH



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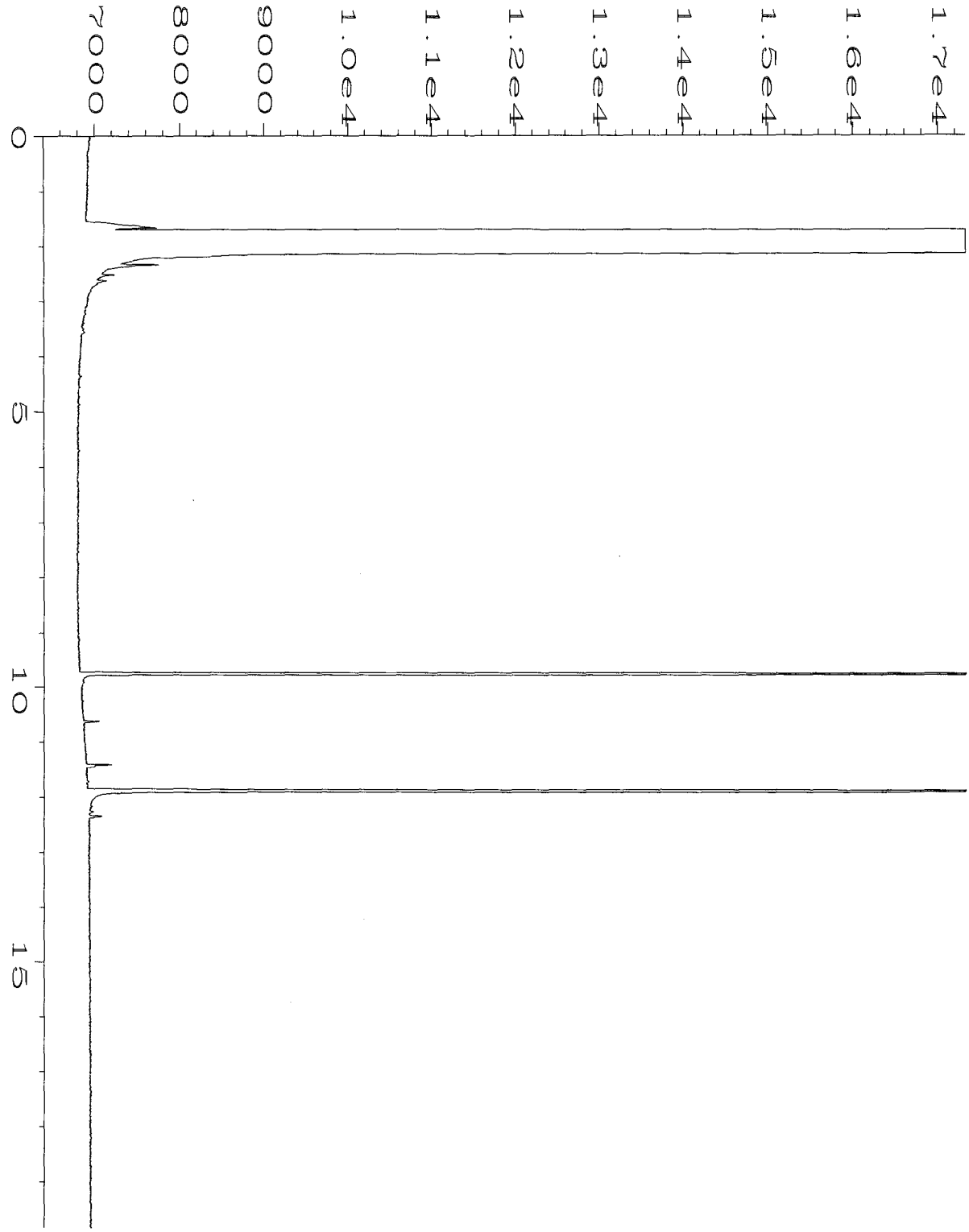
Operator : ay
Instrument : GC1
Sample Name : 906226-17
Run Time Bar Code:
Acquired on : 25 Jun 09 00:02 AM
Report Created on: 25 Jun 09 09:40 AM

Page Number : 1
Vial Number : 23
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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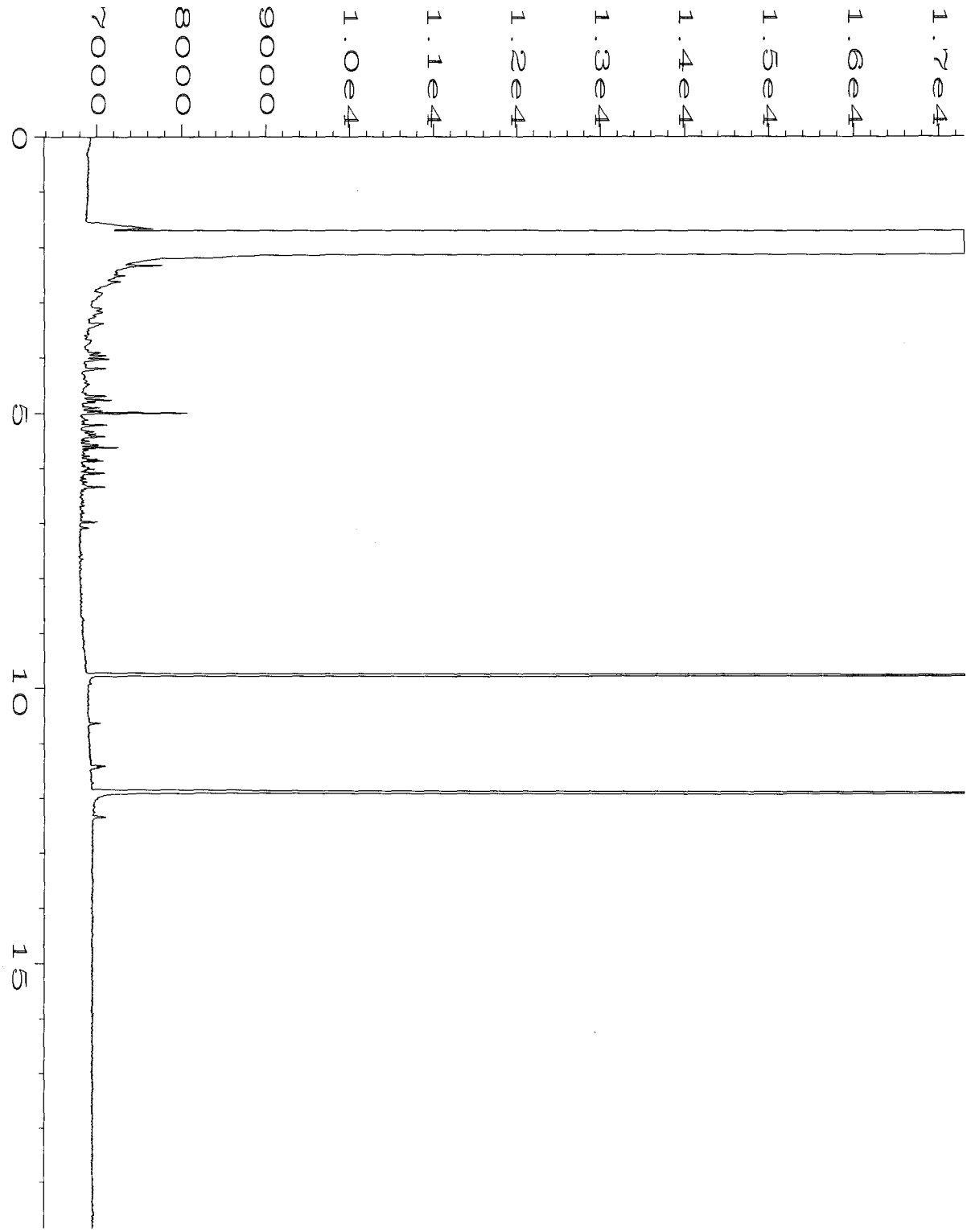
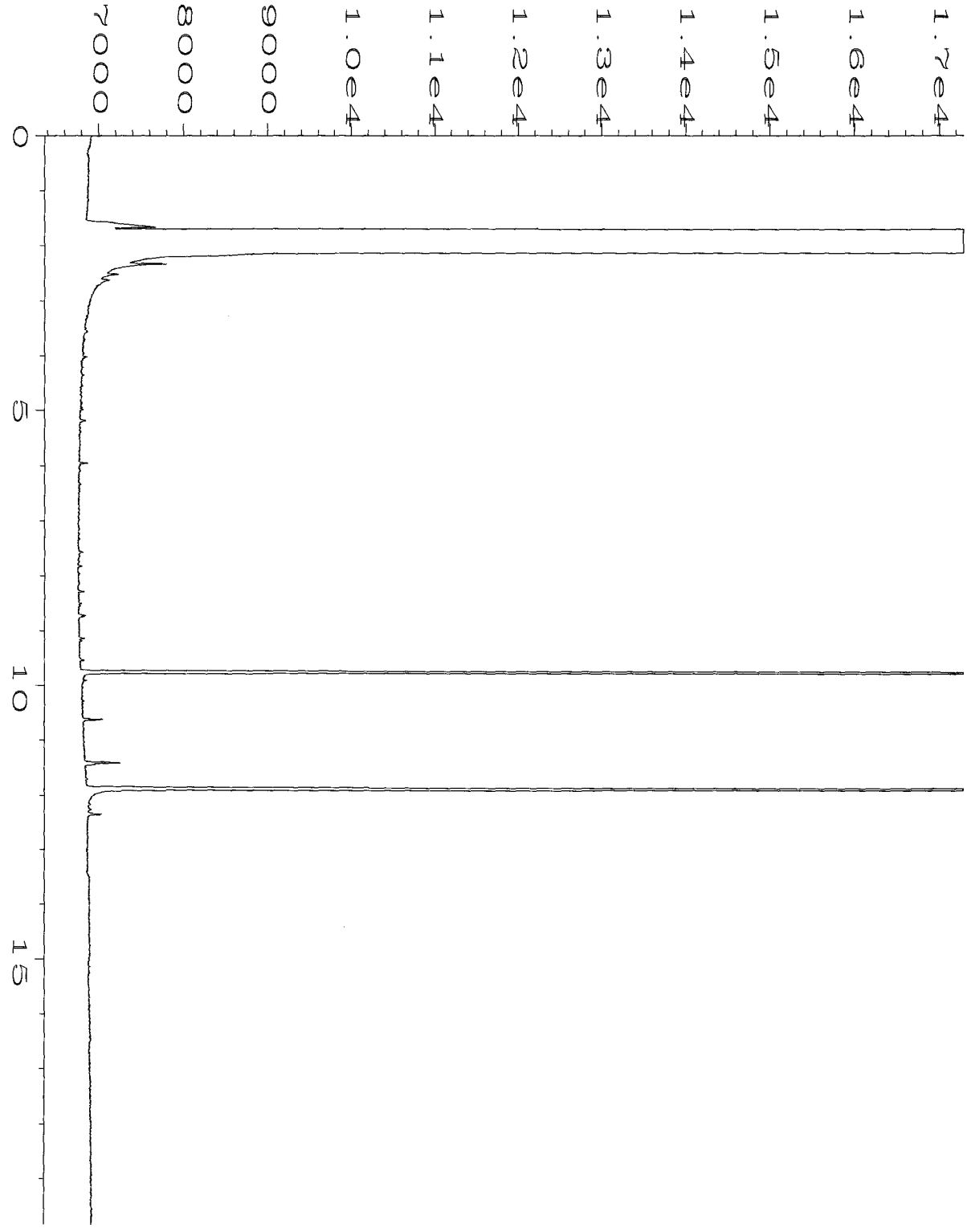
Operator : ay
Instrument : GC1
Sample Name : 906226-20
Run Time Bar Code:
Acquired on : 25 Jun 09 00:28 AM
Report Created on: 25 Jun 09 09:40 AM

Page Number : 1
Vial Number : 24
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name : C:\HPCHEM\1\DATA\06-24-09\025F0801.D
Operator : ay
Instrument : GC1
Sample Name : 906226-21
Run Time Bar Code:
Acquired on : 25 Jun 09 01:48 AM
Report Created on: 25 Jun 09 09:40 AM

Page Number : 1
Vial Number : 25
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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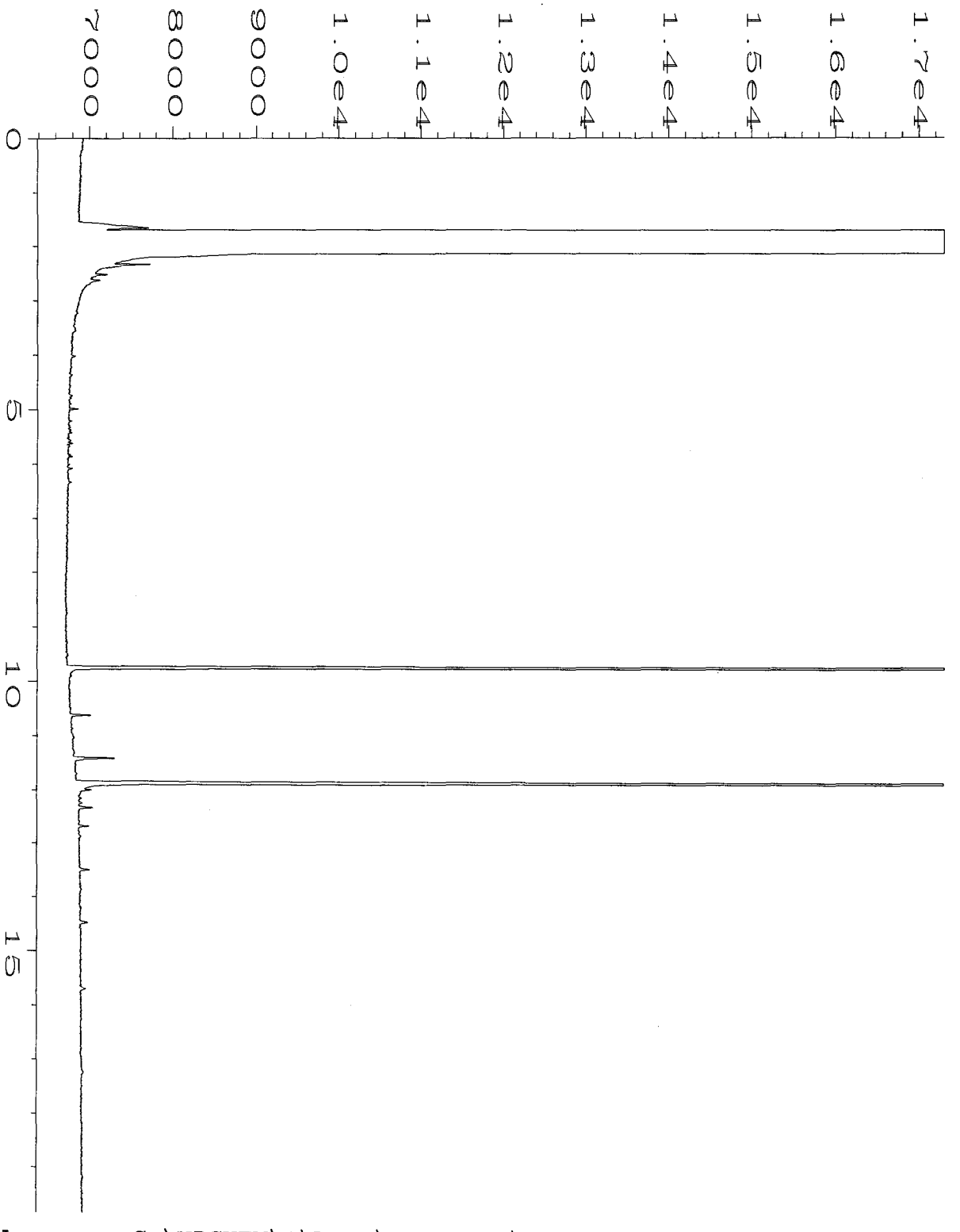
Operator : ay
Instrument : GC1
Sample Name : 906226-22
Run Time Bar Code:
Acquired on : 25 Jun 09 02:15 AM
Report Created on: 25 Jun 09 09:41 AM

Page Number : 1
Vial Number : 26
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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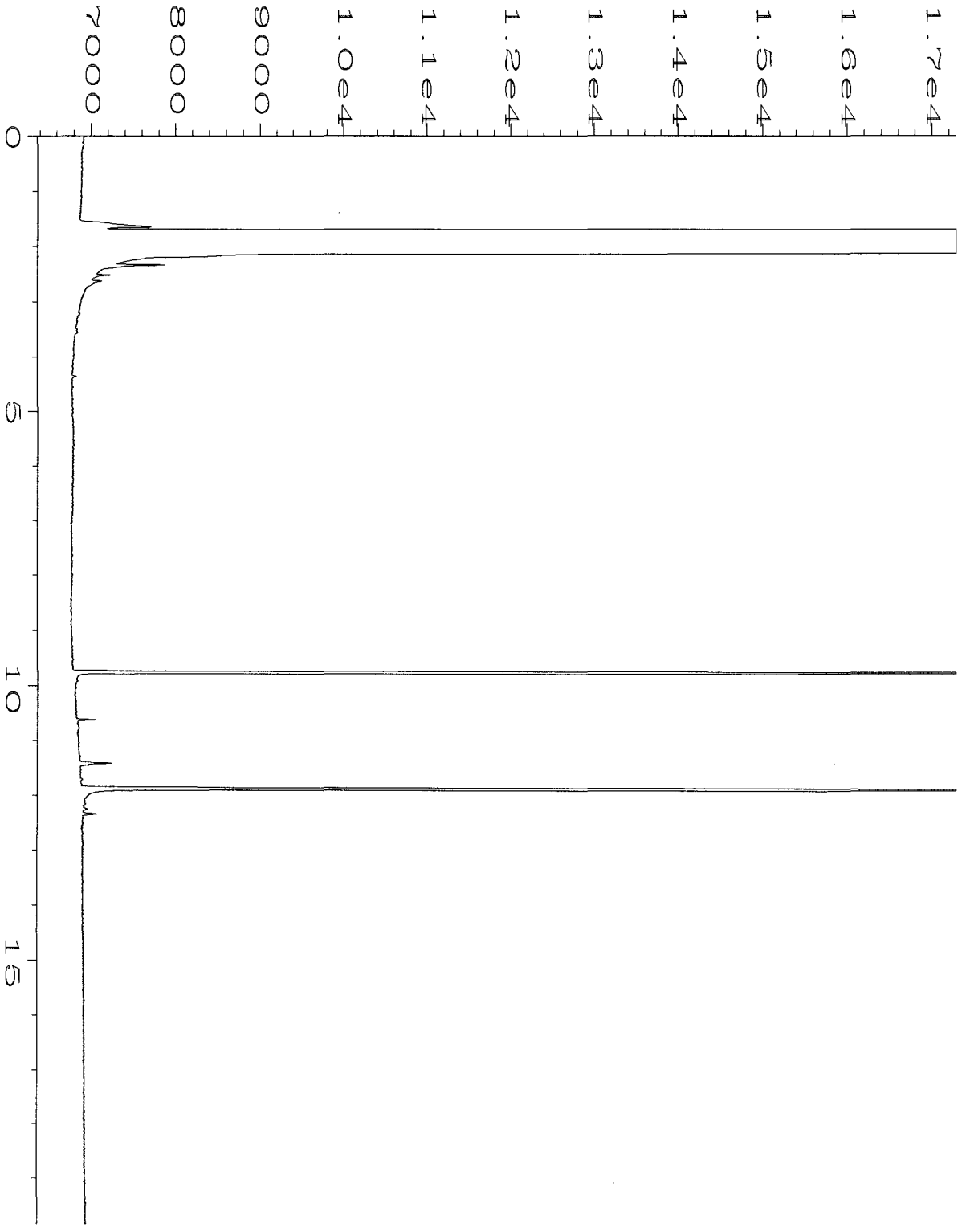
Operator : ay
Instrument : GC1
Sample Name : 906226-25
Run Time Bar Code:
Acquired on : 25 Jun 09 02:41 AM
Report Created on: 25 Jun 09 09:41 AM

Page Number : 1
Vial Number : 27
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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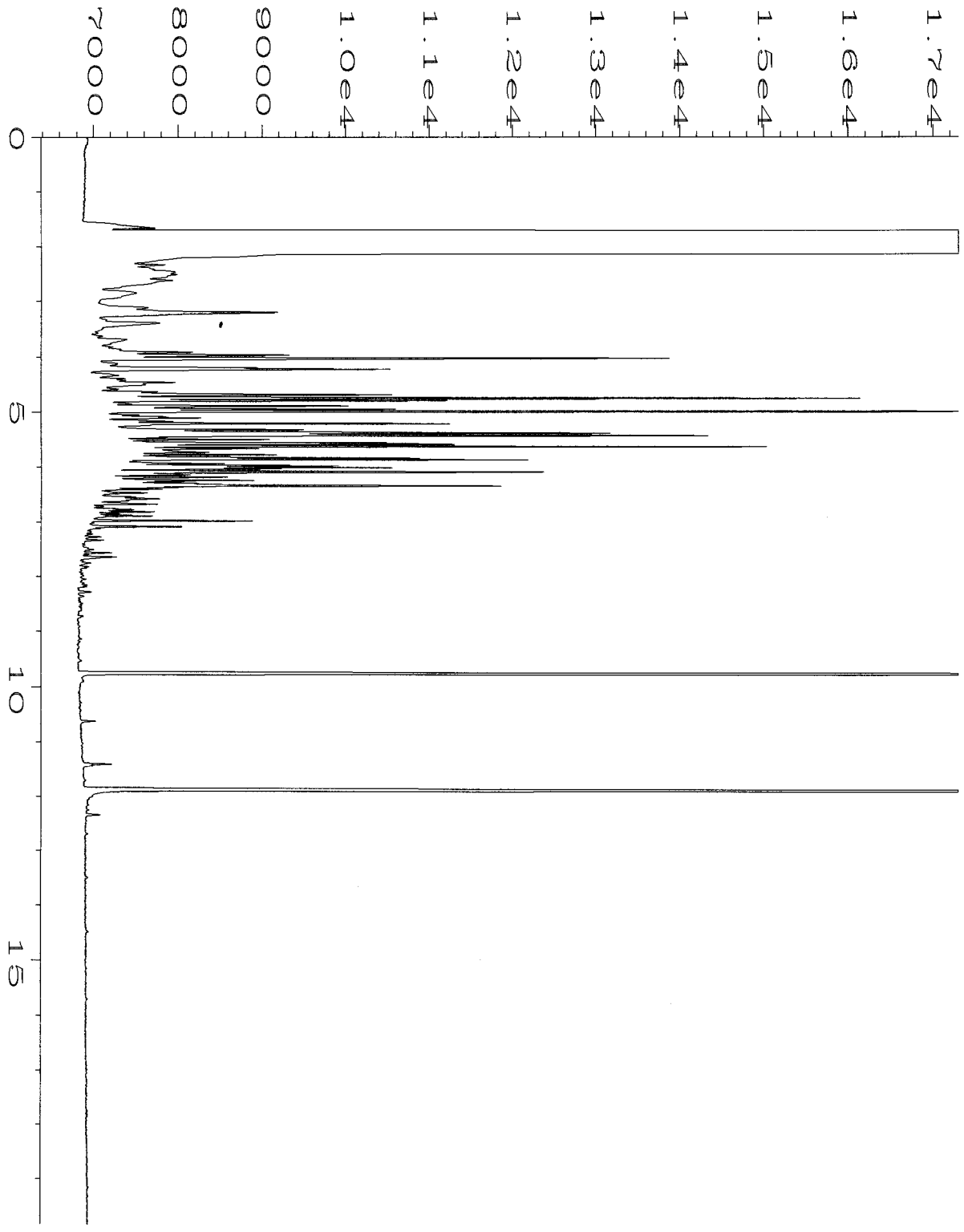
Operator : ay
Instrument : GC1
Sample Name : 906226-26
Run Time Bar Code:
Acquired on : 25 Jun 09 03:08 AM
Report Created on: 25 Jun 09 09:41 AM

Page Number : 1
Vial Number : 28
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name : C:\HPCHEM\1\DATA\06-24-09\029F0801.D
Operator : ay
Instrument : GC1
Sample Name : 906226-27
Run Time Bar Code:
Acquired on : 25 Jun 09 03:34 AM
Report Created on: 25 Jun 09 09:41 AM

Page Number : 1
Vial Number : 29
Injection Number : 1
Sequence Line : 8
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

906226 [redacted]

SAMPLE CHAIN OF CUSTODY

ME 06/24/09 [redacted] VS3/ D04

Page # 1 of 3

Send Report To Erin Rothman, Ryan Bixby

Company Sound Environmental Strategies

Address 2400 airport Way S.

City, State, ZIP Seattle WA 98134

Phone # 206 306 1900 Fax # 206 306 1907

SAMPLERS (signature)

PROJECT NAME/NO. TOC Holdings Co. Facility # 01-169 Everett

PO #

REMARKS

GEMS Ⓨ/ N

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B & Naph	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Lead	EPH/VPH	Notes
P07-04	P07	04	01 A-E	6-24-09	0815	Soil	5									Hold
P07-08		08	02 A-E		0820											Hold
x P07-10		10	03 A-E		0825			X	X	X				X		
x P07-16		16	04 A-E		0830			X	X	X				X		
x P07-20		20	05 A-E		0835			X	X	X				X		
P08-04	P08	04	06 A-E		0900											Hold
P08-08		08	07 A-E		0905											Hold
x P08-12		12	08 A-E		0910			X	X	X						
x P08-15		15	09 A-E		0915			X	X	X					X	
x P08-20		20	10 A-E		0935			X	X	X						
P08-22		22	11 A-E		1015											Hold
P09-04	P09	04	12 A-E		1030											Hold
P09-07		07	13 A-E		~~1030~~ 1035											Hold

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Robert A Hanslogen	SES	6-24-09	1420
Received by: [signature]	E. Sandquist	F&BI	↓	↓
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 6 °C

906226

SAMPLE CHAIN OF CUSTODY

ME 06/24/04 VS3/D04

Page # 2 of 3

Send Report To Erin Rothmar, Ryan Bixby
Company Sound Environmental Strategies
Address 2400 airport Way South
City, State, ZIP Seattle WA 98134
Phone # 206 306 1900 Fax # 206 306 1907

SAMPLERS (signature)

PROJECT NAME/NO.: TOC Hobbings Co. Facility 01-169 Everett

PO #

REMARKS

GEMS (Y) / N

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

	Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	Oxygenates & methanol BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	benzene	EPH/VPH	Notes
									ANALYSES REQUESTED								
X	P09-12	P09	12	14 AE	6-24-04	1045	Soil	5	X	X	X						
X	P09-15		15	15 AE		1100			X	X	X					X	
	P09-20		20	16 AE		1115											Hold
X	P09-22		22	17 AE		1130			X	X	X						
	P10-04	P10	04	18 AE		1150											Hold
	P10-08		08	19 AE		1155											Hold
X	P10-12		12	20 AE		1200			X	X	X						
X	P10-16		16	21 AE		1210			X	X	X						
X	P10-20		20	22 AE		1220			X	X	X						
	P11-04	P11	04	23 AE		1245											Hold
	P11-08		08	24 AE		1250											Hold
X	P11-12		12	25 AE		1255			X	X	X						
X	P11-16		16	26 AE		1310			X	X	X						

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Seattle, WA 98119-2029
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Robert A Haslam	SES	6-24-04	1410
Received by:		E Sandquist	FRB1	"	"
Relinquished by:					
Received by:					

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Samples received at 6 °C

906226

SAMPLE CHAIN OF CUSTODY

MO 06/24/09 VS3/ DO4

Page # 3 of 3

Send Report To Erin Rothmeyer, Ryan Bixby
Company Sound Environmental Strategies
Address 2400 Airport Way South
City, State, ZIP Seattle WA 98134
Phone # 206 306 1900 Fax # 206 306 1907

SAMPLERS (signature)

PROJECT NAME/NO.
TOC Holdings Co
Facility # 01-169 Everett

PO #

REMARKS

GEMS (Y) / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24 hrs
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B (Oxygenates & naphthalene)	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Lead	EDB, VPH	Notes
X PH-20	P11	20	27 A/E	Grab	1340	Soil	5	X	X	X				X		
Comp1-20090624	—	—	28		1415	1	1						X	X		

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Seattle, WA 98119-2029
Ph. (206) 285-8282
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Robert A Hershberger	SES	6-24-09	1410
Received by:		E. Sandquist	FBI	"	"
Relinquished by:					
Received by:					

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Samples received at 6 °C

APPENDIX F
Terrestrial Ecological Evaluation Form

Washington State Department of Ecology
Toxics Cleanup Program

Table 749-1

Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).	
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	5
Area (acres) / Points: 0.25 or less — 4; 0.5 — 5; 1.0 — 6; 1.5 — 7; 2.0 — 8; 2.5 — 9; 3.0 — 10; 3.5 — 11; 4.0 or more — 12	
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1	3
3)[a] Enter a score in the box to the right for the habitat quality of the site, using the following rating system[b]. High=1, Intermediate=2, Low=3	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.[c]	2
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	12

Notes for Table 749-1

[a] It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

[b] **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

> **Low:** Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.