Stevens Healthcare
(former Cross Property)
LUST #507524

Report

Phase II Environmental Site Assessment

Former Cross Property

Edmonds, Washington

February 11, 1998

For

Stevens Healthcare

GeoEngineers

Consulting Engineers and Geoscientists
Offices in Washington, Oregon, and Alaska

February 11, 1998

Stevens Healthcare
21601 76th Avenue West
Edmonds, Washington 98026

Attention: Greg Andrews

We are pleased to submit this report of our Phase II Environmental Site Assessment of the former Cross property located at 21700 Highway 99 in Edmonds, Washington. Our services were conducted in general accordance with our proposal dated October 2, 1997. We appreciate the opportunity to assist you with this project. Please contact us if you have questions regarding information presented in this report.

Yours very truly,

GeoEngineers, Inc.

Kurt R. Fraese
Associate

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FORMER CROSS PROPERTY
EDMONDS, WASHINGTON
FOR
STEVENS HEALTHCARE

1.0 INTRODUCTION

1.1 GENERAL

This report presents the results of our Phase II ESA (Environmental Site Assessment) of the property (former Cross property) located at 21700 Highway 99 in Edmonds, Washington. The subject site currently is owned by Stevens Healthcare and is used as a storage facility for used medical equipment and medical records. The location of the subject site relative to surrounding physical features is shown in Figure 1. The general layout of the site is shown in Figure 2.

An automobile wrecking yard, known as Cross Autowrecking, formerly was located on the subject site. A separate automobile wrecking yard (Roberts Autowrecking) formerly occupied the property immediately north of the subject site; a medical clinic (Kruger Clinic) is currently located on this property. Several phases of environmental study have been completed on the Kruger property and the northern portion of the subject site. Subsurface assessments completed by Seacor indicated that solvent-related contamination is present beneath both properties. This Phase II ESA was completed to further evaluate the nature and extent of contamination beneath the subject site and the potential source(s) of the contamination.

1.2 PREVIOUS STUDIES

Subsurface environmental conditions beneath the subject site and the adjacent Kruger property were previously evaluated (Phase II ESA) by Seacor. GeoEngineers reviewed Seacor's previous work and evaluated the potential for site contamination by hazardous substances during completion of a Phase I ESA. The results of our initial studies are presented in the report entitled "Phase I Environmental Site Assessment Report, Former Cross Property, Edmonds, Washington," dated September 16, 1997.

Seacor evaluated subsurface conditions beneath the north-central portion of the subject site by installing four monitoring wells (OMW-1 through OMW-4) to a depth of about 30 feet bgs (below ground surface). PCE (tetrachloroethene) was detected at a concentration exceeding the MTCA Method A cleanup level in one soil sample obtained from a depth of 25.5 feet bgs in OMW-2. Ground water was not encountered by Seacor in any of the monitoring wells that they installed on the subject site.

Seacor also evaluated the adjacent Kruger property by completing soil borings and installing several monitoring wells. PCE was not detected in soil samples obtained by Seacor from the Kruger Property for chemical analysis. However, PCE was detected at concentrations exceeding the MTCA Method A cleanup level in ground water samples obtained by Seacor from two monitoring wells located near the southern boundary of the Kruger site, immediately north of the subject site. It appears that the ground

water samples were obtained from perched ground water at depths of about 20 to 23 feet bgs. Seacor has suggested that the PCE-contaminated ground water beneath the Kruger property migrated in a northerly direction from a source on the subject site.

GeoEngineers evaluated Seacor's Phase II study Report, dated October 4, 1993 during completion of our Phase I ESA. In our opinion, Seacor did not obtain sufficient subsurface information to document a northerly ground water flow direction beneath the subject site. Furthermore, our research indicated that ground water likely flows in a southeasterly direction in the site vicinity, based on Ecology files. This information suggested that the PCE-contaminated ground water identified beneath the Kruger site may not have originated on the subject site.

Our Phase I ESA research identified several suspected areas of contamination related to historic on-site activities, excluding the PCE-contaminated soil in the north-central portion of the site. In general, the suspect areas consist of a former wash rack, four exterior drains, the former location of an automobile crusher, a 500-gallon used waste oil UST (underground storage tank) and former automobile storage areas on site. The results our initial studies indicated that these areas may have subsurface contamination related to petroleum hydrocarbons, solvents and/or metals.

1.3 PURPOSE AND SCOPE

The purpose of our Phase II environmental site assessment is to evaluate the potential presence of subsurface soil and ground water contamination in the vicinity of former Cross Autowrecking facilities, identified as suspected areas of contamination during our Phase I ESA. The facilities of concern include the wash rack, four exterior drains, the former automobile crusher area, the waste oil UST and former automobile storage areas. Additionally, we completed explorations in the north-central portion of the site to further evaluate (1) the extent of PCE-contaminated soil, (2) the potential existence of PCE-contaminated ground water, and (3) the direction of shallow ground water flow. Our specific scope of services included the following:

1.3.1 Evaluation of Former Cross Autowrecking Facilities

1. Monitor the drilling of nine exploratory borings (GP-1 through GP-9) using direct-push drilling equipment. The borings were completed to depths ranging between about 6 and 18 feet bgs in the vicinity of the facilities discussed above.
2. Monitor the drilling and installation of two monitoring wells (MW-3 and MW-4) using hollow stem auger drilling equipment. The monitoring wells were installed near the catch basin north of the warehouse and wash rack in the southeastern portion of the site. The wells consist of 2-inch-diameter PVC (polyvinyl chloride) casing to depths ranging between 60 and 61 feet bgs. MW-3 and MW-4 were installed because ground water was not encountered in the shallower direct-push explorations (GP-1 through GP-9).
3. Obtain soil samples at intervals ranging between 2.5 and 10 feet from the borings for classification and evaluation of potential contamination using field screening techniques.

4. Obtain shallow soil samples using hand-held equipment from a depth of approximately 1 foot bgs at five locations in the former automobile storage area.
5. Survey the top of the monitoring well casings installed during this study and Seacor's study (OMW-1, OMW-2, OMW-3 and OMW-4) relative to an assumed elevation datum. Measure the depth to ground water in all on-site wells and calculate ground water elevations.
6. Develop monitoring wells MW-3 and MW-4, and obtain ground water samples for chemical analytical testing.
7. Submit the ground water samples and at least one soil sample from each exploration for one or more of the following chemical analysis: petroleum hydrocarbon identification using Ecology Method WTPH-HCID or NWTPH-HCID, diesel- and heavy oil-range hydrocarbons using Ecology Method NWTPH-D extended, HVOCs (halogenated volatile organic compounds) using EPA Method 8010, and total metals (As, Ba, Cd, Cr, Hg, Pb, Ag and Se) using appropriate EPA 6000- and 7000-Series Methodology.
8. Evaluate the field and laboratory data with regard to current environmental regulations and potential environmental liabilities associated with site development.

1.3.2 Evaluation of the North-Central Portion of the Site

1. Monitor the drilling and installation of two monitoring wells (MW-1 and MW-2) and one boring (B-5) using hollow stem auger drilling equipment. These explorations were completed to depths ranging between about 50 and 70 feet bgs. The monitoring wells were constructed as discussed in Section 1.3.1. A monitoring well was not constructed in B-5 because ground water was not encountered during drilling.
2. Obtain soil samples at approximately 5- to 10-foot depth intervals from the exploratory borings for classification and evaluation of potential contamination using field screening techniques.
3. Survey and develop MW-1 and MW-2, measure ground water levels and obtain ground water samples as discussed in Section 1.3.1. One ground water sample also was obtained from Seacor well OMW-2.
4. Submit the ground water samples and a total of four soil samples from the borings for chemical analysis of HVOCs using EPA Method 8010.
5. Evaluate the field and laboratory data with regard to current environmental regulations and potential environmental liabilities associated with site development.

2.0 SITE DESCRIPTION

2.1 SURFACE CONDITIONS

The site occupies approximately 122,000 square feet, and consists of undeveloped (fenced) lots except for buildings that occupy the southeast portion of the site. The buildings apparently were used by the Cross Autowrecking operations for automobile disassembly, parts storage and cleaning, and offices. The approximate locations of the on-site structures are shown in Figure 2.

3.0 FINDINGS

3.1 FIELD EXPLORATIONS

GeoEngineers monitored the completion of 14 subsurface explorations using power drilling equipment. The approximate locations of the subsurface explorations are shown in Figure 2. Nine of the explorations were completed using direct-push drilling equipment (GP-1 through GP-9). Borings GP-1 through GP-9 were completed to depths ranging between about 6 and 18 feet bgs. Five explorations were completed to depths ranging from about 50 to 70 feet bgs using hollow-stem auger drilling equipment. Ground water monitoring wells were constructed in four of the auger borings (MW-1 through MW-4); a monitoring well was not constructed in B-5 because ground water was not encountered. Additionally, five shallow soil samples (S-1 through S-5) were obtained from a depth of approximately 1 foot bgs using hand-held digging equipment. Details of the field exploration program and logs for the subsurface explorations are presented in Appendix A. Construction details of the monitoring wells also are included in Appendix A.

3.2 SUBSURFACE CONDITIONS

3.2.1 Soil

Our understanding of soil conditions beneath the subject site is based on the explorations completed during this assessment, and our review of logs for the borings previously completed by Seacor. Soil logs for the explorations completed during our assessment are presented in Appendix A. Soil beneath the site generally consists of sand with varying amounts of silt, silt with varying amounts of sand, and gravel. The soil was deposited by advancing and receding glacial activity that occurred throughout the Puget Sound area approximately 10,000 years ago. The sand and gravel units are generally medium dense to very dense; the silt is generally stiff to hard. Glacial till was encountered in monitoring well boring MW-1 at depths ranging between about 23 and 41 feet bgs. Glacial till also appears to be present in Seacor's OMW-2. The glacial till consists of very dense, silty sand with gravel. Glacial till was not encountered in the other explorations completed by GeoEngineers or Seacor. It appears that the glacial till is present in the north to northwest portion of the site. Less dense recessional outwash sand and gravel is present beneath the remainder of the subject site based on the results of our soil borings.

An interpretive cross-section based on soil conditions encountered in our site exploratory borings is shown in Figure 3. The cross-section is oriented in a north-south direction, trending from the Kruger property to the southeast corner of the subject site as shown on Figure 2. Soil boring and monitoring well locations, and screened intervals are shown on the cross-section. A relatively discontinuous gravel and sand unit appears to overlie a more continuous sand unit at the site. A silt unit was encountered in the lower portions of several explorations (MW-1(Seacor), MW-2 and B-5) in the northern portion of the subject site and beneath the Kruger site. The presence of this silt unit is significant as it relates to seasonally perched ground water observed in the northern portion of the site (discussed below).

3.2.2 Ground Water

In our opinion, seasonally perched ground water is present at the contact between the shallow fine sand units and the underlying silt that is present in the northern portion of the subject site and the Kruger

property. The shallow perched ground water appears to be seasonally present in the northern portion of the subject site and the Kruger property (Figure 3). Based on our review of previous Seacor reports, this perched water was encountered at depths of approximately 8 and 19 feet below ground surface during January and May 1993 in MW-1(Seacor). Additionally, the perched water was not detected in OMW-2(Seacor) during August 1993 but was detected at a depth of approximately 23 feet below ground surface during our most recent monitoring event (November 1997). The downward infiltration of ground water is likely impeded by the silt unit, which has a relatively low permeability and represents an aquitard in the northern portion of the site. The flow direction of the perched ground water is likely controlled by the geometry of the top of the silt unit. It appears that the 30 foot bgs monitoring wells installed by Seacor are completed in the seasonally perched zone (above the silt unit); this includes monitoring well OMW-2, located on the subject site, and Seacor's MW-1, located on the Kruger property (Figures 2 and 3).

A glacial outwash ground water aquifer (hereafter referred to as the "aquifer") was encountered beneath the subject site in monitoring wells MW-2, MW-3 and MW-4, shown in Figures 2 and 3. This aquifer does not appear to be seasonal. The silt unit in the north portion of the site overlies the glacial outwash aquifer. The aquifer may be semi-confined beneath the northern portion of the subject site and possibly the Kruger property because of the presence of the silt aquitard discussed above. The presence of semi-confined conditions beneath a portion of the subject site is supported by our observations in MW-2. The static ground water level in this well appears to be higher than the saturated zone. Additionally, the silt unit in boring B-5 did not appear to be saturated at the time of drilling.

GeoEngineers measured ground water levels at the site on November 12, 1997. Ground water elevations based on these measurements are presented in Table 3 and Figure 4. Ground water elevation contours for the aquifer also are shown in Figure 4. Based on these measurements, the ground water flow direction in the aquifer is toward the southeast at a gradient of about 0.07 feet per foot. The ground water elevations in monitoring wells OMW-2 and GeoEngineers' MW-1 were not used to produce the contour map shown in Figure 4 because of the following:

- Monitoring well OMW-2 appears to be completed in the perched zone above the silt unit.
- The ground water elevation in GeoEngineers' MW-1 is representative of ground water present in the glacial till that was encountered in this boring, not in the underlying aquifer shown in Figure 3.

To supplement our ground water flow direction observations we reviewed the USGS 7.5 minute East-Edmonds topographic map for the site area. The subject site's surface elevation is approximately 325 feet above mean sea level. Lake Ballinger, located approximately 1-mile south of the site is located at a surface elevation of approximately 250 to 275 feet (a 50 to 75 foot difference in elevation). The depth to ground water in MW-4 (the most downgradient well at the site) at the subject site was measured at approximately 55 feet below ground surface during November 1997 (Table 3). Therefore, it is our opinion that Lake Ballinger is the discharge location for ground water observed in the aquifer beneath the site. Furthermore it appears that ground water beneath the site follows the topography which decreases from north to south-southeast.

3.3 SUBSURFACE ENVIRONMENTAL CONDITIONS

3.3.1 Field Screening Results

Field screening was performed on soil samples obtained from the power borings and hand-dug explorations to evaluate the potential presence of contamination. A description of field screening methods is included in Appendix A. Field screening results are presented in Table 1 and in the soil boring logs (Appendix A).

Field screening results indicated the potential presence of petroleum hydrocarbons in three soil samples obtained from borings GP-1, GP-3 and GP-4 at depths ranging between about 4 and 7 feet bgs, and one soil sample obtained from MW-4 at a depth of 14 feet bgs. These soil samples exhibited a moderate sheen and/or elevated headspace vapors (relative to the other soil samples). Field screening evidence of contamination was not observed in other soil samples obtained from the explorations.

3.3.2 Soil Chemical Analyses

Soil samples obtained from the explorations were submitted to North Creek Analytical Laboratory in Bothell, Washington for chemical analyses. One or more soil samples from each exploration were selected for chemical analyses based the following criteria: (1) field screening results, (2) the depth of the soil sample relative to the depth of ground water or suspect subsurface facilities, and (3) the contaminant type (source) known or suspected to be present at the exploration location. The soil samples most likely to be contaminated, based on these criteria, were submitted for chemical analysis (described in Section 1.3.1). Chemical analytical results for the soil samples are presented in Table 1. Laboratory reports and chain-of-custody records are included in Appendix B.

At least one soil sample from each exploration, excluding those located in the northern portion of the site (MW-1, MW-2 and B-5), was submitted for analysis of petroleum hydrocarbons. Petroleum hydrocarbons were detected in only one soil sample (S-3). Diesel- and heavy oil-range hydrocarbons were detected in this soil sample at concentrations less than the MTCA Method A cleanup level (200 milligrams per kilograms (mg/kg). Selected soil samples from MW-3, MW-4, and GP-1 through GP-6 also were submitted for analysis of HVOCs. PCE was detected at a concentration less than the MTCA Method A cleanup level in sample MW-4-19. This sample was obtained from a depth of about 19 feet bgs near the wash rack. HVOCs were not detected in the other soil samples selected for analysis from the borings.

Soil samples obtained from the borings located in the northern portion of the site (MW-1, MW-2 and B-5) were submitted only for analysis of HVOCs. PCE was detected at concentrations less than the MTCA Method A cleanup level in two soil samples obtained from boring B-5. These samples were obtained from depths of approximately 34 and 39 feet bgs. HVOCs were not detected in the soil samples submitted for analysis from MW-1 and MW-2.

Two soil samples GP-5-8 and GP-6-9, located near the wash rack and UST, respectively were submitted for analysis of RCRA metals. Barium, cadmium and/or chromium were detected in the soil samples at concentrations less than MTCA cleanup levels.

3.3.3 Ground Water Chemical Analyses

Ground water samples were obtained from the new monitoring wells (GeoEngineers' MW-1, MW-2, MW-3 and MW-4) and previously existing monitoring well (Seacor's OMW-2) between November 6 and 12, 1997 for chemical analysis. Chemical analytical results for the ground water samples are presented in Table 2. Laboratory reports and chain of custody records are included in Appendix B.

All of the ground water samples obtained for the site were submitted for analysis of HVOCs. PCE was detected at concentrations of 16.3 µg/l (micrograms per liter) and 1,020 µg/l in the ground water samples obtained from MW-3 and OMW-2, respectively. The concentrations of PCE detected in these ground water samples exceed the MTCA Method A cleanup level for this analyte (5.0 µg/l). Additionally, two other HVOCs were detected in the OMW-2 sample; TCE (trichloroethene) was detected at a concentration of 7.02 µg/l and DCE (cis-1,2-dichloroethene) was detected at a concentration of 2.94 µg/l. The concentration of TCE detected in OMW-2 exceeds the MTCA Method A cleanup level for this analyte (5.0 µg/l). A MTCA Method A cleanup level has not been established for DCE. However, the concentration of DCE detected in OMW-2 does not exceed the MTCA Method B cleanup level for DCE (80 µg/l). Other HVOCs were not detected in the ground water samples tested.

The ground water samples obtained from monitoring wells MW-3 and MW-4 also were submitted for analysis of petroleum-related contamination. Gasoline-range hydrocarbons and benzene were detected at concentrations less than the MTCA Method A cleanup levels in MW-3 and MW-4. Toluene also was detected at a concentration less than the MTCA Method A cleanup level in MW-3. Diesel- and heavy oil-range hydrocarbons, and other BETX compounds were not detected in the ground water samples obtained from MW-3 and MW-4.

4.0 CONCLUSIONS

In our opinion, sources of PCE related to automobile parts cleaning likely existed on both the subject site and the Kruger property, based on our knowledge of historical activities on these sites. PCE-contaminated soil, from uncontrolled disposal of solvents in drains or the ground surface may be present on the subject site and/or the Kruger property. However, a significant area with concentrations of PCE-contaminated soil exceeding the MTCA cleanup level was not identified during this assessment. The information obtained during this assessment suggests that soil containing residual PCE concentrations exceeding the MTCA cleanup level, originally identified in the north-central portion of the site (OMW-2) by Seacor, is limited in extent. Chemical analysis did not detect PCE concentrations of regulatory significance in the soil samples tested for this study.

PCE is present in ground water beneath the subject site at concentrations exceeding the MTCA Method A cleanup level. The PCE concentration detected in the seasonally perched ground water in the north portion of the site (OMW-2) is significantly greater than the concentration detected in the glacial outwash aquifer that underlies the entire subject site. It is likely that the downward infiltration of PCE-contaminated ground water is impeded by the underlying silt aquitard. During this and previous assessments, PCE was detected in the perched ground water that was obtained from monitoring wells which appear to be screened above the silt layer (Seacor's MW-1 and OMW-2). PCE also was detected in

the glacial outwash aquifer at one location where the silt aquitard was not present (GeoEngineers' MW-3). PCE was not detected in ground water samples obtained from monitoring wells screened in the aquifer, below the silt aquitard (GeoEngineers' MW-1 and MW-2).

Seacor previously suggested that PCE contamination in the shallow perched ground water beneath the Kruger property is a result of northerly ground water flow from the subject site. In our opinion, the direction of ground water flow in the shallow perched zone likely is controlled by the topography of the top of the silt aquitard that is present beneath the north-central portion of the subject site and the Kruger property. The top of the silt aquitard appears to slope down to the south-southeast based on the results of our widely spaced site explorations. Therefore, the inferred direction of ground water flow in the shallow perched ground water is toward the southeast. Additionally, the ground water flow direction of the aquifer located beneath the entire site is to the south-southeast toward Lake Ballinger.

It is our opinion, that with the exception of the solvents detected in ground water beneath the site, the potential for contamination by other hazardous substances of regulatory significance in soil and ground water beneath the site is low based on the results of our studies. Petroleum hydrocarbons and metals were either not detected or were detected at concentrations less than MTCA cleanup levels in the soil and ground water samples submitted for analysis.

5.0 RECOMMENDATIONS

We recommend that the following be completed prior to site development:

- Prepare a soil and ground water handling and disposal plan that can be provided to contractors to assist them in implementing contigencies in the event that contaminated soil and/or ground water is encountered during site development.
- Notifiy Ecology that PCE was detected in ground water beneath the north and central portions of the site. This can be accomplished by providing Ecology a copy of this report.
- Prepare a deed restriction limiting the use of ground water at the site.
- Prepare a long term ground water monitoring plan.
- Remove the waste oil UST. The following tasks also should be completed in conjunction with the UST removal: (1) chemical analytical testing of at least two soil samples from the the base and eastwall of the UST excavation; (soil samples tested during this study can be used for documenting conditions on the north, south and west sidewalls), (2) preparation of an UST removal and soil sampling report and (3) submittal of UST closure forms to Ecology.

6.0 LIMITATIONS

This report has been prepared for use by Stevens Healthcare, its agents, and regulatory agencies. The report is not intended for use by others and the information contained herein is not applicable to other sites. If a lending agency or other parties intend to place legal reliance on the product of our services, we require that those parties indicate in writing their acknowledgment that the scope of services provided and the contract conditions under which the services were rendered are understood and accepted by them.

This is to provide our firm with reasonable protection against open-end litigation by third parties with whom there would otherwise be no contractual limits to their actions.

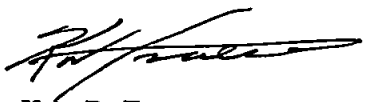
No ESA can wholly eliminate uncertainty regarding the potential for contamination by hazardous substances. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for contamination by hazardous substances in connection with a property. Our interpretation of subsurface conditions during this assessment is based on a limited number of widely spaced field explorations and chemical analysis of selected samples from these explorations. It is always possible that contamination may exist in areas of the site that were not explored, sampled or analyzed. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No other conditions, express or implied, should be understood.

We appreciate the opportunity to provide these services. Please contact us if you have questions regarding this report.

Yours very truly,

GeoEngineers, Inc.

David A. Cook
Project Geologist



Kurt R. Fraese
Associate

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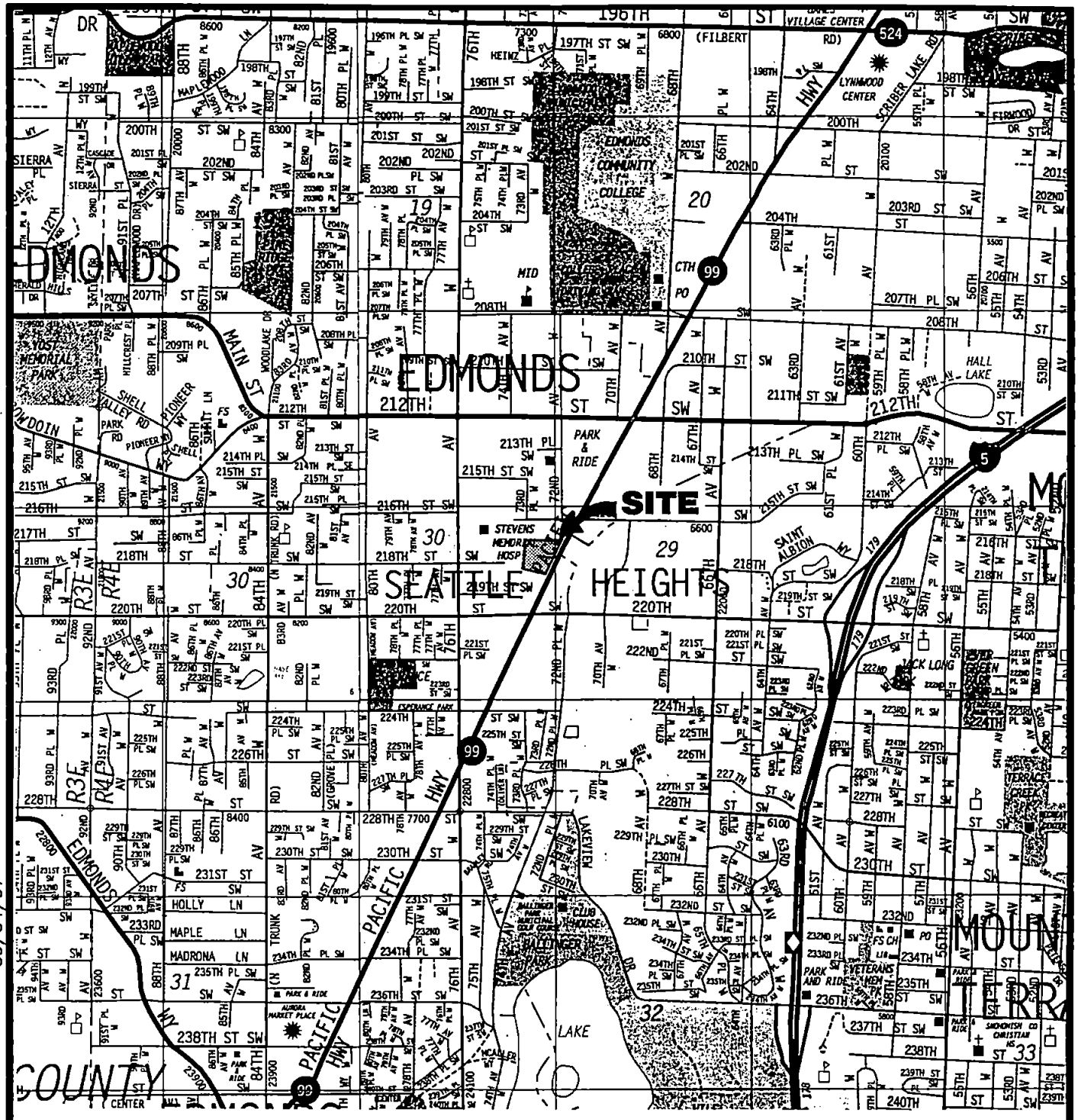
Attachments



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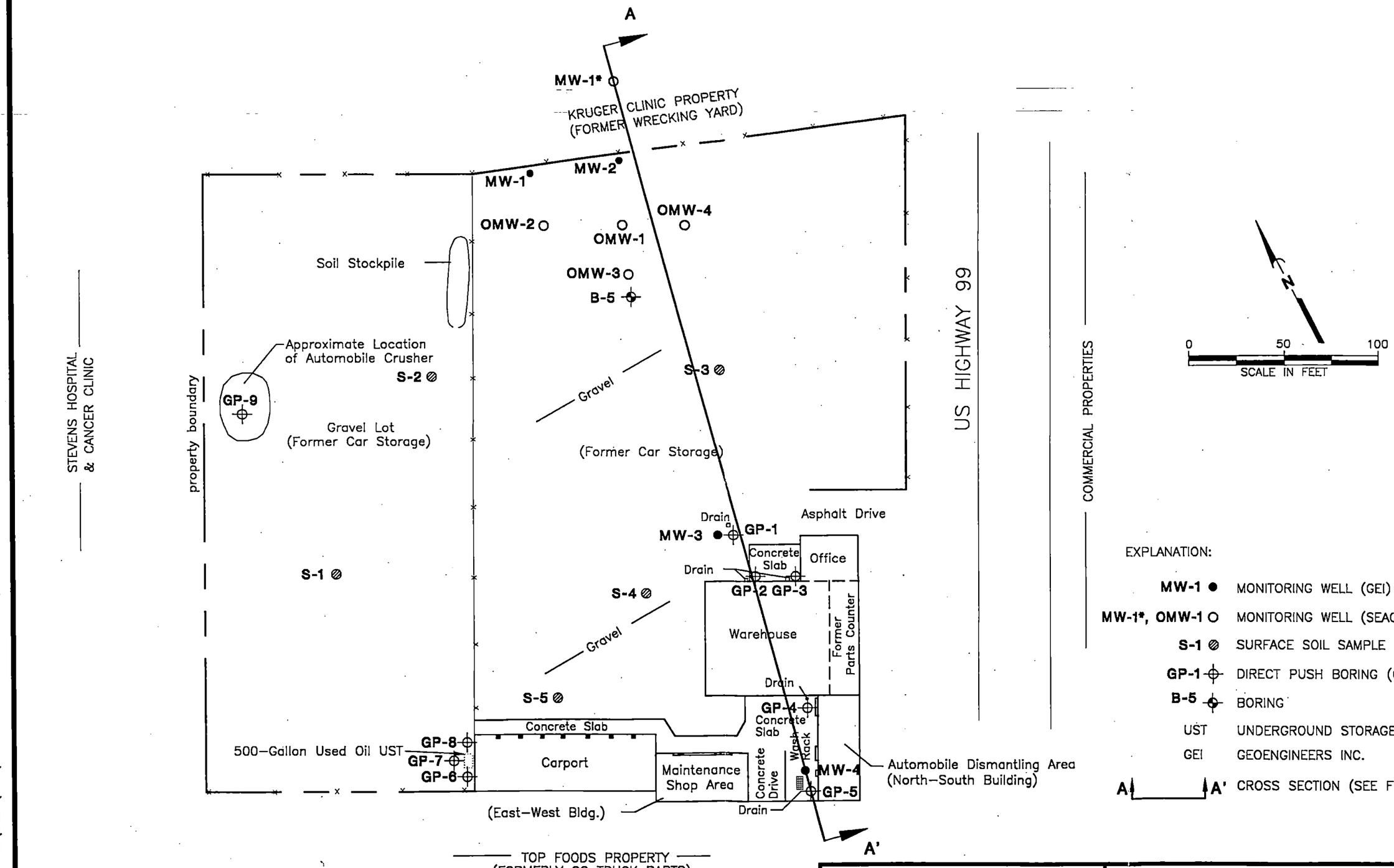
VICINITY MAP

FIGURE 1



Note: The locations of all features shown are approximate.

Reference: Site drawing prepared by GeoEngineers representative.

GeoEngineers

SITE PLAN

FIGURE 2

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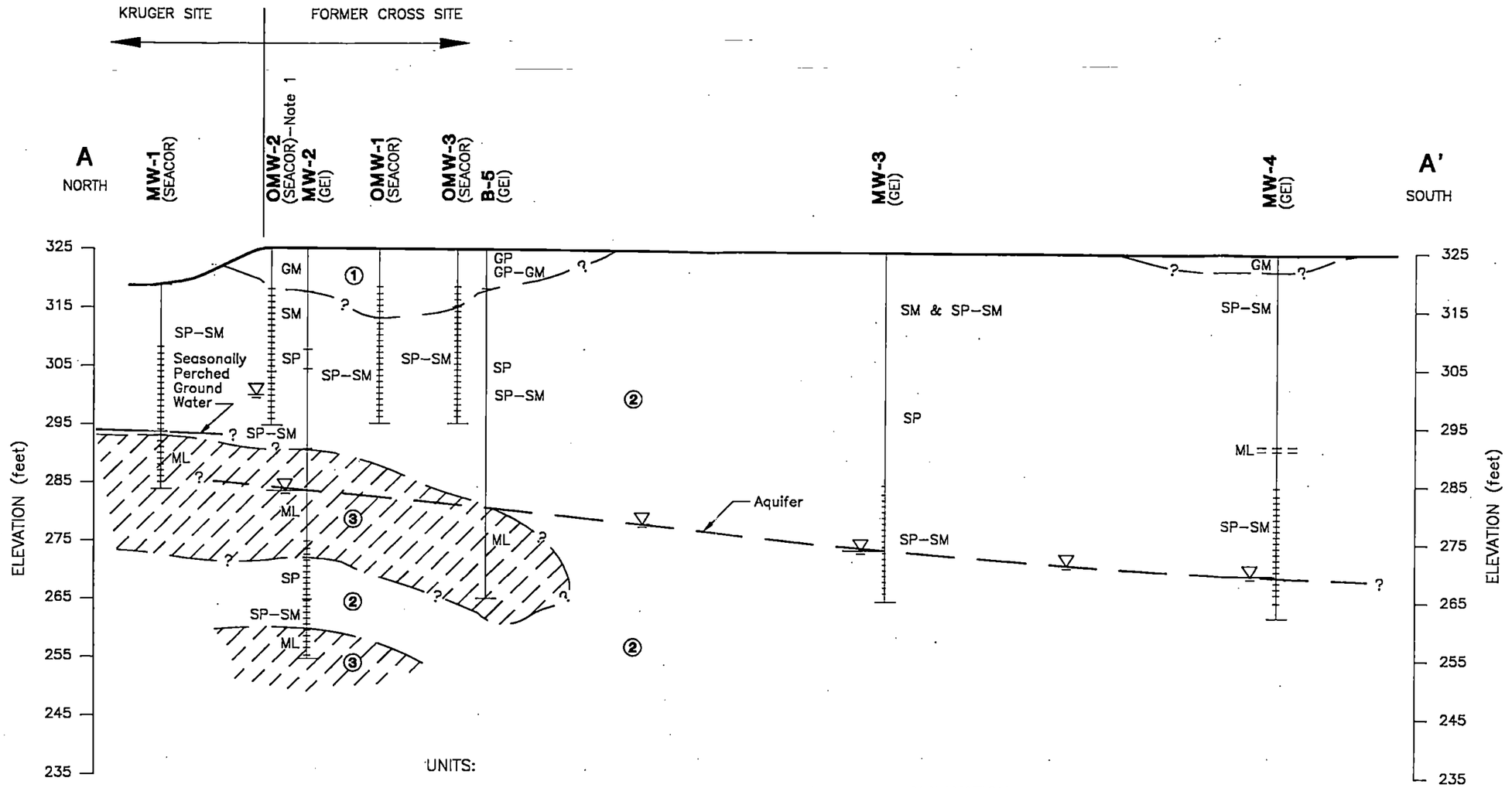

Notes:
1. OMW-2 is offset approximately 50 feet east of the cross section line (see Figure 2).
2. The subsurface conditions shown are based on interpolation between widely spaced explorations and should be considered approximate; actual subsurface conditions may vary from those shown.
3. Refer to Figure 2 for location of Section A-A'.
4. Elevations based on estimated ground surface elevation (325 ft.) at the site (USGS, Edmonds East, 7.5' Quadrangle).

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'
VERTICAL EXAGGERATION: 2X

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CROSS SECTION A-A'

FIGURE 3

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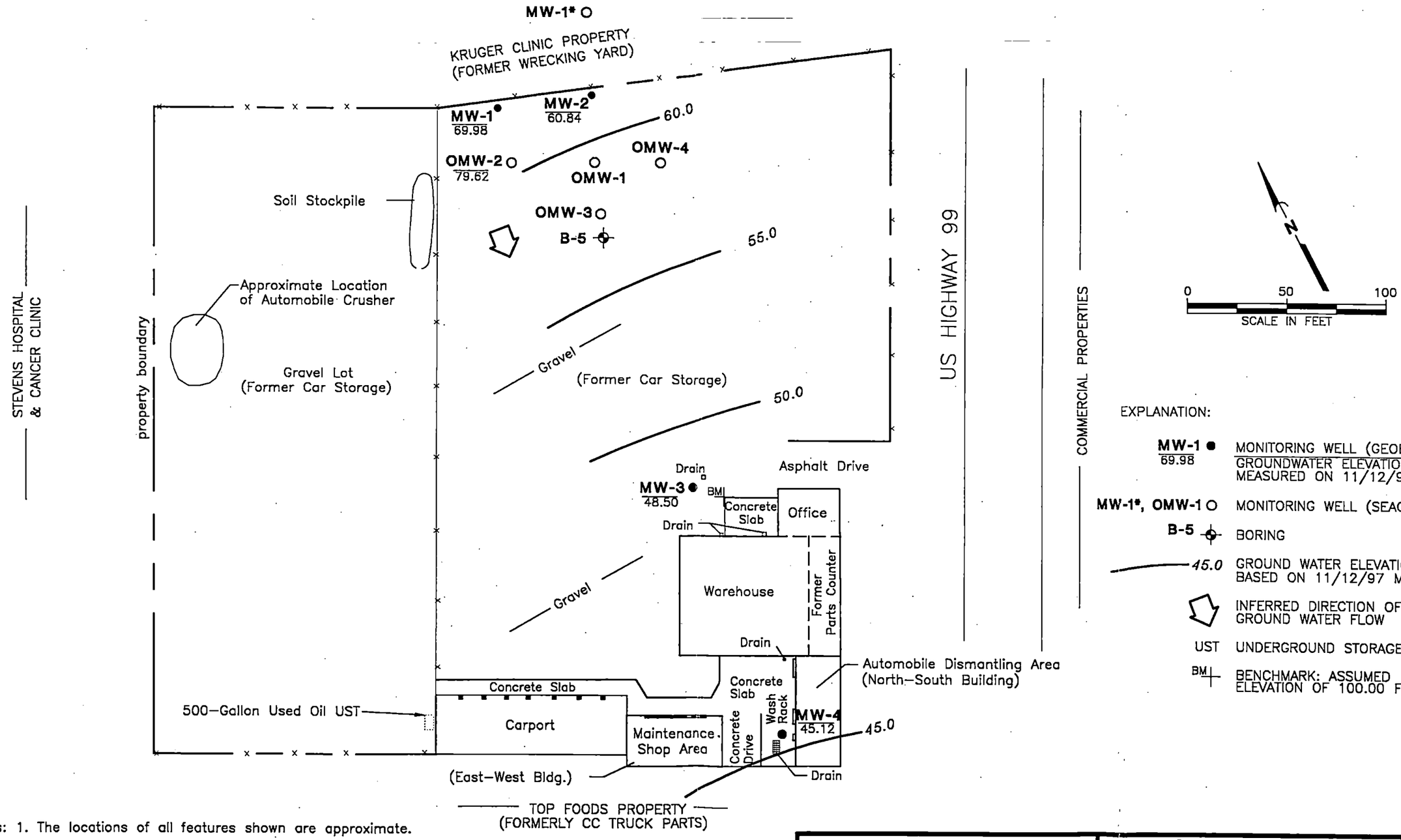

EXPLANATION:

MW-1 ● 69.98	MONITORING WELL (GEOENGINEERS) GROUNDWATER ELEVATION MEASURED ON 11/12/97
MW-1*, OMW-1 O	MONITORING WELL (SEACOR)
B-5 ⊕	BORING
45.0	GROUND WATER ELEVATION CONTOUR BASED ON 11/12/97 MEASUREMENTS
	INFERRED DIRECTION OF GROUND WATER FLOW
UST	UNDERGROUND STORAGE TANK
BM	BENCHMARK: ASSUMED ELEVATION OF 100.00 FEET

Notes: 1. The locations of all features shown are approximate.

2. Ground water elevation contours are based on measurements in MW–2, MW–3 and MW–4. Ground water measured in MW–1* and OMW–2 is interpreted to be seasonal and perched and was not used in contouring the aquifer surface.

Reference: Site drawing prepared by GeoEngineers representative.

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GROUND WATER ELEVATIONS 11/12/97

FIGURE 4

12/31/97

E:\5397\007\5397007C.DWG

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APPENDIX A

APPENDIX A

FIELD EXPLORATION PROGRAM

GENERAL

Subsurface conditions at the site were explored by completing five borings using hollow-stem auger drilling equipment, nine borings using direct-push drilling equipment, and five shallow explorations using hand-held digging equipment. A geologist from our staff determined the exploration locations, examined and classified the soils encountered, and prepared a detailed log of each exploration. Soils encountered were visually classified in general accordance with ASTM D-2488-94, which is described in Figure A-1. The boring logs are presented in Figures A-3 through A-16. Additionally, ground water monitoring wells were constructed in four of the auger borings. Well construction and ground water sampling procedures are described below.

DRILLING AND SOIL SAMPLING

Subsurface conditions on the site were explored during this phase of study by drilling five hollow-stem auger borings (MW-1 through MW-4 and B-5) and nine direct-push borings (GP-1 through GP-9) during November 1997. The hollow stem auger borings were drilled to depths ranging from approximately 50.0 to 70.0 feet using truck-mounted, hollow-stem auger equipment owned and operated by Holt Testing Incorporated of Puyallup, Washington. The direct-push borings were drilled to depths ranging from 6 to 18 feet below ground surface using StrataprobeTM equipment owned and operated by TEG Northwest Incorporated of Lacey, Washington. The hollow-stem auger drilling equipment was cleaned with a hot-water pressure washer before each boring was drilled. The StrataprobeTM sampling equipment was decontaminated before each sampling attempt with a Liquinox solution wash and two distilled water rinses.

Hollow-stem auger soil samples from the borings were obtained from approximate 5-foot intervals using a Dames & Moore split-barrel sampler. The sampler was driven a maximum of 18 inches by a 300-pound weight falling a vertical distance of approximately 30 inches. The number of blows needed to advance the sampler the final 12 inches or other specified distance is indicated to the left of the corresponding sample notation on the boring log. The direct-push borings were sampled at 1.0- to 3.0-foot intervals using a 1.5-inch-diameter split-barrel push sampler driven with a pneumatic hammer.

The sampling equipment was decontaminated before each sampling attempt with a Liquinox wash, a fresh water rinse and a distilled water rinse. At least one sample from each boring was selected for chemical analysis, based on field screening results and the depth of the sample in relation to the water table. The soil samples were kept cool before and during transport to the laboratory. Chain-of-custody procedures were followed in transporting the soil samples to the laboratory.

FIELD SCREENING OF SOIL SAMPLES

Soil samples obtained from the borings were screened in the field for evidence of petroleum-related contamination using (1) visual examination, (2) sheen screening, and (3) headspace vapor screening with a MicroTip photoionization detector. The results of headspace and sheen screening are included in Table 1 of this report.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons, such as motor oil or hydraulic oil, or when hydrocarbon concentrations are high. Sheen screening and headspace vapor screening are more sensitive methods that have been effective in detecting contamination at concentrations less than regulatory cleanup guidelines.

Sheen screening involves placing soil in a pan of water and observing the water surface for signs of sheen. Sheen classifications are as follows:

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

Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a MicroTip is inserted in the bag and the instrument measures the concentration of ionizable vapor in the air removed from the sample headspace. The MicroTip measures concentrations in ppm (parts per million) and is calibrated to isobutylene. The MicroTip is designed to quantify combustible gas and organic vapor concentrations in the range between 1 and 1,000 ppm.

Field screening results are site-specific and vary with soil type, soil moisture content, temperature and type of contaminant.

MONITORING WELL CONSTRUCTION

A ground water monitoring well was constructed in borings MW-1 through MW-4 at the completion of drilling. Two-inch-diameter, Schedule 40 PVC (polyvinyl chloride) pipe was installed in the borings. The lower of the PVC pipe is machine-slotted (0.02-inch slot width) to allow entry of water, free product and vapors into the well casing. Medium sand was placed in the borehole annulus surrounding the slotted portion of the well. The well casing is protected within a surface monument with a lockable compression cap. The monitoring wells were developed by GeoEngineers during November 1997 at the conclusion of monitoring well installation. Approximately 10 to 20 gallons of ground water was removed from each well using a stainless steel bailer. Development water was placed in 55-gallon drums located on site.

GROUND WATER MEASUREMENTS

Depths to ground water were measured in the monitoring wells on November 12, 1997. The ground water measurements were obtained using an electronic water level indicator. The water level indicator was cleaned with a Liquinox wash and distilled water rinse prior to use in each well.

GROUND WATER SAMPLING PROGRAM

Ground water samples were obtained from monitoring wells MW-1 through MW-4 and OMW-2 on November 11 and 12, 1997. The water samples were obtained after a minimum of three well volumes of water was purged from the well. After purging, ground water samples were obtained from each well using disposable polyethylene bailers and transferred to laboratory-prepared bottles in the field and kept cool during transport to the testing laboratory. Chain-of-custody procedures were observed during transport of the samples to the laboratory.

PURGE WATER AND DRILL CUTTINGS DISPOSAL

Purge water was collected from the well development and sampling activities and placed in two 55-gallon drums located on site. Because HVOCs are present in the purge water, it remains on site pending removal by an appropriate disposal or recycling contractor. Additionally, soil cuttings generated during drilling activities remains in 55-gallon drums at the site.

SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE GRAINED SOILS More Than 50% Retained on No. 200 Sieve	GRAVEL More Than 50% of Coarse Fraction Retained on No. 4 Sieve	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND More Than 50% of Coarse Fraction Passes No. 4 Sieve	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE GRAINED SOILS More Than 50% Passes No. 200 Sieve	SILT AND CLAY Liquid Limit Less Than 50	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY Liquid Limit 50 or More	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

1. Field classification is based on visual examination of soil in general accordance with ASTM D2488-90.
2. Soil classification using laboratory tests is based on ASTM D2487-90.
3. Descriptions of soil density or consistency are based on interpretation of blow count data, visual appearance of soils, and/or test data.

SOIL MOISTURE MODIFIERS:

Dry - Absence of moisture, dusty, dry to the touch

Moist - Damp, but no visible water

Wet - Visible free water or saturated, usually soil is obtained from below water table

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SOIL CLASSIFICATION SYSTEM

FIGURE A-1

LABORATORY TESTS

CA Chemical Analysis

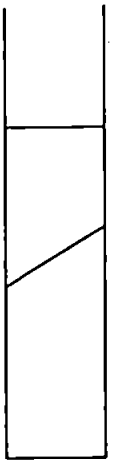
FIELD SCREENING TESTS:

Headspace vapor concentration data given in parts per million

Sheen classification system:

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

SOIL GRAPH:



SM Soil Group Symbol (See Note 2)

Distinct Contact Between Soil Strata

Gradual or Approximate Location of Change Between Soil Strata

Water Level

Bottom of Boring

BLOW COUNT/SAMPLE DATA:

Blows required to drive a 2.4-inch I.D. split-barrel sampler 12 inches or other indicated distances using a 300-pound hammer falling 30 inches.

22 Location of relatively undisturbed sample

12 Location of disturbed sample

17 Location of sampling attempt with no recovery

Blows required to drive a 1.5-inch I.D. (SPT) split-barrel sampler 12 inches or other indicated distances using a 140-pound hammer falling 30 inches.

10 Location of sample obtained in general accordance with Standard Penetration Test (ASTM D-1586) procedures

26 Location of SPT sampling attempt with no recovery

Location of grab sample

"P" indicates sampler pushed with weight of hammer or against weight of drill rig.

NOTES:

1. The reader must refer to the discussion in the report text, the Key to Boring Log Symbols and the exploration logs for a proper understanding of subsurface conditions.
2. Soil classification system is summarized in Figure A-1.

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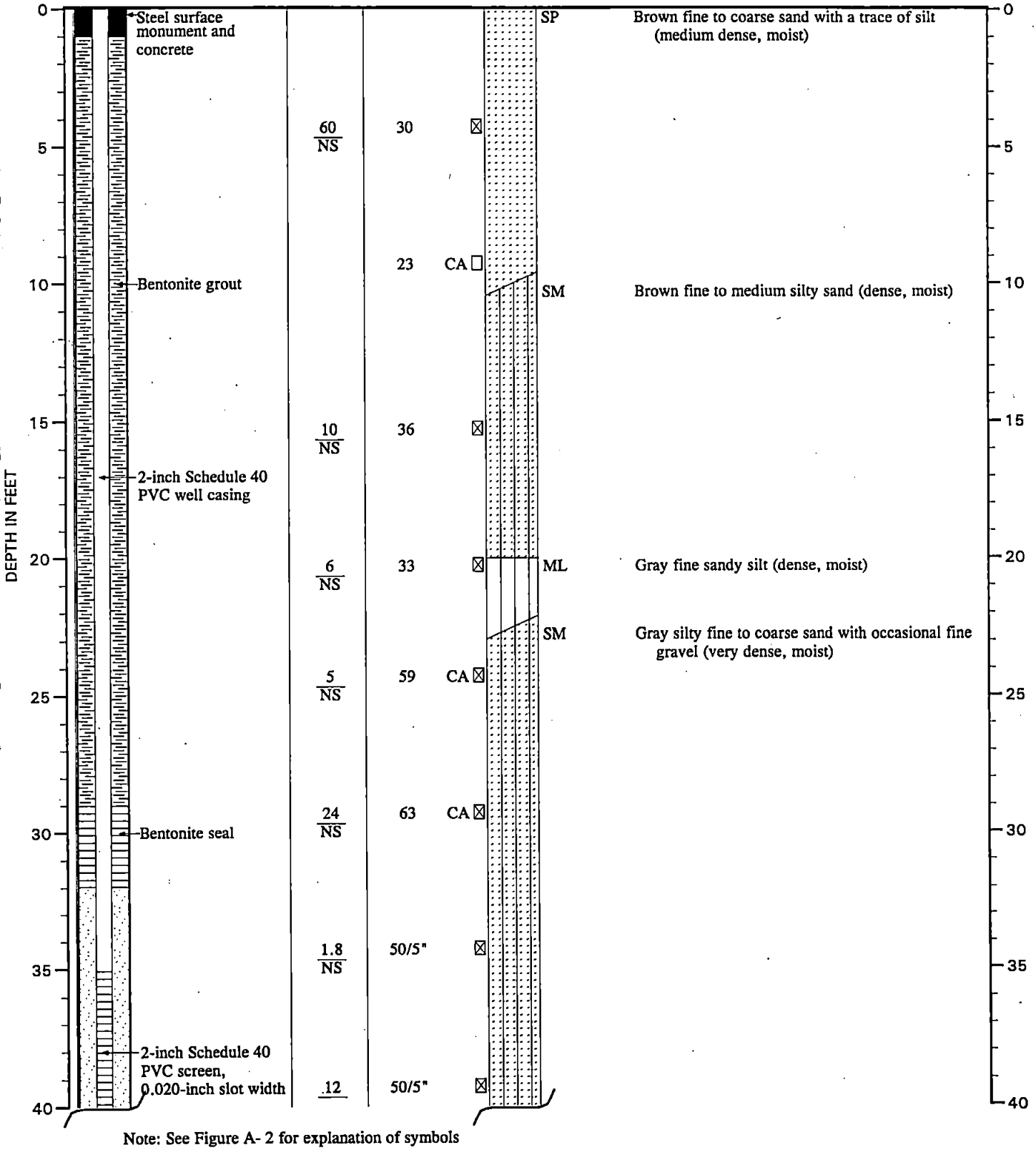
KEY TO BORING LOG SYMBOLS

FIGURE A-2

MONITORING WELL MW-1

WELL SCHEMATIC

Casing Elevation (ft.): 103.98
Casing Stickup (ft.): -0.7



Note: See Figure A- 2 for explanation of symbols

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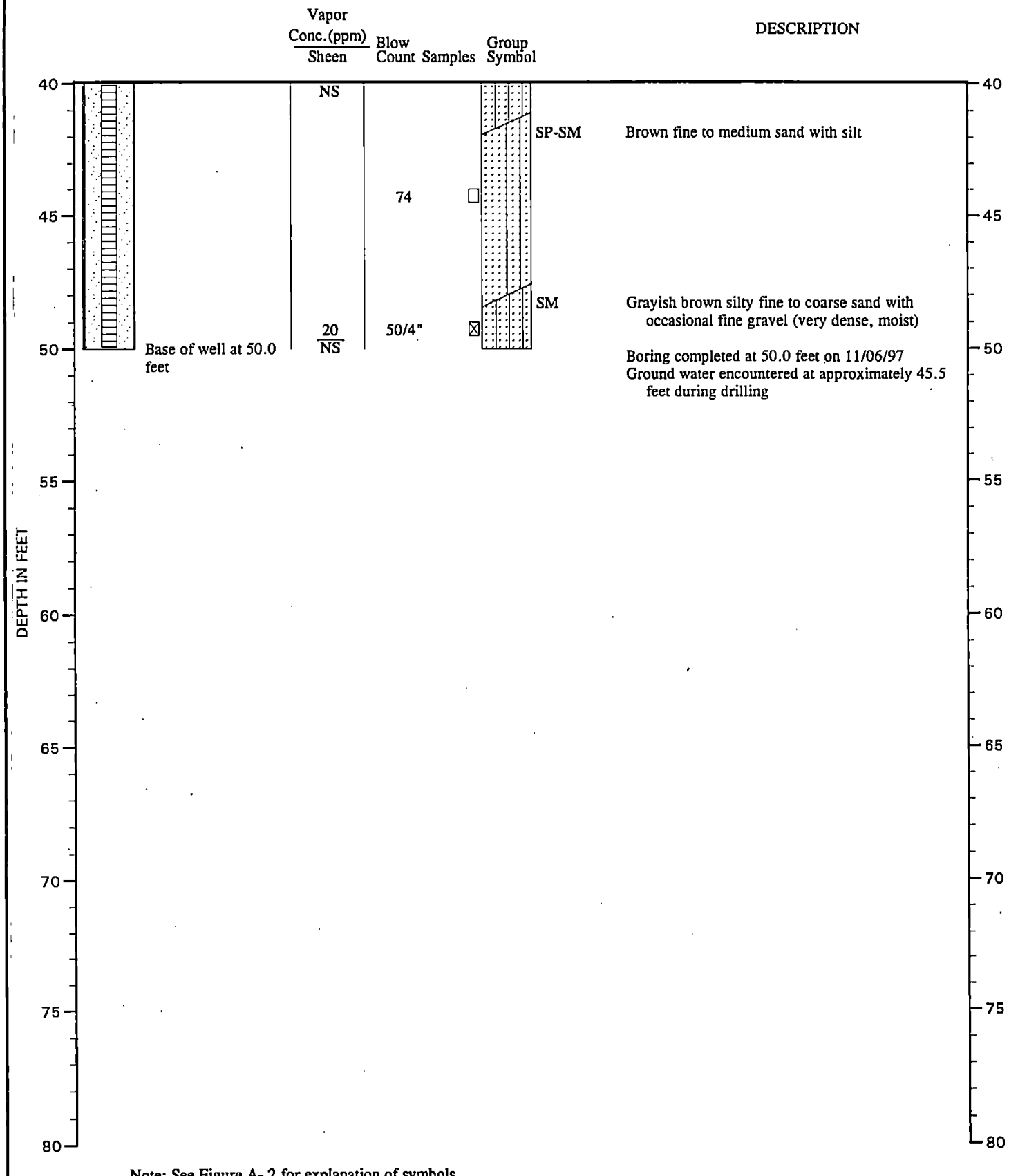
LOG OF MONITORING WELL

FIGURE A-3

MONITORING WELL MW-1
(Continued)



Note: See Figure A- 2 for explanation of symbols

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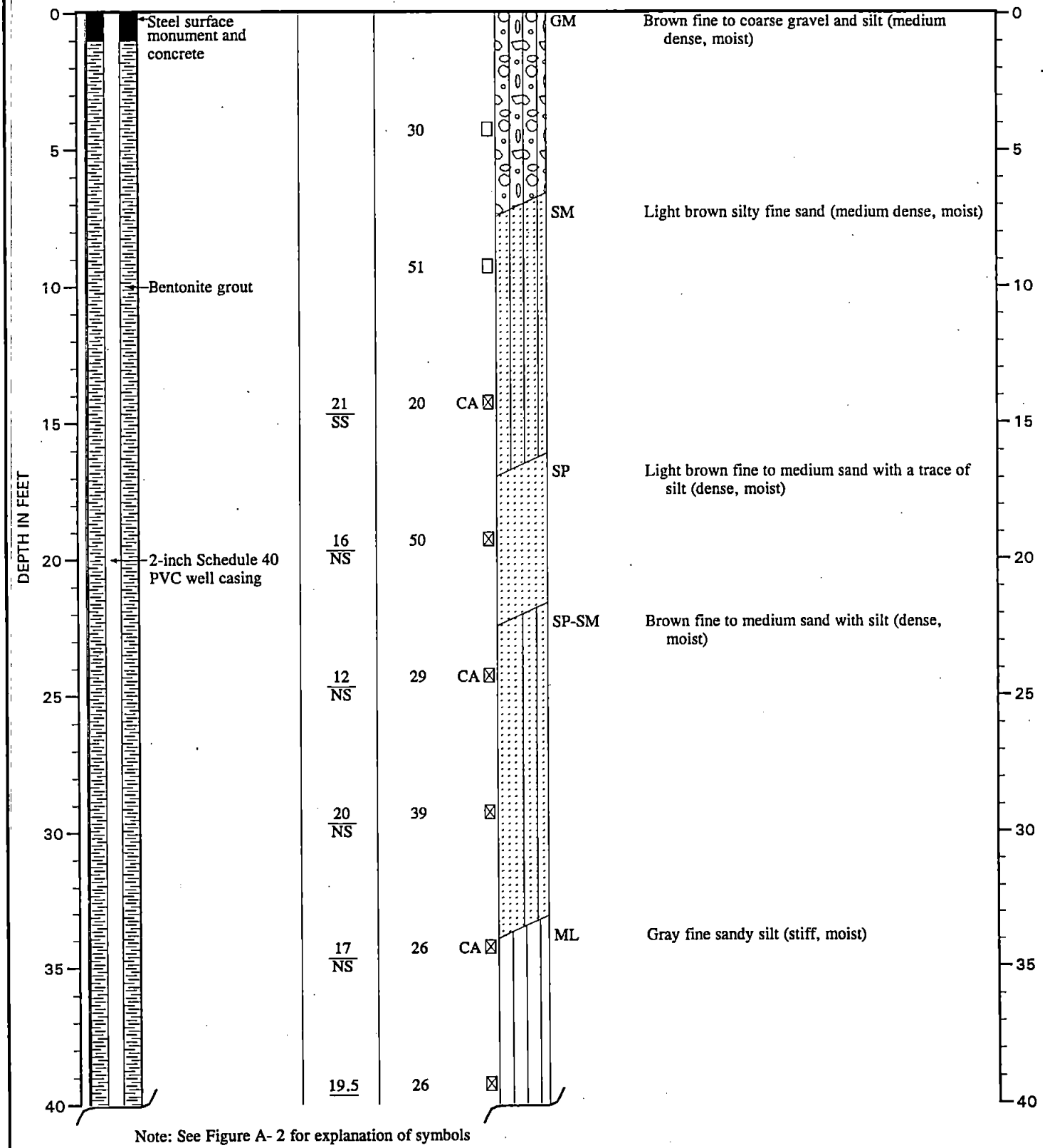
LOG OF MONITORING WELL

FIGURE A-3

MONITORING WELL MW-2

WELL SCHEMATIC

Casing Elevation (ft.): 102.41
Casing Stickup (ft.): -0.02



Note: See Figure A- 2 for explanation of symbols

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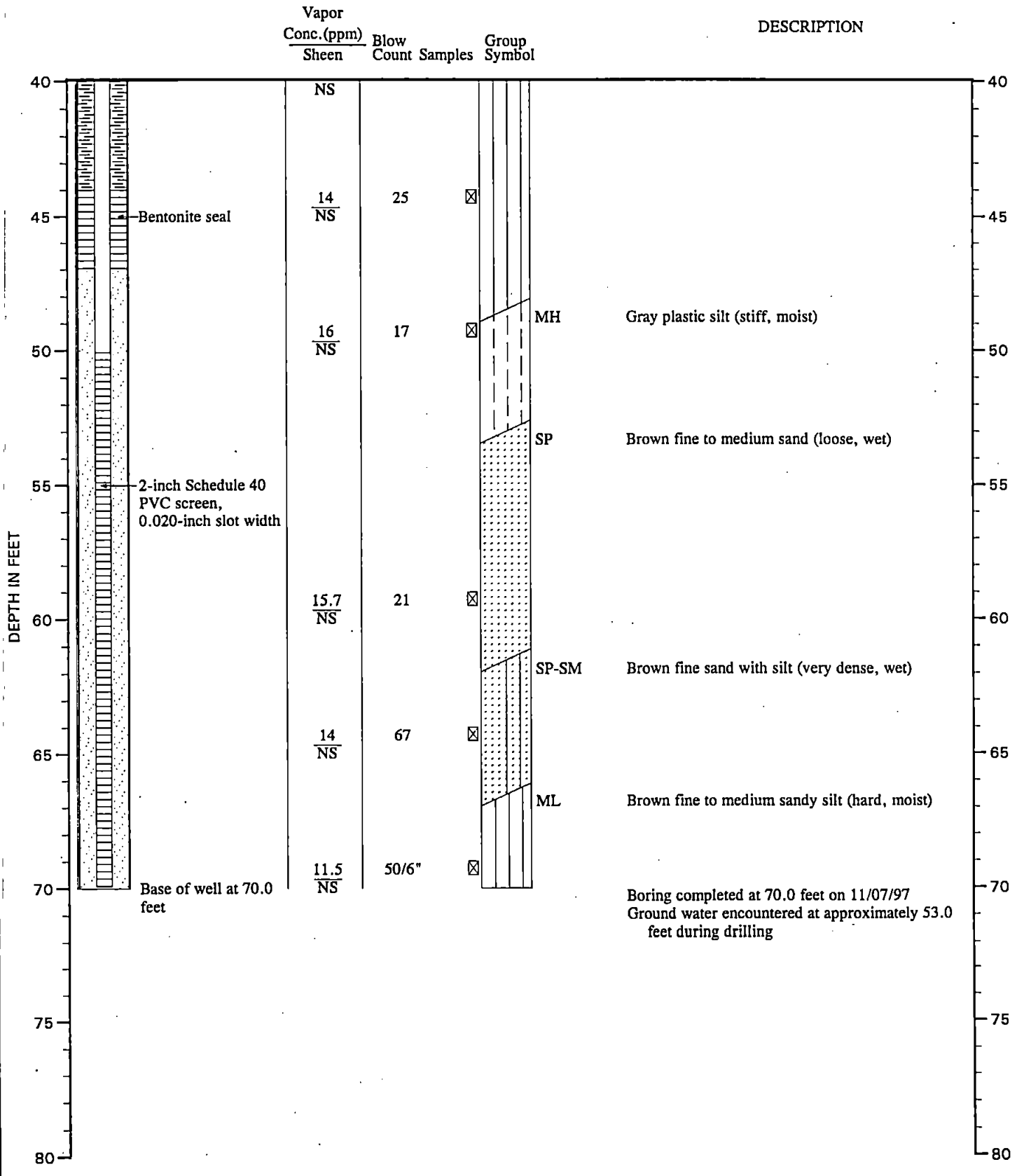
LOG OF MONITORING WELL

FIGURE A-4

MONITORING WELL MW-2
(Continued)



Note: See Figure A- 2 for explanation of symbols

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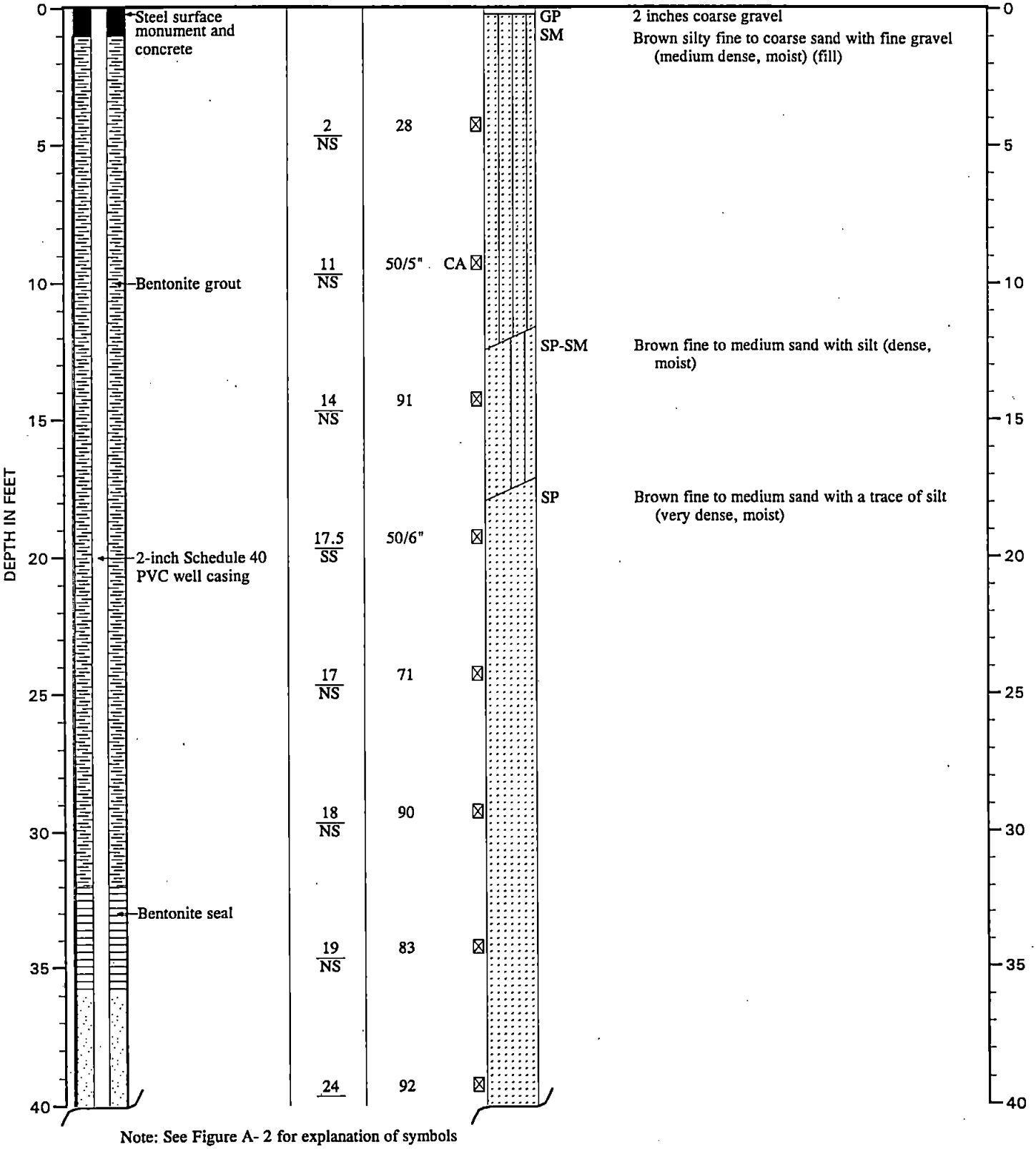
LOG OF MONITORING WELL

FIGURE A-4

MONITORING WELL MW-3

WELL SCHEMATIC

Casing Elevation (ft.): 99.85
Casing Stickup (ft.): 0.10



Note: See Figure A- 2 for explanation of symbols

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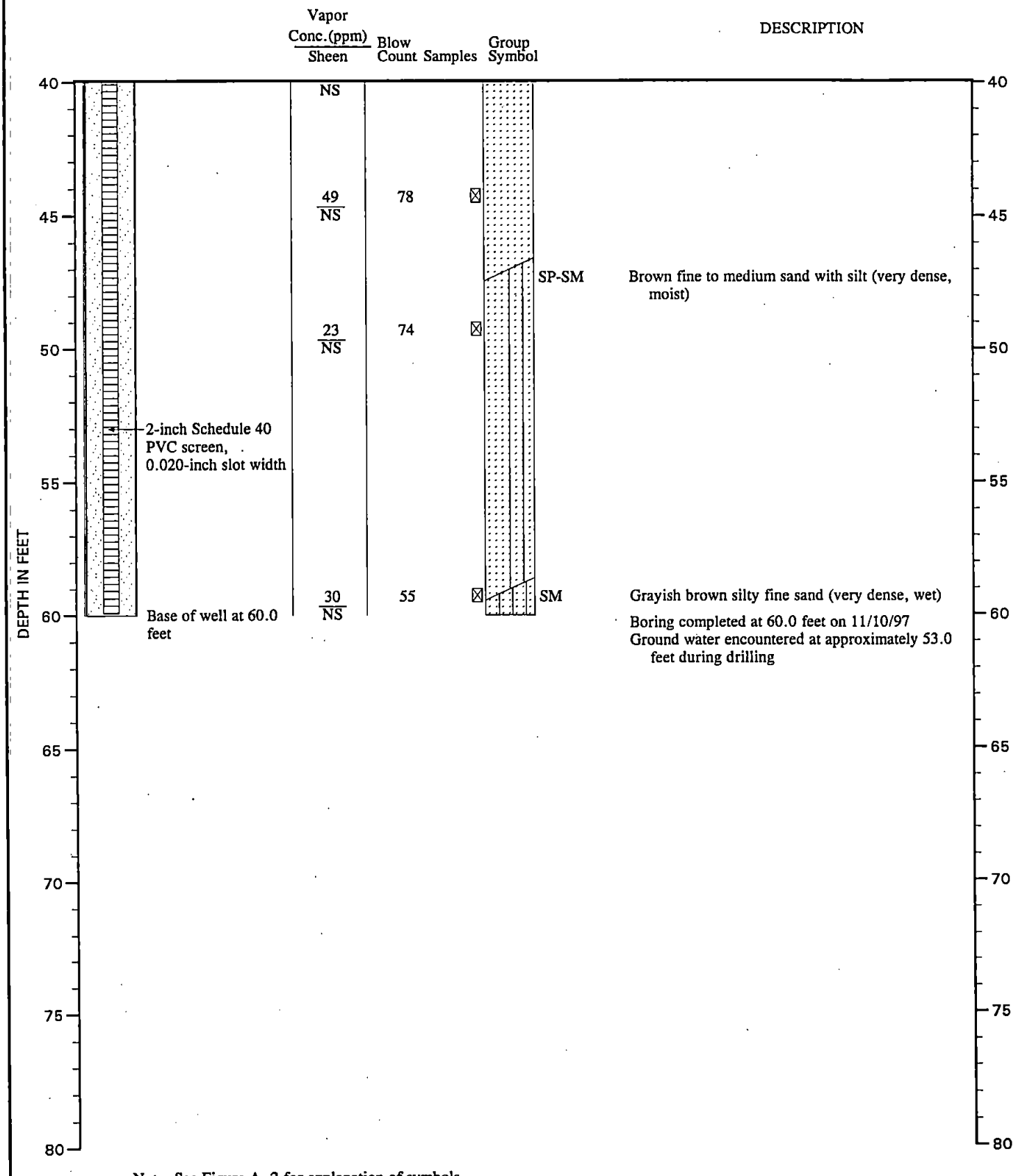
LOG OF MONITORING WELL

FIGURE A-5

MONITORING WELL MW-3
(Continued)



Note: See Figure A- 2 for explanation of symbols

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LOG OF MONITORING WELL

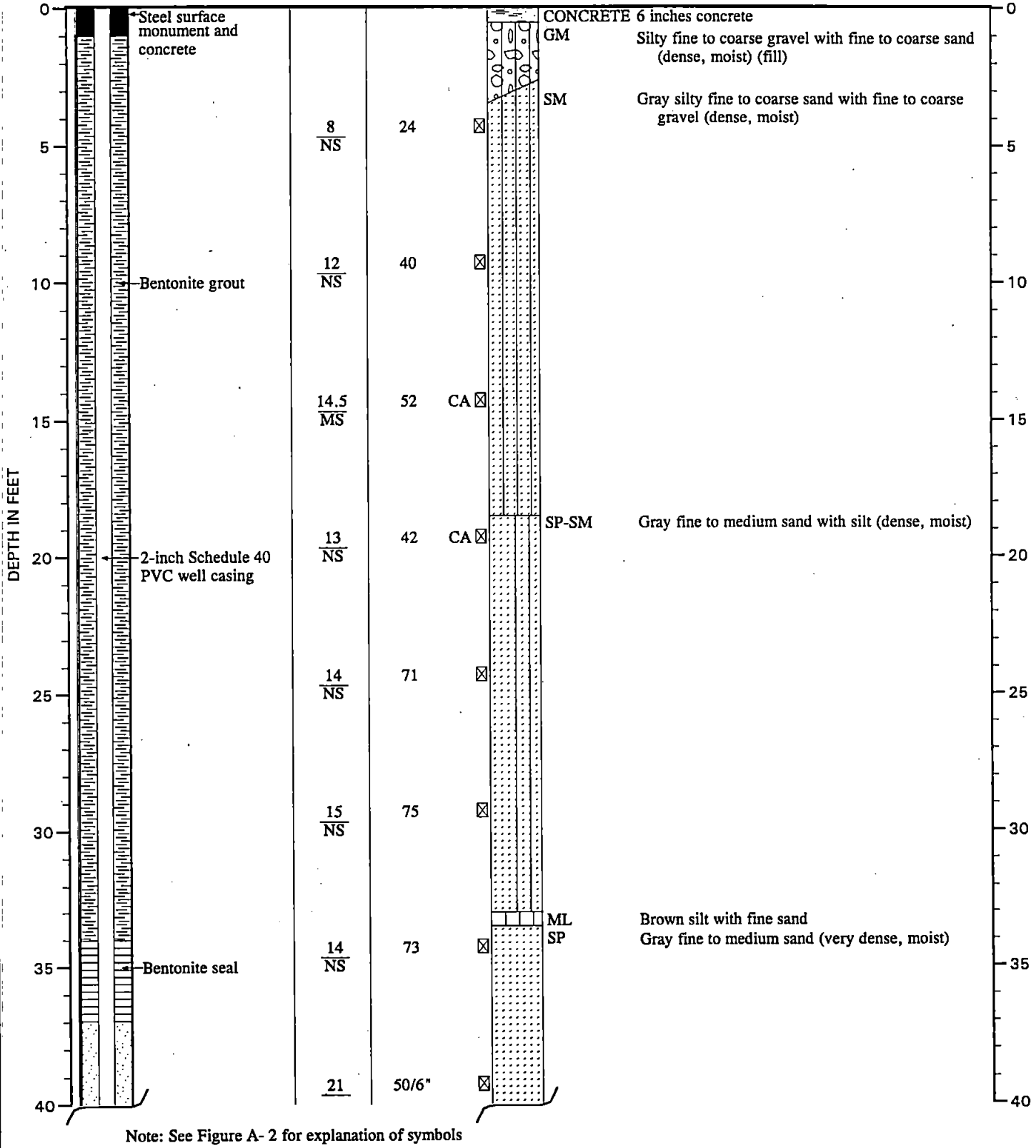
FIGURE A-5

MONITORING WELL MW-4

WELL SCHEMATIC

Casing Elevation (ft.): 100.32
Casing Stickup (ft.): -0.04

Vapor Conc.(ppm) / Sheen	Blow Count	Samples	Group Symbol	DESCRIPTION (Surface Elevation (ft.): 100.36)
			CONCRETE	6 inches concrete
			GM	Silty fine to coarse gravel with fine to coarse sand (dense, moist) (fill)
			SM	Gray silty fine to coarse sand with fine to coarse gravel (dense, moist)
8 / NS	24			
12 / NS	40			
14.5 / MS	52	CA		
13 / NS	42	CA	SP-SM	Gray fine to medium sand with silt (dense, moist)
14 / NS	71			
15 / NS	75			
			ML	Brown silt with fine sand
14 / NS	73		SP	Gray fine to medium sand (very dense, moist)
21	50/6"			



Note: See Figure A- 2 for explanation of symbols

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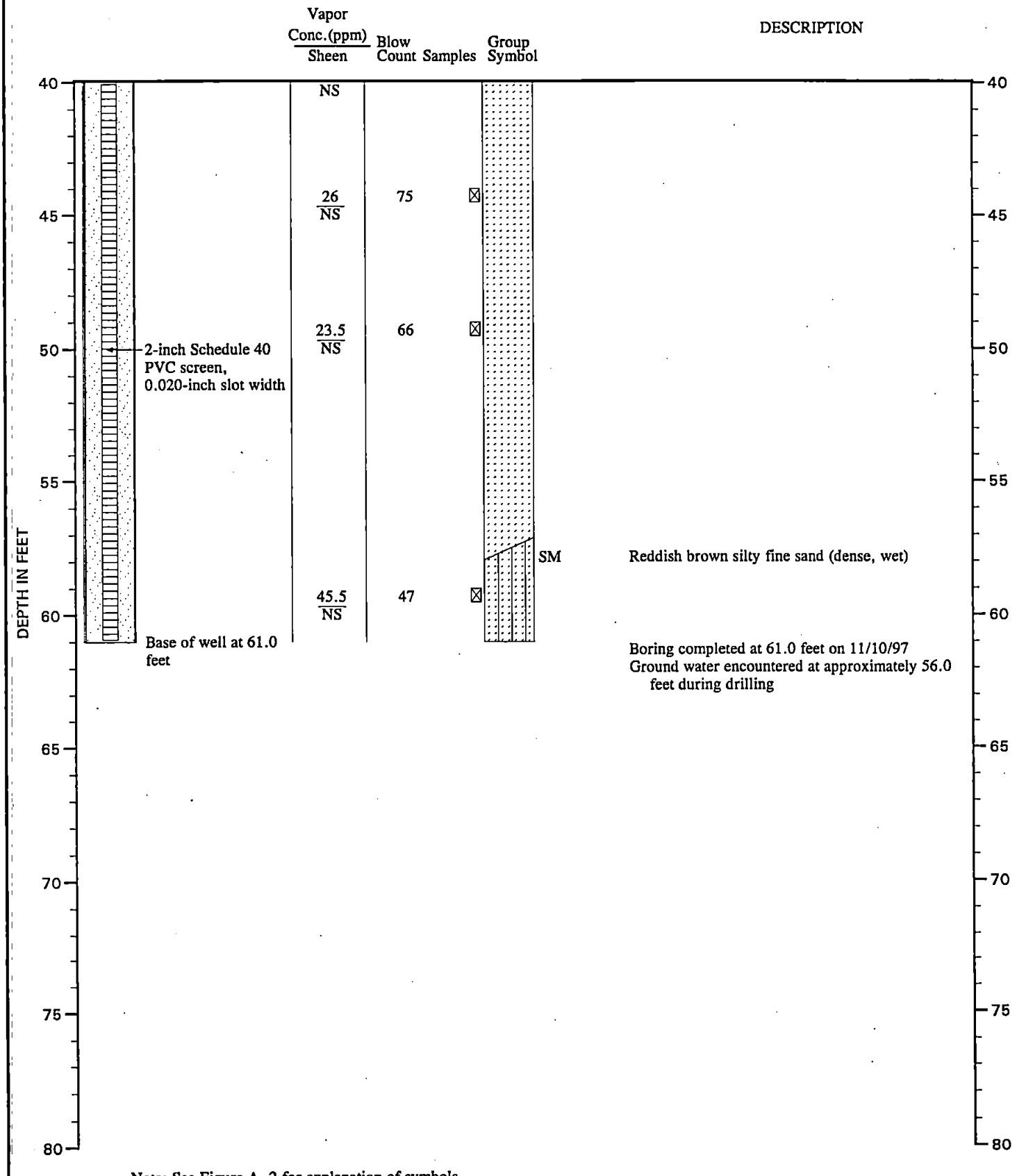
LOG OF MONITORING WELL

FIGURE A-6

MONITORING WELL MW-4
(Continued)



Note: See Figure A- 2 for explanation of symbols

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LOG OF MONITORING WELL

FIGURE A-6

TEST DATA

BORING B-5

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION (Surface Elevation (ft.):)
					GP-GM	Brown fine to coarse gravel with silt and fine to coarse sand (dense, moist) (fill?)
NS	8		56			
					SP-SM	Brown fine to medium sand with silt and coarse gravel (dense, moist)
NS	22		37			
					SP	Grayish brown fine to medium sand with a trace of silt (dense, moist)
NS	31	CA	46			
NS	17		51			
					SP	Brown fine to medium sand (dense, moist)
NS	18		50			
SS	22	CA	66			
					SP-SM	Brown fine to medium sand with a trace of silt (dense, moist)
SS	8	CA	49			
SS	23	CA	75			

DEPTH IN FEET: 0, 5, 10, 15, 20, 25, 30, 35, 40

Note: See Figure A-2 for explanation of symbols

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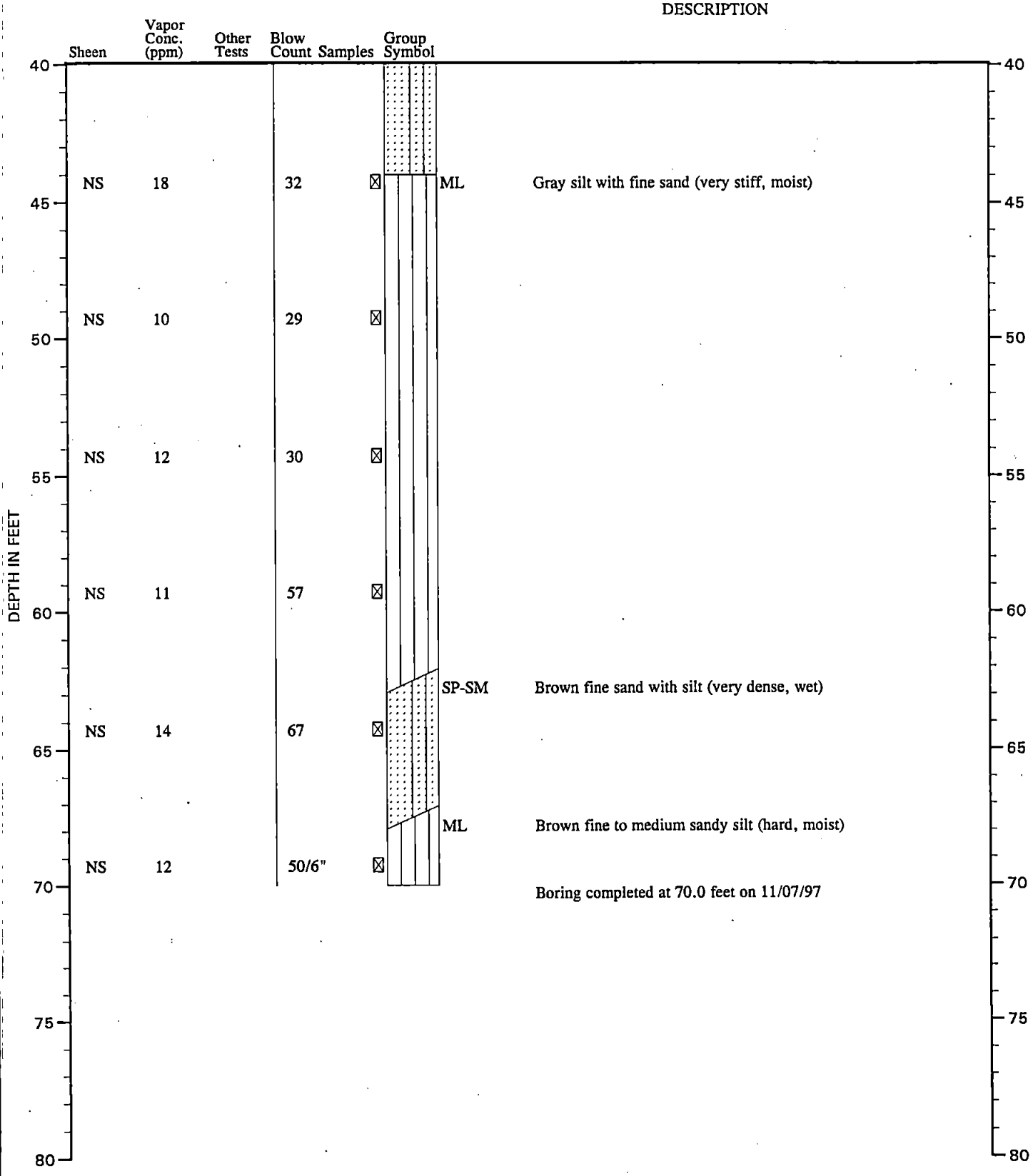
LOG OF BORING

FIGURE A-7

TEST DATA

BORING B-5 (Continued)



Note: See Figure A-2 for explanation of symbols

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LOG OF BORING

FIGURE A-7

TEST DATA

BORING GP-1

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION
						Surface Elevation (ft.):
					SP-SM	Brown fine sand with silt (medium dense, moist)
SS	16					
MS	650	CA				
MS	--					

Boring completed at approximately 6.5 feet on 11/06/97
No ground water encountered

DEPTH IN FEET

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Note: See Figure A-2 for explanation of symbols

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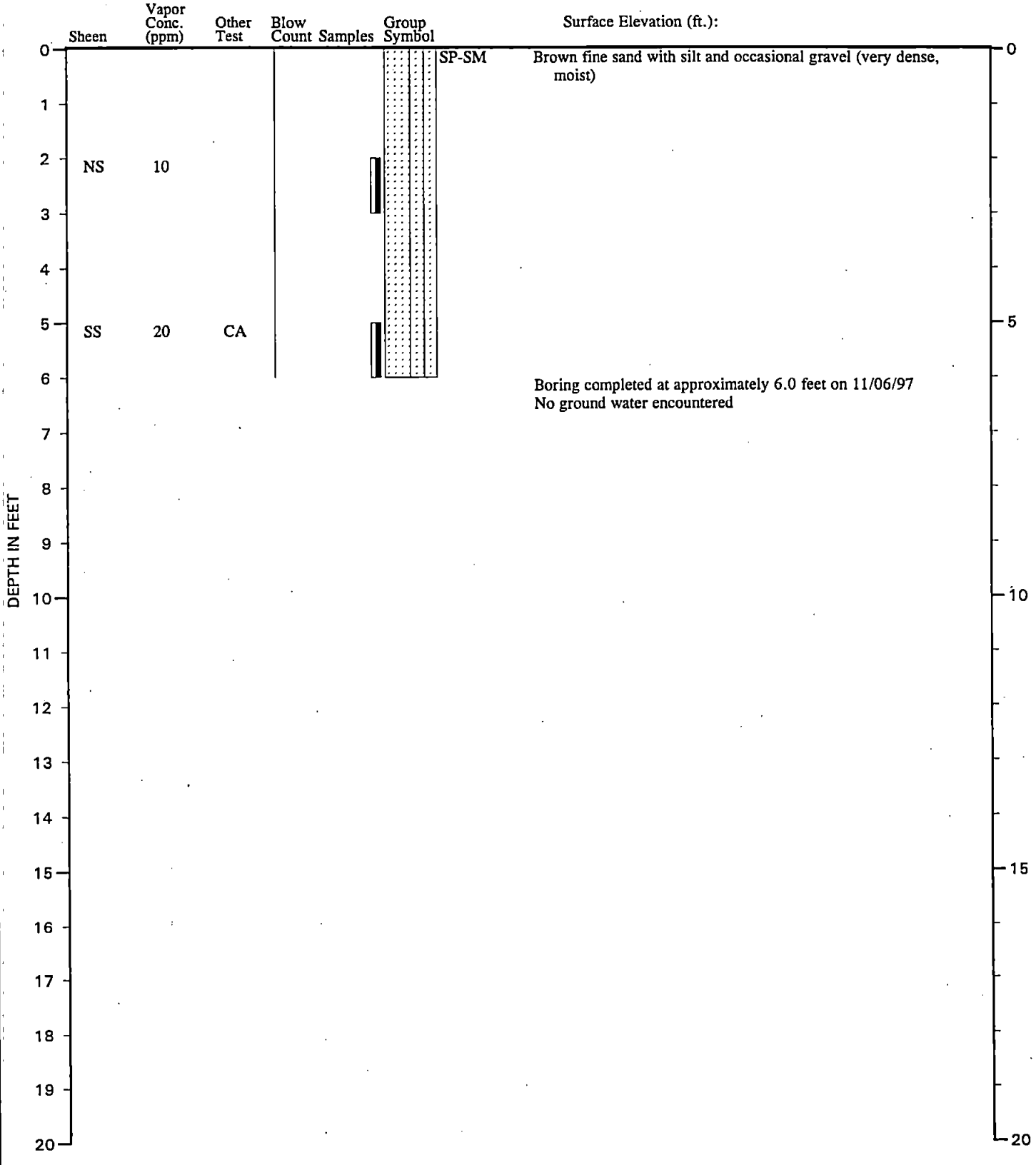
LOG OF BORING

FIGURE A-8

TEST DATA

BORING GP-2



Note: See Figure A-2 for explanation of symbols

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LOG OF BORING

FIGURE A-9

TEST DATA

BORING GP-3

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION
						Surface Elevation (ft.):
						CONCRETE 12 inches concrete
					SP-SM	Brown fine sand with gravel (medium dense, moist)
SS	35					
SS	200	CA				
						Boring completed at 7.0 feet on 11/06/97

DEPTH IN FEET

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Note: See Figure A-2 for explanation of symbols

:PDR:DJB:CMS 12/5/97

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LOG OF BORING

FIGURE A-10

TEST DATA

BORING GP-4

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION Surface Elevation (ft.):
						CONCRETE 4 inches concrete
					SP	Brown fine to medium sand (medium dense, moist)
SS	35					
MS	83	CA			SP-SM	Brown fine sand with silt and a trace of gravel (dense, moist)
SS	48					
SS	45	CA				
						Boring completed at 7.5 feet on 11/06/97

DEPTH IN FEET

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0 5 10 15 20

Note: See Figure A-2 for explanation of symbols

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LOG OF BORING

FIGURE A-11

TEST DATA

BORING GP-5

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION
						Surface Elevation (ft.):
					SP-SM	Brown fine sand with silt and gravel (very dense, moist)
SS	41	CA				
SS	32	CA				
SS	28	CA				
SS	15					
SS	8					
SS	10					

DEPTH IN FEET

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0 5 10 15 20

Boring completed at 18.0 feet on 11/06/97

Note: See Figure A-2 for explanation of symbols

:PDR:DJB:CMS 12/5/97

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LOG OF BORING

FIGURE A-12

BORING GP-6

Depth (ft.)	Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION (Surface Elevation (ft.):)
0						SP	Brown fine sand and occasional gravel (medium dense, moist)
1	SS	8					
4	SS	<10				SM	Brown silt and a trace of fine sand (medium dense, moist)
8	SS	<10	CA				
11	SS	<10					
12							Boring completed at 12.0 feet on 11/06/97

DEPTH IN FEET

Note: See Figure A-2 for explanation of symbols

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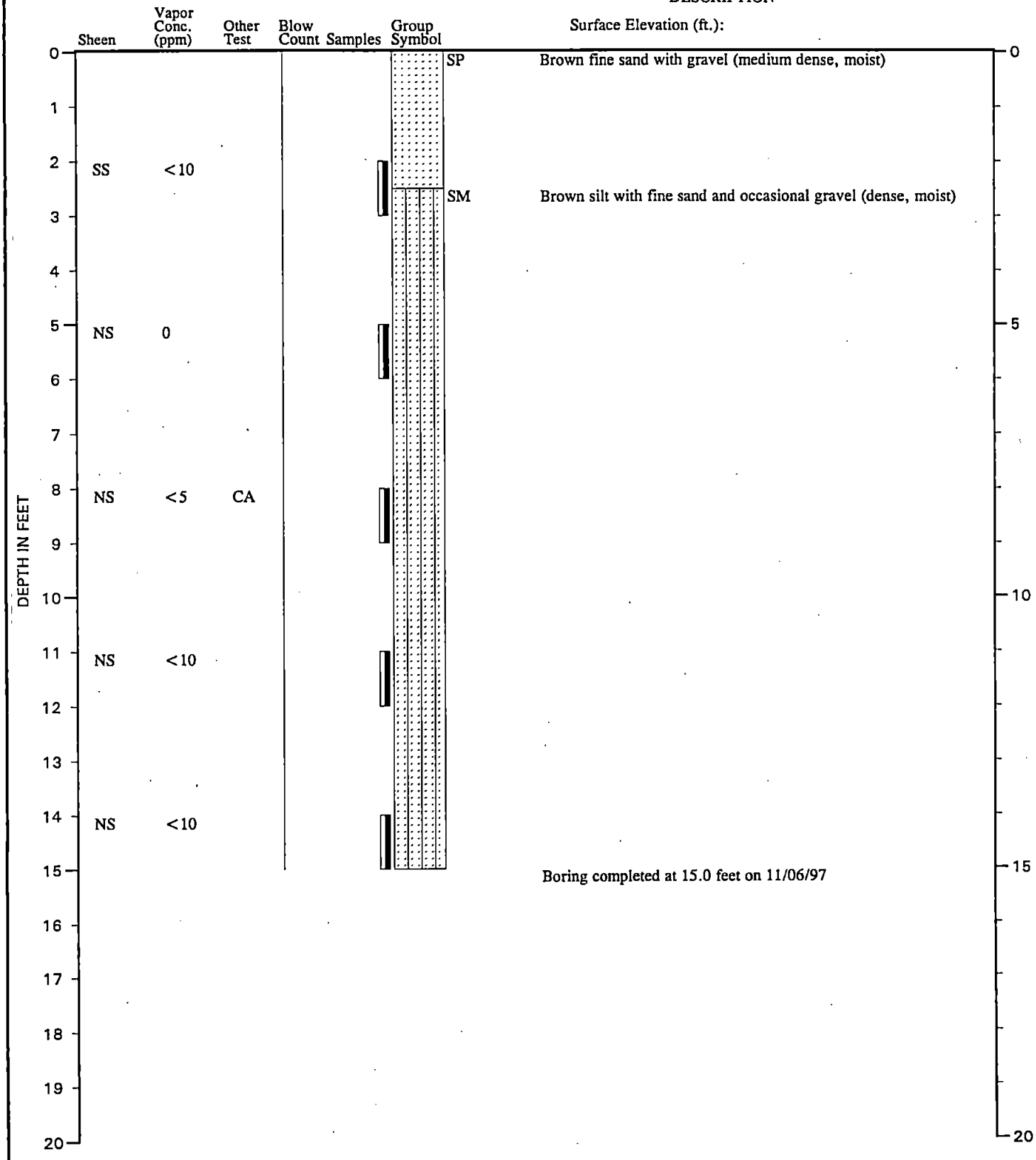
LOG OF BORING

FIGURE A-13

TEST DATA

BORING GP-7



Note: See Figure A-2 for explanation of symbols

:PDR:DJB:CMS 12/5/97

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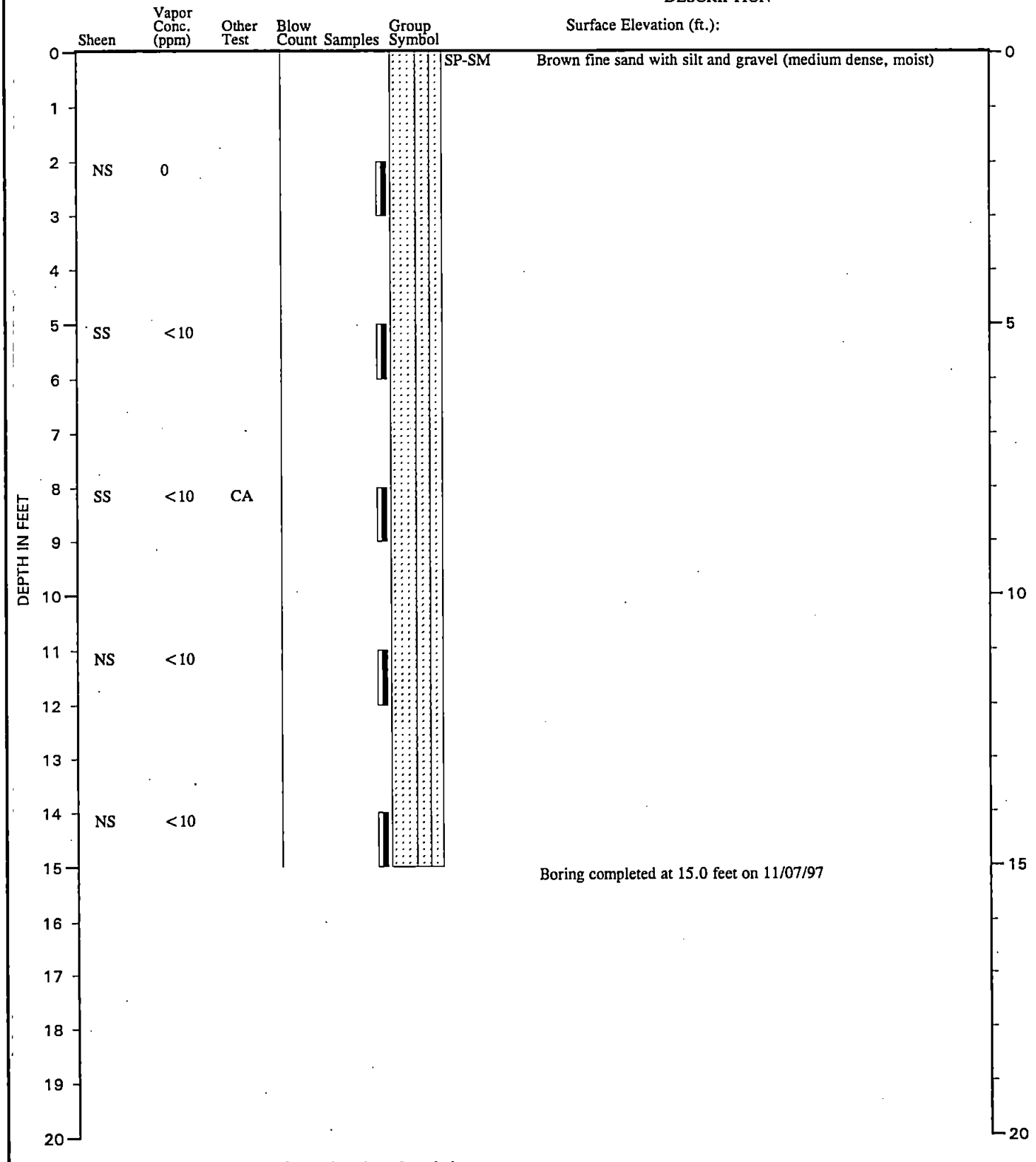
LOG OF BORING

FIGURE A-14

TEST DATA

BORING GP-8



Note: See Figure A-2 for explanation of symbols

:PDR:DJB:CMS 12/5/97

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LOG OF BORING

FIGURE A-15

TEST DATA

BORING GP-9

Sheen	Vapor Conc. (ppm)	Other Test	Blow Count	Samples	Group Symbol	DESCRIPTION
						Surface Elevation (ft.):
					SP	Brown fine to coarse sand with gravel (medium dense, moist)
SS	<10	CA				
SS	<10					
SS	<10					
						Boring completed at 9.0 feet on 11/07/97

DEPTH IN FEET

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0 5 10 15 20

Note: See Figure A-2 for explanation of symbols

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LOG OF BORING

FIGURE A-16

APPENDIX B

APPENDIX B

CHEMICAL ANALYTICAL PROGRAM

ANALYTICAL METHODS

Chain-of-custody procedures were followed during the transfer of field samples to the on-site mobile analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference and laboratory QA/QC (quality assurance/quality control) records are included in this appendix. The analytical results are also summarized in the text of this report.

ANALYTICAL DATA REVIEW

The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the validity of the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. The data quality exceptions documented by the laboratory in the laboratory reports were reviewed by GeoEngineers using the applicable data validation guidelines from the following documents: "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" dated 1988 (EPA document number EPA540/R94/083); "USEPA Contract Laboratory Program National Function Guidelines for Organic Data Review" dated February 1994 (EPA document number EPA540/R94/012).

ANALYTICAL DATA REVIEW SUMMARY

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

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

BOTHELL ▪ (425) 481-9200 ▪ FAX 485-2992
SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 643-9200 ▪ FAX 644-2202

Geo Engineers - Seattle	Project: Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number: 5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager: Dave Cook	Reported: 12/8/97 15:29

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
S-1	B711179-01	Soil	11/7/97
S-2	B711179-02	Soil	11/7/97
S-3	B711179-03	Soil	11/7/97
S-4	B711179-04	Soil	11/7/97
S-5	B711179-05	Soil	11/7/97
GP-1-5	B711179-06	Soil	11/6/97
GP-2-6	B711179-07	Soil	11/6/97
GP-3-7	B711179-08	Soil	11/6/97
GP-4-4	B711179-09	Soil	11/6/97
GP-4-6	B711179-10	Soil	11/6/97
OMW-2	B711179-11	Water	11/7/97
MW-1	B711179-12	Water	11/7/97
GP-5-8	B711179-13	Soil	11/6/97
GP-6-9	B711179-14	Soil	11/6/97
GP-7-9	B711179-15	Soil	11/6/97
GP-8-9	B711179-16	Soil	11/7/97
GP-9-3	B711179-17	Soil	11/7/97

Joy B Chang, Project Manager

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

BOTHELL ▪ (425) 481-9200 ▪ FAX 485-2992
SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 643-9200 ▪ FAX 644-2202

Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
S-1			**B711179-01**				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*127*	*%*	
S-2			**B711179-02**				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*118*	*%*	
S-3			**B711179-03**				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
S-3 (continued)			B711179-03				Soil	
Mineral Spirits	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	DET	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*112*	*%*	
S-4			B711179-04				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*122*	*%*	
S-5			B711179-05				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
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Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
S-5 (continued)			B711179-05				Soil	
VM&P Naphtha	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*102*	%	
GP-1-5			B711179-06				Soil	
Gasoline	1170308	11/13/97	11/12/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*116*	%	
GP-2-6			B711179-07				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	

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Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-2-6 (continued)			**B711179-07**				Soil	
Diesel #2	1170308	11/13/97	11/13/97		50.0	ND	mg/kg dry	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*103*	%	
GP-3-7			**B711179-08**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*93.7*	%	
GP-4-4			**B711179-09**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-4-4 (continued)			**B711179-09**				Soil	
Diesel Range Hydrocarbons	1170308	11/13/97	11/13/97		50.0	ND	mg/kg dry	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*101*	%	
GP-4-6			**B711179-10**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*109*	%	
GP-5-8			**B711179-13**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	

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600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-5-8 (continued)			**B711179-13**				Soil	
Transformer Oil	1170308	11/13/97	11/13/97		100	ND	mg/kg dry	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*101*	%	
GP-7-9			**B711179-15**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*99.8*	%	
GP-8-9			**B711179-16**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-8-9 (continued)			**B711179-16**				Soil	
Hydraulic Oil	1170308	11/13/97	11/13/97		100	ND	mg/kg dry	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*95.5*	*%*	
GP-9-3			**B711179-17**				Soil	
Gasoline	1170308	11/13/97	11/13/97		20.0	ND	mg/kg dry	
Aviation Gasoline	"	"	"		20.0	ND	"	
Mineral Spirits	"	"	"		20.0	ND	"	
Weathered Gasoline	"	"	"		20.0	ND	"	
VM&P Naphtha	"	"	"		20.0	ND	"	
Gasoline Range Hydrocarbons	"	"	"		20.0	ND	"	
Diesel #2	"	"	"		50.0	ND	"	
Kerosene Range Hydrocarbons	"	"	"		50.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		100	ND	"	
Transformer Oil	"	"	"		100	ND	"	
Motor Oil	"	"	"		100	ND	"	
Hydraulic Oil	"	"	"		100	ND	"	
Fuel Oil #2	"	"	"		100	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*119*	*%*	

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Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by NWTPH-Dx with Silica Gel Clean-up
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
S-3			B711179-03				Soil	
Diesel #2	1170496	11/19/97	11/24/97		10.0	ND	mg/kg dry	
Kerosene Range Hydrocarbons	"	"	"		10.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		10.0	**32.2**	"	
Fuel Oil #6 (Bunker C)	"	"	"		25.0	ND	"	
Transformer Oil	"	"	"		25.0	ND	"	
Motor Oil	"	"	"		25.0	ND	"	
Hydraulic Oil	"	"	"		25.0	ND	"	
Fuel Oil #2	"	"	"		25.0	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**63.8**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*86.9*	*%*	
GP-6-9			B711179-14				Soil	
Diesel #2	1170282	11/12/97	11/13/97		10.0	ND	mg/kg dry	
Kerosene Range Hydrocarbons	"	"	"		10.0	ND	"	
Diesel Range Hydrocarbons	"	"	"		10.0	ND	"	
Fuel Oil #6 (Bunker C)	"	"	"		25.0	ND	"	
Transformer Oil	"	"	"		25.0	ND	"	
Motor Oil	"	"	"		25.0	ND	"	
Hydraulic Oil	"	"	"		25.0	ND	"	
Fuel Oil #2	"	"	"		25.0	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*105*	*%*	

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Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
GP-5-8			**B711179-13**				**Soil**	
Arsenic	1170622	11/24/97	11/25/97	EPA 6010A	10.0	ND	mg/kg dry	
Barium	1270057	12/2/97	12/2/97	EPA 6010A	2.00	**31.2**	"	
Cadmium	1170622	11/24/97	11/25/97	EPA 6010A	0.300	ND	"	
Chromium	"	"	"	EPA 6010A	0.500	**15.4**	"	
Lead	"	"	"	EPA 6010A	10.0	ND	"	
Selenium	1270057	12/2/97	12/4/97	EPA 6010A	0.125	ND	"	
Mercury	1170625	11/24/97	11/24/97	EPA 7471A	0.0500	ND	"	
Silver	1170622	"	"	EPA 7760A	1.00	**12.1**	"	
GP-6-9			**B711179-14**				**Soil**	
Arsenic	1170622	11/24/97	11/25/97	EPA 6010A	10.0	ND	mg/kg dry	
Barium	1270057	12/2/97	12/2/97	EPA 6010A	2.00	**33.5**	"	
Cadmium	1170622	11/24/97	11/25/97	EPA 6010A	0.300	**0.488**	"	
Chromium	"	"	"	EPA 6010A	0.500	**13.3**	"	
Lead	"	"	"	EPA 6010A	10.0	ND	"	
Selenium	1270057	12/2/97	12/4/97	EPA 6010A	0.125	ND	"	
Mercury	1170625	11/24/97	11/24/97	EPA 7471A	0.0500	ND	"	
Silver	1170622	"	"	EPA 7760A	1.00	**15.5**	"	

NORTH CREEK ANALYTICAL
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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-1-5			B711179-06				Soil	
Bromodichloromethane	1170309	11/12/97	11/13/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*103*	*%*	
GP-2-6			B711179-07				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-2-6 (continued)			**B711179-07**				**Soil**	
Chloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*101*	*%*	
GP-3-7			**B711179-08**				**Soil**	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-3-7 (continued)			**B711179-08**				**Soil**	
1,1-Dichloroethene	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*109*	*%*	
GP-4-4			**B711179-09**				**Soil**	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-4-4 (continued)			**B711179-09**				Soil	
1,1,2,2-Tetrachloroethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*98.1*	%	
GP-4-6			**B711179-10**				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	

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600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-4-6 (continued)			B711179-10				Soil	
Surrogate: 4-BFB (ELCD)	*1170309*	*11/12/97*	*11/12/97*	*50.0-150*		*101*	%	
QMW-2			B711179-11				Water	
Bromodichloromethane	1170506	11/19/97	11/19/97		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	**2.94**	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	11/20/97		50.0	**1020**	"	
1,1,1-Trichloroethane	"	"	11/19/97		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	**7.02**	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*77.7*	%	
MW-1			B711179-12				Water	
Bromodichloromethane	1170506	11/19/97	11/19/97		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	

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Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1 (continued)			**B711179-12**				**Water**	
Chlorobenzene	1170506	11/19/97	11/19/97		1.00	ND	ug/l	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	**7.66**	"	1
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*79.8*	%	
GP-5-8			**B711179-13**				**Soil**	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-5-8 (continued)			**B711179-13**				Soil	
1,4-Dichlorobenzene	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*100*	*%*	
GP-6-9			**B711179-14**				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GP-6-9 (continued)			B711179-14				Soil	
cis-1,3-Dichloropropene	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*105*	*%*	

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Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
S-1	B711179-01	Soil	81.6	%
S-2	B711179-02	Soil	87.1	%
S-3	B711179-03	Soil	87.4	%
S-4	B711179-04	Soil	84.0	%
S-5	B711179-05	Soil	93.0	%
GP-1-5	B711179-06	Soil	93.8	%
GP-2-6	B711179-07	Soil	95.1	%
GP-3-7	B711179-08	Soil	93.6	%
GP-4-4	B711179-09	Soil	92.7	%
GP-4-6	B711179-10	Soil	94.9	%
GP-5-8	B711179-13	Soil	90.4	%
GP-6-9	B711179-14	Soil	92.8	%
GP-7-9	B711179-15	Soil	86.6	%
GP-8-9	B711179-16	Soil	94.1	%
GP-9-3	B711179-17	Soil	88.0	%

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170308	**Date Prepared: 11/13/97**					**Extraction Method: HCID (WA)**				
Blank	**1170308-BLK1**									
Gasoline	11/12/97			ND	mg/kg dry	20.0				
Aviation Gasoline	"			ND	"	20.0				
Mineral Spirits	"			ND	"	20.0				
Weathered Gasoline	"			ND	"	20.0				
VM&P Naphtha	"			ND	"	20.0				
Gasoline Range Hydrocarbons	"			ND	"	20.0				
Diesel #2	"			ND	"	50.0				
Kerosene Range Hydrocarbons	"			ND	"	50.0				
Diesel Range Hydrocarbons	"			ND	"	50.0				
Fuel Oil #6 (Bunker C)	"			ND	"	100				
Transformer Oil	"			ND	"	100				
Motor Oil	"			ND	"	100				
Hydraulic Oil	"			ND	"	100				
Fuel Oil #2	"			ND	"	100				
Heavy Oil Range Hydrocarbons	"			ND	"	100				
Surrogate: 2-FBP	"	*DET*		*DET*	"	*50.0-150*	*113*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by NWTPH-Dx with Silica Gel Clean-up/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170282	**Date Prepared: 11/12/97**					**Extraction Method: EPA 3550**				
Blank	**1170282-BLK1**									
Diesel #2	11/13/97			ND	mg/kg dry	10.0				
Kerosene Range Hydrocarbons	"			ND	"	10.0				
Diesel Range Hydrocarbons	"			ND	"	10.0				
Fuel Oil #6 (Bunker C)	"			ND	"	25.0				
Transformer Oil	"			ND	"	25.0				
Motor Oil	"			ND	"	25.0				
Hydraulic Oil	"			ND	"	25.0				
Fuel Oil #2	"			ND	"	25.0				
Heavy Oil Range Hydrocarbons	"			ND	"	25.0				
Surrogate: 2-FBP	"	*11.9*		*12.8*	"	*50.0-150*	*108*			
LCS	**1170282-BS1**									
Diesel #2	11/13/97	66.7		68.8	mg/kg dry	50.0-150	103			
Surrogate: 2-FBP	"	*11.9*		*12.8*	"	*50.0-150*	*108*			
Duplicate	**1170282-DUP1**	**B711203-06**								
Diesel #2	11/13/97		ND	ND	mg/kg dry			50.0		
Kerosene Range Hydrocarbons	"		ND	ND	"			50.0		
Diesel Range Hydrocarbons	"		ND	ND	"			50.0		
Fuel Oil #6 (Bunker C)	"		ND	ND	"			50.0		
Transformer Oil	"		379	360	"			50.0	**5.14**	
Motor Oil	"		ND	ND	"			50.0		
Hydraulic Oil	"		ND	ND	"			50.0		
Fuel Oil #2	"		ND	ND	"			50.0		
Heavy Oil Range Hydrocarbons	"		ND	ND	"			50.0		
Surrogate: 2-FBP	"	*15.7*		*15.4*	"	*50.0-150*	*98.1*			
Batch: 1170496	**Date Prepared: 11/19/97**					**Extraction Method: EPA 3550**				
Blank	**1170496-BLK1**									
Diesel #2	11/24/97			ND	mg/kg dry	10.0				
Kerosene Range Hydrocarbons	"			ND	"	10.0				
Diesel Range Hydrocarbons	"			ND	"	10.0				
Fuel Oil #6 (Bunker C)	"			ND	"	25.0				
Transformer Oil	"			ND	"	25.0				
Motor Oil	"			ND	"	25.0				
Hydraulic Oil	"			ND	"	25.0				
Fuel Oil #2	"			ND	"	25.0				

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by NWTPH-Dx with Silica Gel Clean-up/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**1170496-BLK1**									
Heavy Oil Range Hydrocarbons	11/24/97			ND	mg/kg dry	25.0				
Surrogate: 2-FBP	"	*11.9*		*10.2*	"	*50.0-150*	*85.7*			
LCS	**1170496-BS1**									
Diesel #2	11/24/97	66.7		53.2	mg/kg dry	50.0-150	79.8			
Surrogate: 2-FBP	"	*11.9*		*10.1*	"	*50.0-150*	*84.9*			
Duplicate	**1170496-DUP1**	**B711179-03**								
Diesel #2	11/24/97		ND	ND	mg/kg dry			50.0		
Kerosene Range Hydrocarbons	"		ND	ND	"			50.0		
Diesel Range Hydrocarbons	"		32.2	46.1	"			50.0	**35.5**	
Fuel Oil #6 (Bunker C)	"		ND	ND	"			50.0		
Transformer Oil	"		ND	ND	"			50.0		
Motor Oil	"		ND	ND	"			50.0		
Hydraulic Oil	"		ND	ND	"			50.0		
Fuel Oil #2	"		ND	ND	"			50.0		
Heavy Oil Range Hydrocarbons	"		63.8	88.8	"			50.0	**32.8**	
Surrogate: 2-FBP	"	*13.7*		*11.4*	"	*50.0-150*	*83.2*			

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600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Total Metals by EPA 6000/7000 Series Methods/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170622	**Date Prepared: 11/24/97**					**Extraction Method: EPA 3050**				
Blank	**1170622-BLK1**									
Arsenic	11/25/97			ND	mg/kg dry	**10.0**				
Cadmium	"			ND	"	**0.300**				
Chromium	"			ND	"	**0.500**				
Lead	"			ND	"	**10.0**				
Silver	11/24/97			ND	"	**1.00**				
LCS	**1170622-BS1**									
Arsenic	11/25/97	50.0		49.5	mg/kg dry	70.0-130	99.0			
Cadmium	"	50.0		43.2	"	70.0-130	86.4			
Chromium	"	50.0		37.0	"	70.0-130	74.0			
Lead	"	50.0		40.5	"	70.0-130	81.0			
Silver	11/24/97	50.0		52.5	"	75.0-125	105			
LCS	**1170622-BS2**									
Arsenic	11/25/97	71.5		79.8	mg/kg dry	70.0-130	112			
Cadmium	"	58.8		51.5	"	70.0-130	87.6			
Chromium	"	90.2		66.2	"	70.0-130	73.4			
Lead	"	143		121	"	70.0-130	84.6			
Silver	11/24/97	73.3		67.2	"	75.0-125	91.7			
Duplicate	**1170622-DUP1**		**B711284-05**							
Arsenic	11/25/97		ND	ND	mg/kg dry			20.0		
Cadmium	"		0.426	0.378	"			20.0	**11.9**	
Chromium	"		2.86	4.33	"			20.0	**40.9**	2
Lead	"		ND	ND	"			20.0		
Silver	11/24/97		ND	ND	"			20.0		
Matrix Spike	**1170622-MS1**		**B711284-05**							
Arsenic	11/25/97	56.9	ND	49.0	mg/kg dry	60.0-140	**86.1**			
Cadmium	"	56.9	0.426	48.1	"	70.0-130	**83.8**			
Chromium	"	56.9	2.86	52.9	"	70.0-130	**87.9**			
Lead	"	56.9	ND	51.7	"	70.0-130	**90.9**			
Silver	11/24/97	56.9	ND	57.7	"	75.0-125	**101**			
Matrix Spike	**1170622-MS2**		**B711284-05**							
Arsenic	11/25/97	118	ND	113	mg/kg dry	60.0-140	**95.8**			
Cadmium	"	118	0.426	104	"	70.0-130	**87.8**			

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Total Metals by EPA 6000/7000 Series Methods/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike (continued)	**1170622-MS2**		**B711284-05**							
Chromium	11/25/97	118	2.86	105	mg/kg dry	70.0-130	86.6			
Lead	"	118	ND	107	"	70.0-130	90.7			
Matrix Spike Dup	**1170622-MSD1**		**B711284-05**							
Arsenic	11/25/97	56.9	ND	51.1	mg/kg dry	60.0-140	89.8	20.0	4.21	
Cadmium	"	56.9	0.426	47.6	"	70.0-130	82.9	20.0	1.08	
Chromium	"	56.9	2.86	51.6	"	70.0-130	85.7	20.0	2.53	
Lead	"	56.9	ND	53.9	"	70.0-130	94.7	20.0	4.09	
Silver	11/24/97	56.9	ND	57.8	"	75.0-125	102	20.0	0.985	
Batch: 1170625	**Date Prepared: 11/24/97**					**Extraction Method: BrCl Digestion**				
Blank	**1170625-BLK1**									
Mercury	11/24/97			ND	mg/kg dry	0.0500				
LCS	**1170625-BS1**									
Mercury	11/24/97	0.250		0.236	mg/kg dry	80.0-120	94.4			
Duplicate	**1170625-DUP1**		**B711284-05**							
Mercury	11/24/97		ND	ND	mg/kg dry			20.0		
Matrix Spike	**1170625-MS1**		**B711284-05**							
Mercury	11/24/97	0.302	ND	0.291	mg/kg dry	80.0-120	96.4			
Matrix Spike Dup	**1170625-MSD1**		**B711284-05**							
Mercury	11/24/97	0.293	ND	0.287	mg/kg dry	80.0-120	98.0	20.0	1.65	
Batch: 1270057	**Date Prepared: 12/2/97**					**Extraction Method: EPA 3050**				
Blank	**1270057-BLK1**									
Barium	12/2/97			ND	mg/kg dry	2.00				
Selenium	12/4/97			ND	"	0.125				
LCS	**1270057-BS1**									
Barium	12/2/97	50.0		39.3	mg/kg dry	70.0-130	78.6			
Selenium	12/4/97	50.0		38.9	"	70.0-130	77.8			
LCS	**1270057-BS2**									
Barium	12/2/97	91.1		68.3	mg/kg dry	70.0-130	75.0			
Selenium	12/4/97	67.5		55.3	"	70.0-130	81.9			

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Total Metals by EPA 6000/7000 Series Methods/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Duplicate	1270057-DUP1		B711284-05							
Barium	12/2/97		77.6	85.4	mg/kg dry			20.0	9.57	
Selenium	12/4/97		ND	ND	"			20.0		
Matrix Spike	1270057-MS1		B711284-05							
Barium	12/2/97	56.9	77.6	117	mg/kg dry	70.0-130	69.2			3
Selenium	12/4/97	56.9	ND	42.7	"	60.0-140	75.0			
Matrix Spike	1270057-MS2		B711284-05							
Barium	12/2/97	114	77.6	180	mg/kg dry	70.0-130	89.8			
Matrix Spike Dup	1270057-MSD1		B711284-05							
Barium	12/2/97	59.8	77.6	110	mg/kg dry	70.0-130	54.2	20.0	24.3	3
Selenium	12/4/97	59.8	ND	46.2	"	60.0-140	77.3	20.0	3.02	

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600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170309	**Date Prepared: 11/12/97**					**Extraction Method: EPA 5030 [MeOH]**				
Blank	**1170309-BLK1**									
Bromodichloromethane	11/12/97			ND	mg/kg dry	0.0500				
Bromoform	"			ND	"	0.0500				
Bromomethane	"			ND	"	0.0500				
Carbon tetrachloride	"			ND	"	0.0500				
Chlorobenzene	"			ND	"	0.0500				
Chloroethane	"			ND	"	0.0500				
Chloroform	"			ND	"	0.0500				
Chloromethane	"			ND	"	0.0500				
Dibromochloromethane	"			ND	"	0.0500				
1,2-Dichlorobenzene	"			ND	"	0.0500				
1,3-Dichlorobenzene	"			ND	"	0.0500				
1,4-Dichlorobenzene	"			ND	"	0.0500				
1,1-Dichloroethane	"			ND	"	0.0500				
1,2-Dichloroethane	"			ND	"	0.0500				
1,1-Dichloroethene	"			ND	"	0.0500				
cis-1,2-Dichloroethene	"			ND	"	0.0500				
trans-1,2-Dichloroethene	"			ND	"	0.0500				
1,2-Dichloropropane	"			ND	"	0.0500				
cis-1,3-Dichloropropene	"			ND	"	0.0500				
trans-1,3-Dichloropropene	"			ND	"	0.0500				
Methylene chloride	"			ND	"	0.500				
1,1,2,2-Tetrachloroethane	"			ND	"	0.0500				
Tetrachloroethene	"			ND	"	0.0500				
1,1,1-Trichloroethane	"			ND	"	0.0500				
1,1,2-Trichloroethane	"			ND	"	0.0500				
Trichloroethene	"			ND	"	0.0500				
Trichlorofluoromethane	"			ND	"	0.0500				
Vinyl chloride	"			ND	"	0.0500				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*2.03*	"	*50.0-150*	*101*			
LCS	**1170309-BS1**									
Chlorobenzene	11/12/97	1.00		0.898	mg/kg dry	60.0-140	89.8			
1,1-Dichloroethene	"	1.00		0.870	"	60.0-140	87.0			
Trichloroethene	"	1.00		1.01	"	60.0-140	101			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.86*	"	*50.0-150*	*93.0*			

North Creek Analytical, Inc.

**Refer to end of report for text of notes and definitions*

Joy B Chang, Project Manager

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NORTH CREEK ANALYTICAL
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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 643-9200 ▪ FAX 644-2202

Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	1170309-MS1		B711179-06							
Chlorobenzene	11/12/97	1.07	ND	0.890	mg/kg dry	60.0-140	83.2			
1,1-Dichloroethene	"	1.07	ND	0.864	"	60.0-140	80.7			
Trichloroethene	"	1.07	ND	0.952	"	60.0-140	89.0			
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.86*	"	*50.0-150*	*87.3*			
Matrix Spike Dup	1170309-MSD1		B711179-06							
Chlorobenzene	11/12/97	1.07	ND	0.909	mg/kg dry	60.0-140	85.0	30.0	2.14	
1,1-Dichloroethene	"	1.07	ND	0.861	"	60.0-140	80.5	30.0	0.248	
Trichloroethene	"	1.07	ND	1.01	"	60.0-140	94.4	30.0	5.89	
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.81*	"	*50.0-150*	*85.0*			
Batch: 1170506	Date Prepared: 11/19/97					Extraction Method: EPA 5030 [P/T]				
Blank	1170506-BLK1									
Bromodichloromethane	11/19/97			ND	ug/l	1.00				
Bromoform	"			ND	"	1.00				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	1.00				
Chlorobenzene	"			ND	"	1.00				
Chloroethane	"			ND	"	1.00				
Chloroform	"			ND	"	1.00				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	1.00				
1,2-Dichlorobenzene	"			ND	"	1.00				
1,3-Dichlorobenzene	"			ND	"	1.00				
1,4-Dichlorobenzene	"			ND	"	1.00				
1,1-Dichloroethane	"			ND	"	1.00				
1,2-Dichloroethane	"			ND	"	1.00				
1,1-Dichloroethene	"			ND	"	1.00				
cis-1,2-Dichloroethene	"			ND	"	1.00				
trans-1,2-Dichloroethene	"			ND	"	1.00				
1,2-Dichloropropane	"			ND	"	1.00				
cis-1,3-Dichloropropene	"			ND	"	1.00				
trans-1,3-Dichloropropene	"			ND	"	1.00				
Methylene chloride	"			5.62	"	5.00				1
1,1,2,2-Tetrachloroethane	"			ND	"	1.00				
Tetrachloroethene	"			ND	"	1.00				
1,1,1-Trichloroethane	"			ND	"	1.00				
1,1,2-Trichloroethane	"			ND	"	1.00				

North Creek Analytical, Inc.

**Refer to end of report for text of notes and definitions.*

Joy B Chang, Project Manager

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	1170506-BLK1									
Trichloroethene	11/19/97			ND	ug/l	1.00				
Trichlorofluoromethane	"			ND	"	1.00				
Vinyl chloride	"			ND	"	1.00				
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.65*	"	*50.0-150*	*91.3*			
LCS	1170506-BS1									
Chlorobenzene	11/19/97	5.00		4.43	ug/l	70.0-130	88.6			
1,1-Dichloroethene	"	5.00		4.88	"	70.0-130	97.6			
Trichloroethene	"	5.00		5.60	"	70.0-130	112			
Surrogate: 4-BFB (ELCD)	"	*4.00*		*4.14*	"	*50.0-150*	*103*			
Matrix Spike	1170506-MS1		B711131-01							
Chlorobenzene	11/19/97	10.0	ND	9.23	ug/l	70.0-130	**92.3**			
1,1-Dichloroethene	"	10.0	ND	9.44	"	70.0-130	**94.4**			
Trichloroethene	"	10.0	ND	10.1	"	70.0-130	**101**			
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.40*	"	*50.0-150*	*85.0*			
Matrix Spike Dup	1170506-MSD1		B711131-01							
Chlorobenzene	11/19/97	10.0	ND	9.08	ug/l	70.0-130	**90.8**	20.0	**1.64**	
1,1-Dichloroethene	"	10.0	ND	9.20	"	70.0-130	**92.0**	20.0	**2.58**	
Trichloroethene	"	10.0	ND	9.98	"	70.0-130	**99.8**	20.0	**1.20**	
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.35*	"	*50.0-150*	*83.7*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97 to 11/7/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 12/8/97 15:29

Notes and Definitions

#	Note
1	Methylene chloride is a suspected laboratory contaminant. Please refer to the Method Blank.
2	The RPD value for this QC sample is above the established control limit. Review of associated QC indicates the high RPD does not represent an out-of-control condition for the batch.
3	Multiple analyses indicate the percent recovery is outside the control limits due to a matrix effect.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

Joy B Chang, Project Manager

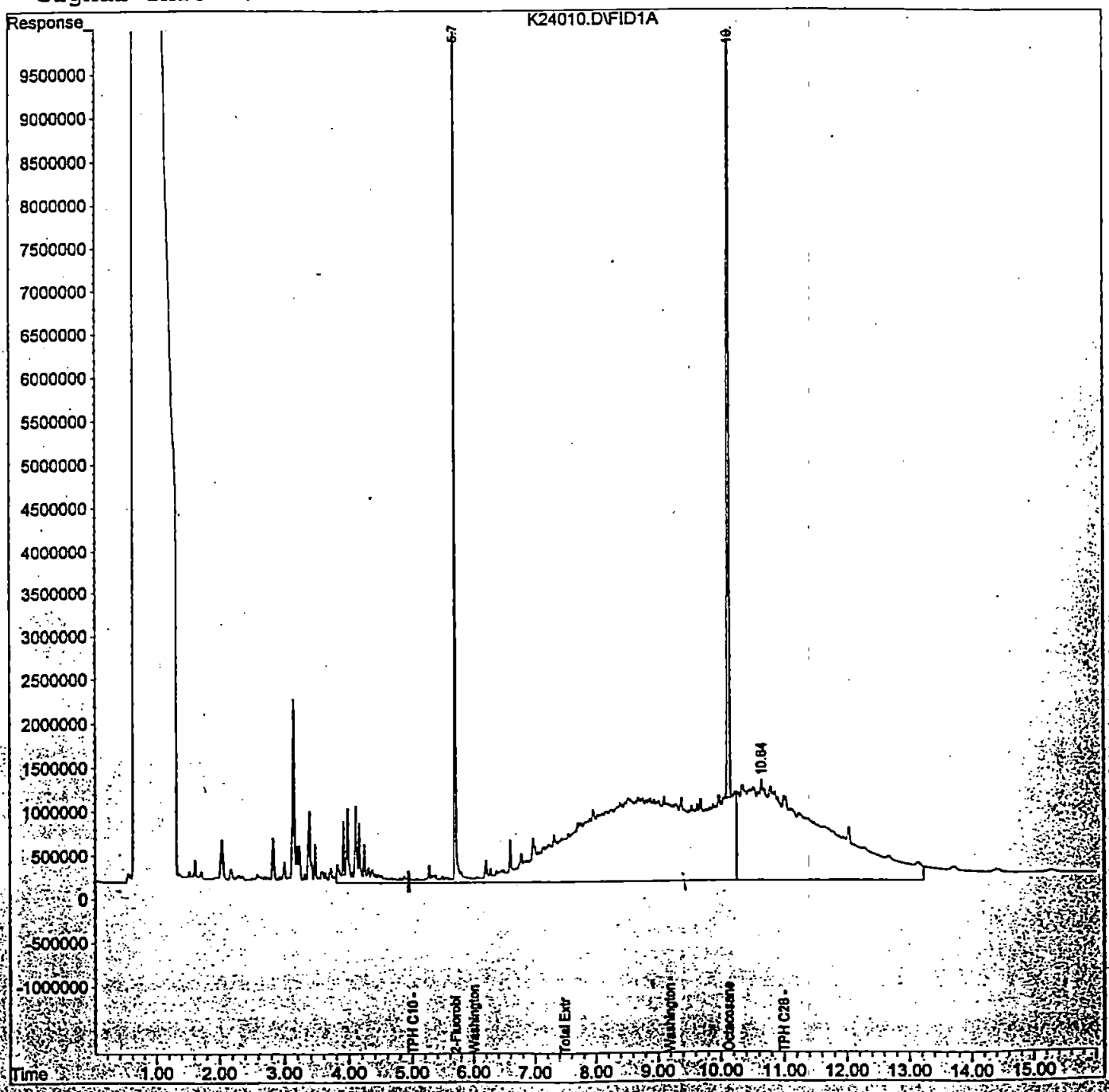
Quantitation Report

Data File : C:\HPCHEM\4\DATA\K24010.D
Acq On : 24-11-1997 10:38:32
Sample : b711179-03
Misc :
IntFile : SURR.E
Quant Time: Nov 24 10:55 1997 Quant Results File: TPHD.RES

Vial: 5
Operator:
Inst : GC #7
Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Fri Nov 07 07:43:08 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



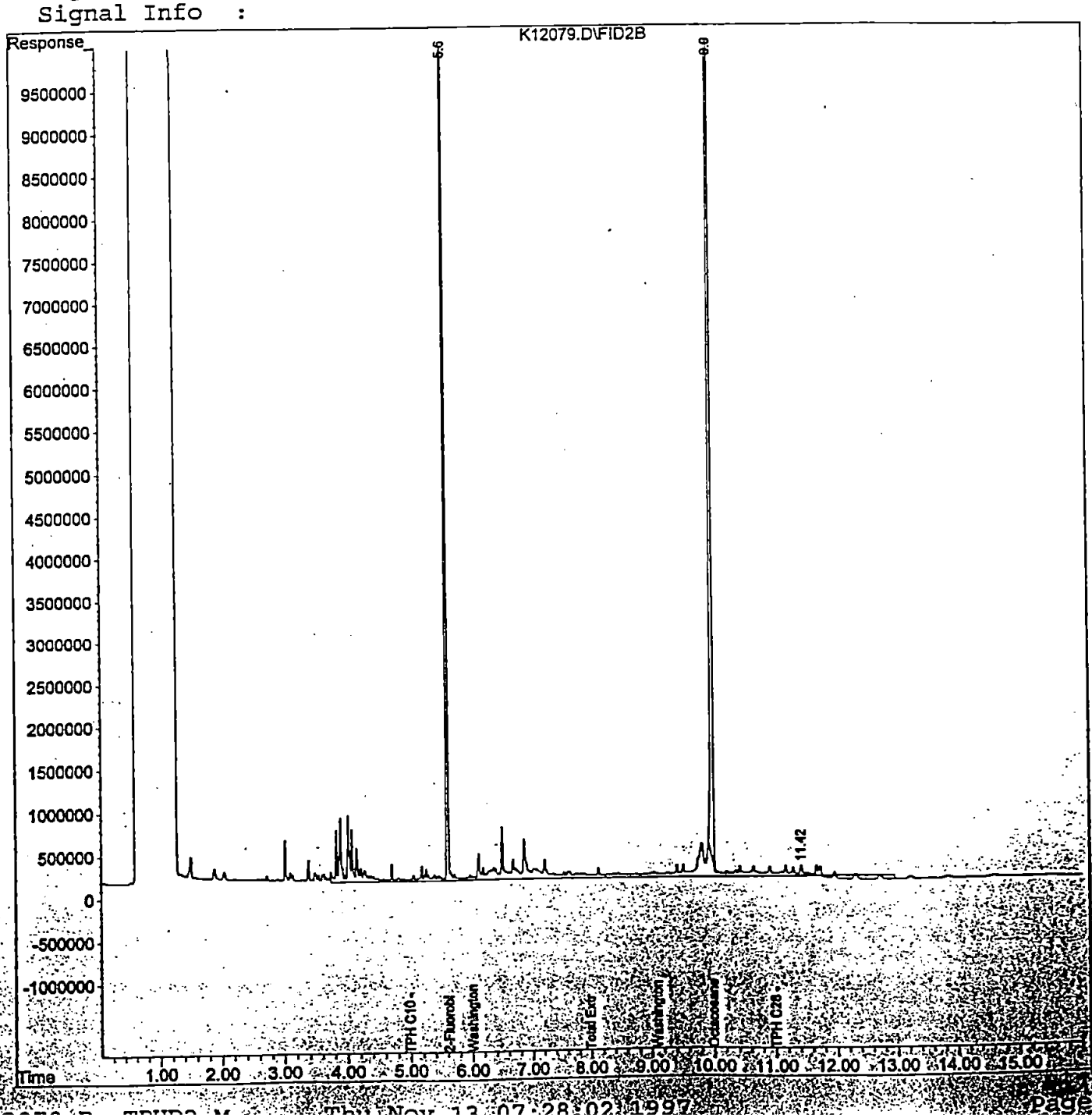
Quantitation Report

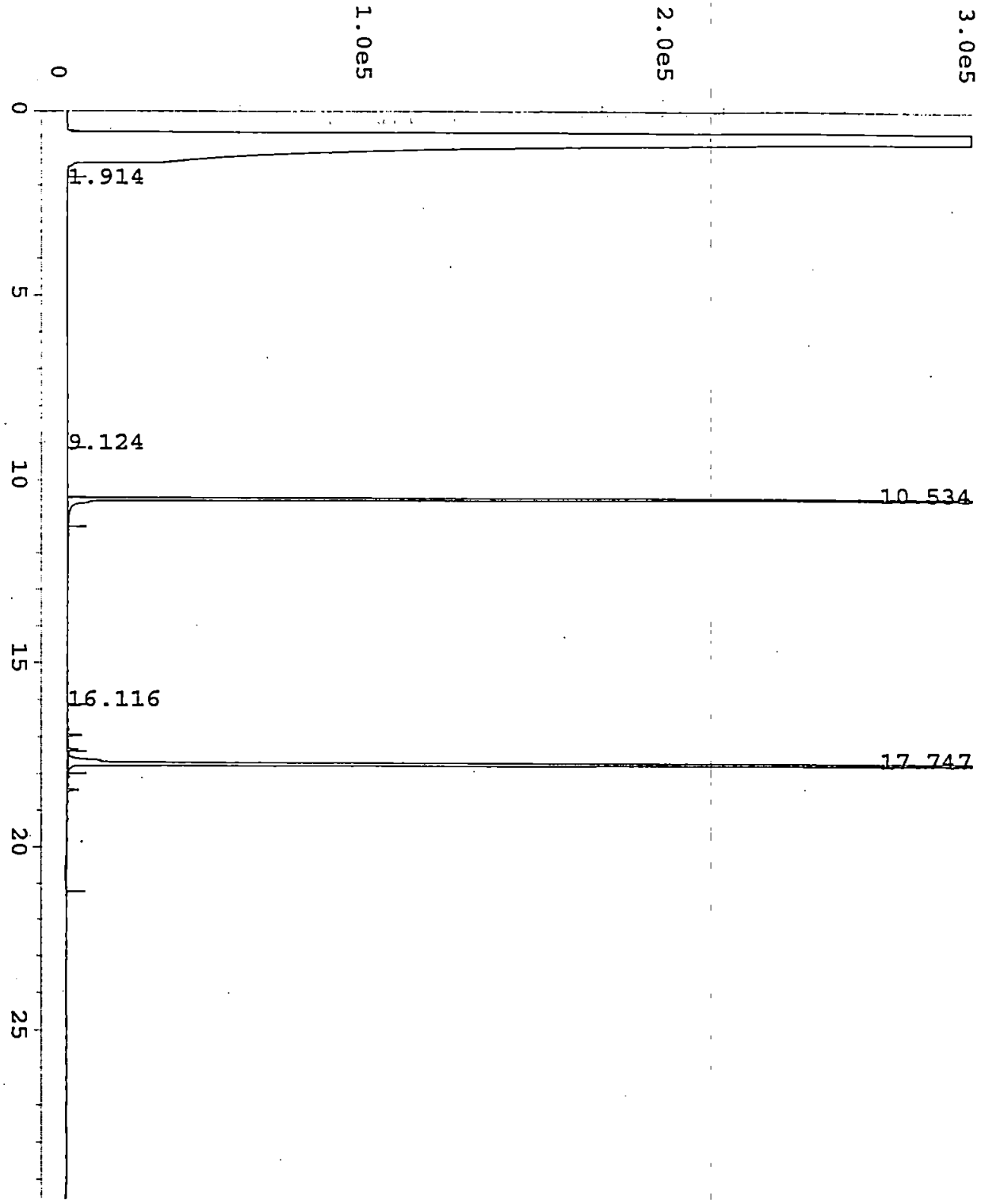
Data File : C:\HPCHEM\4\DATA.SEC\K12079.D
Acq On : 13-11-1997 4:21:05
Sample : 711179-14
Misc : S
IntFile : SURR.E
Quant Time: Nov 13 7:27 1997 Quant Results File: TPHD2.RES

Vial: 55
Operator:
Inst : GC #7
Multiplr: 1.00

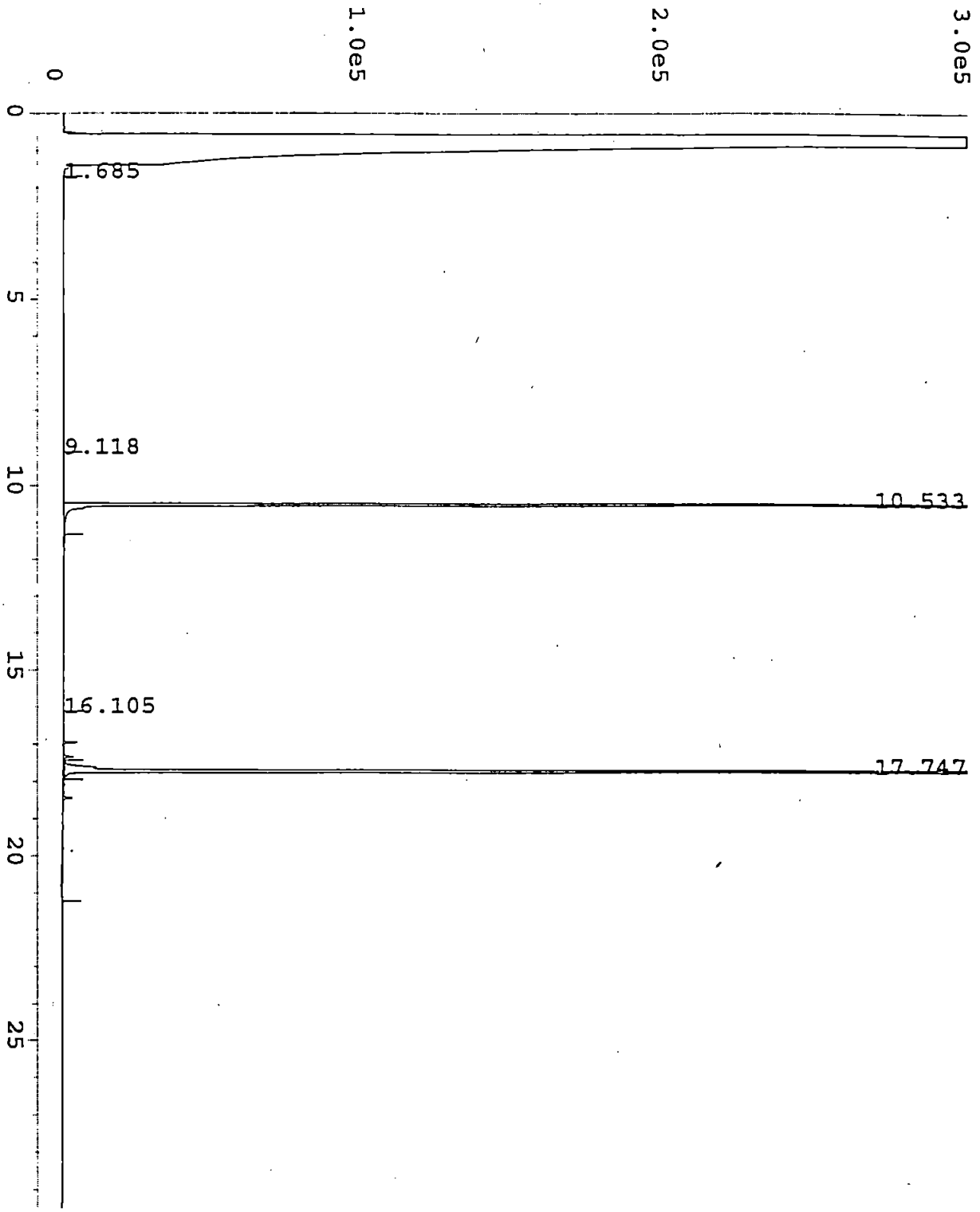
Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Fri Nov 07 09:00:13 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

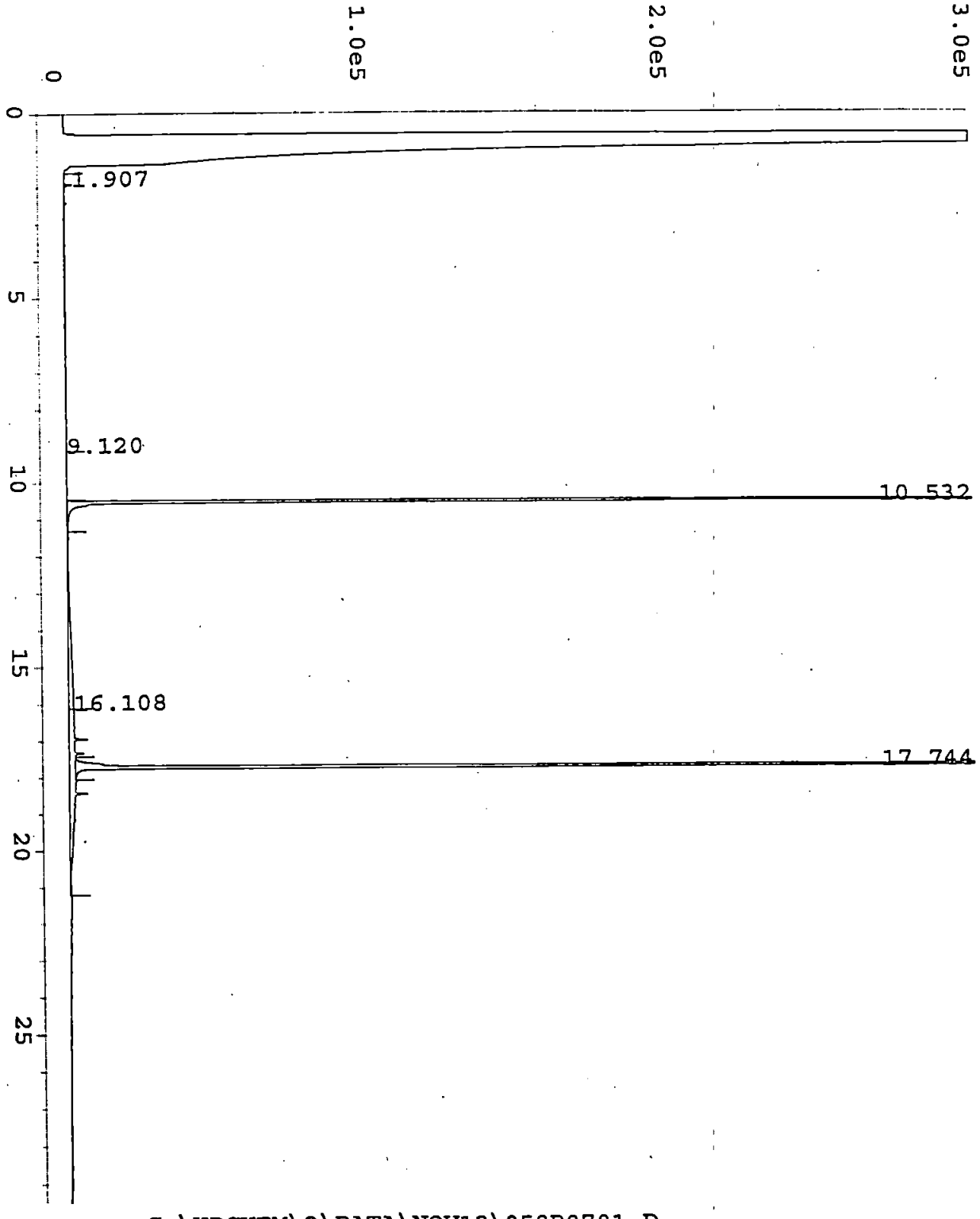




Data File Name	: C:\HPCHEM\2\DATA\NOV12\056R0501.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 56
Sample Name	: 711179-01 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 12 Nov 97 06:26 PM	Instrument Method:	TPHER.MTH
Report Created on:	13 Nov 97 08:25 AM	Analysis Method	: TPHD.MTH

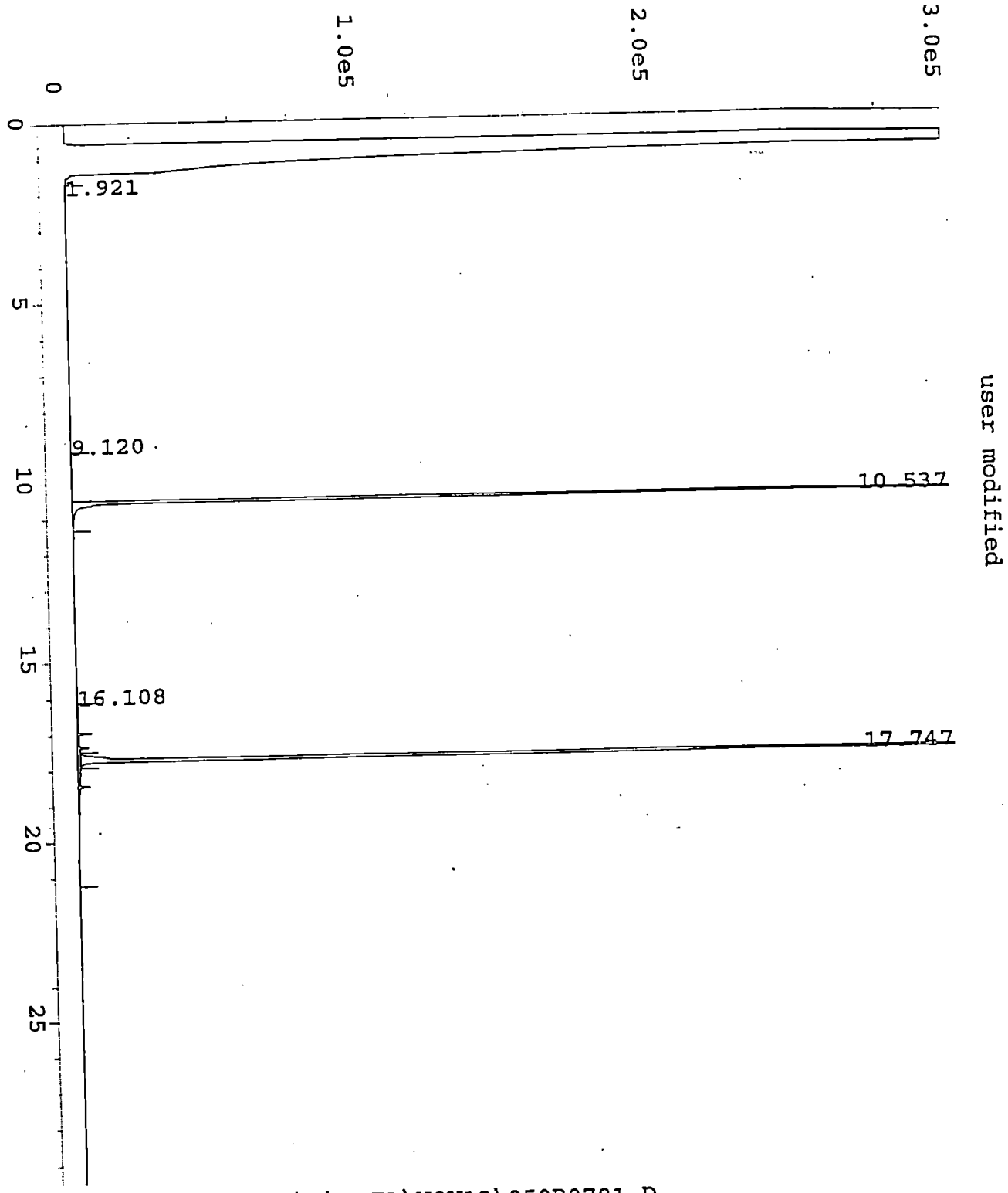


Data File Name	: C:\HPCHEM\2\DATA\NOV12\057R0701.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 57
Sample Name	: 711179-02 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 12 Nov 97 07:43 PM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:26 AM	Analysis Method	: TPHD.MTH



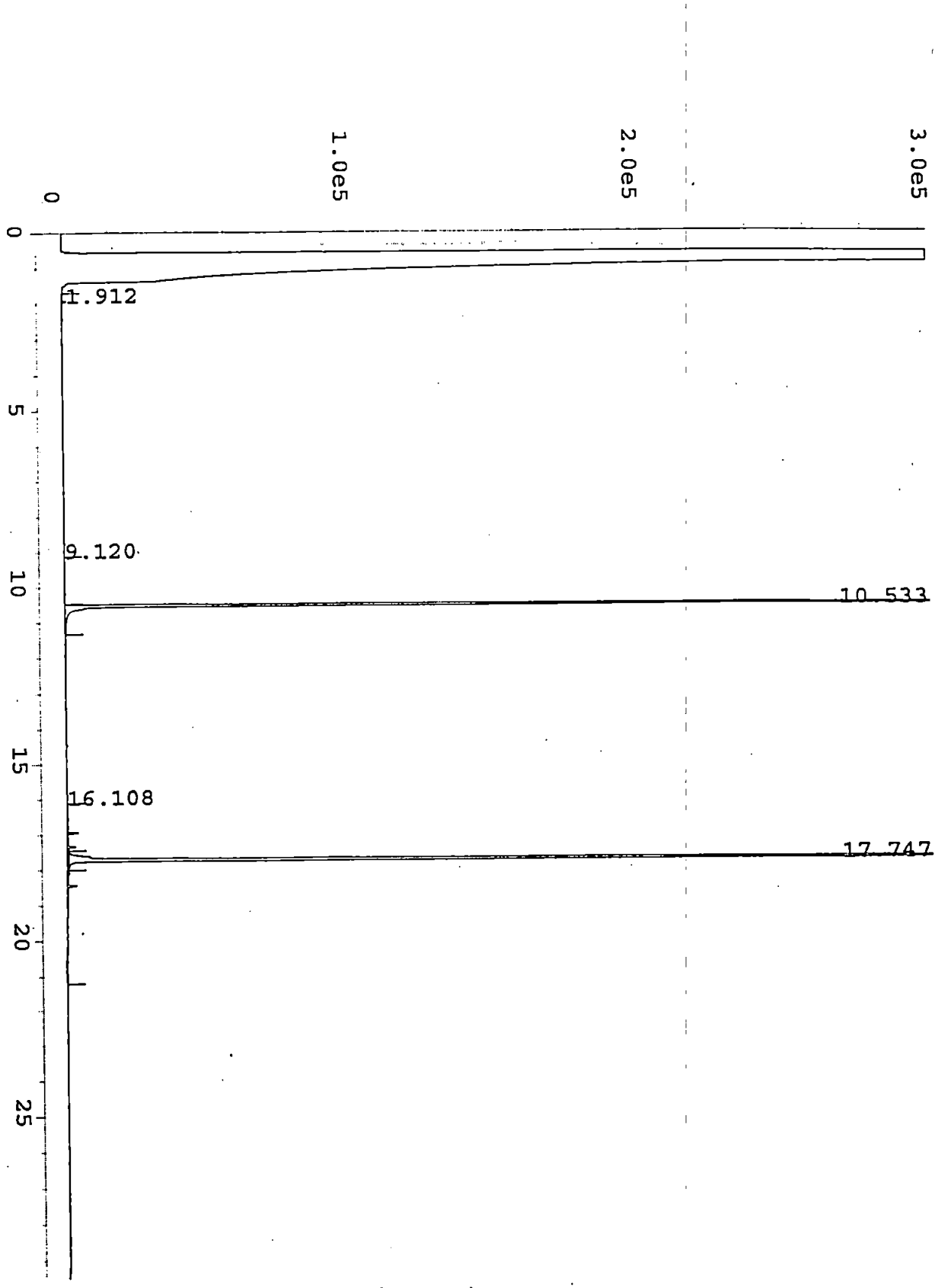
Data File Name : C:\HPCHEM\2\DATA\NOV12\058R0701.D
Operator : TF
Instrument : BOB
Sample Name : 711179-03 h
Run Time Bar Code:
Acquired on : 12 Nov 97 08:21 PM
Report Created on: 13 Nov 97 08:28 AM

Page Number : 1
Vial Number : 58
Injection Number : 1
Sequence Line : 7
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH



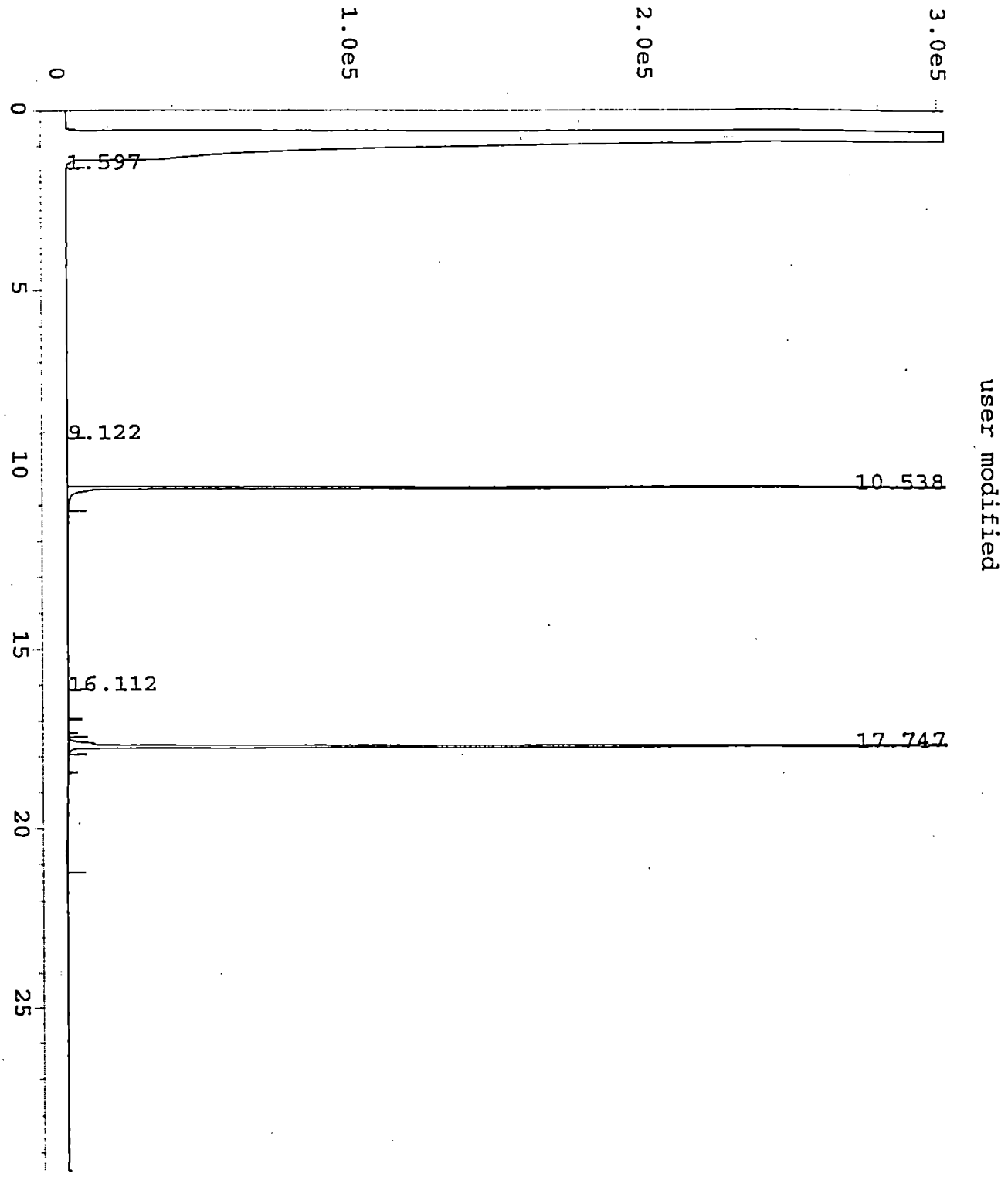
Data File Name : C:\HPCHEM\2\DATA\NOV12\059R0701.D
Operator : TF
Instrument : BOB
Sample Name : 711179-04 h
Run Time Bar Code:
Acquired on : 12 Nov 97 08:59 PM
Report Created on: 13 Nov 97 08:31 AM

Page Number : 1
Vial Number : 59
Injection Number : 1
Sequence Line : 7
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH

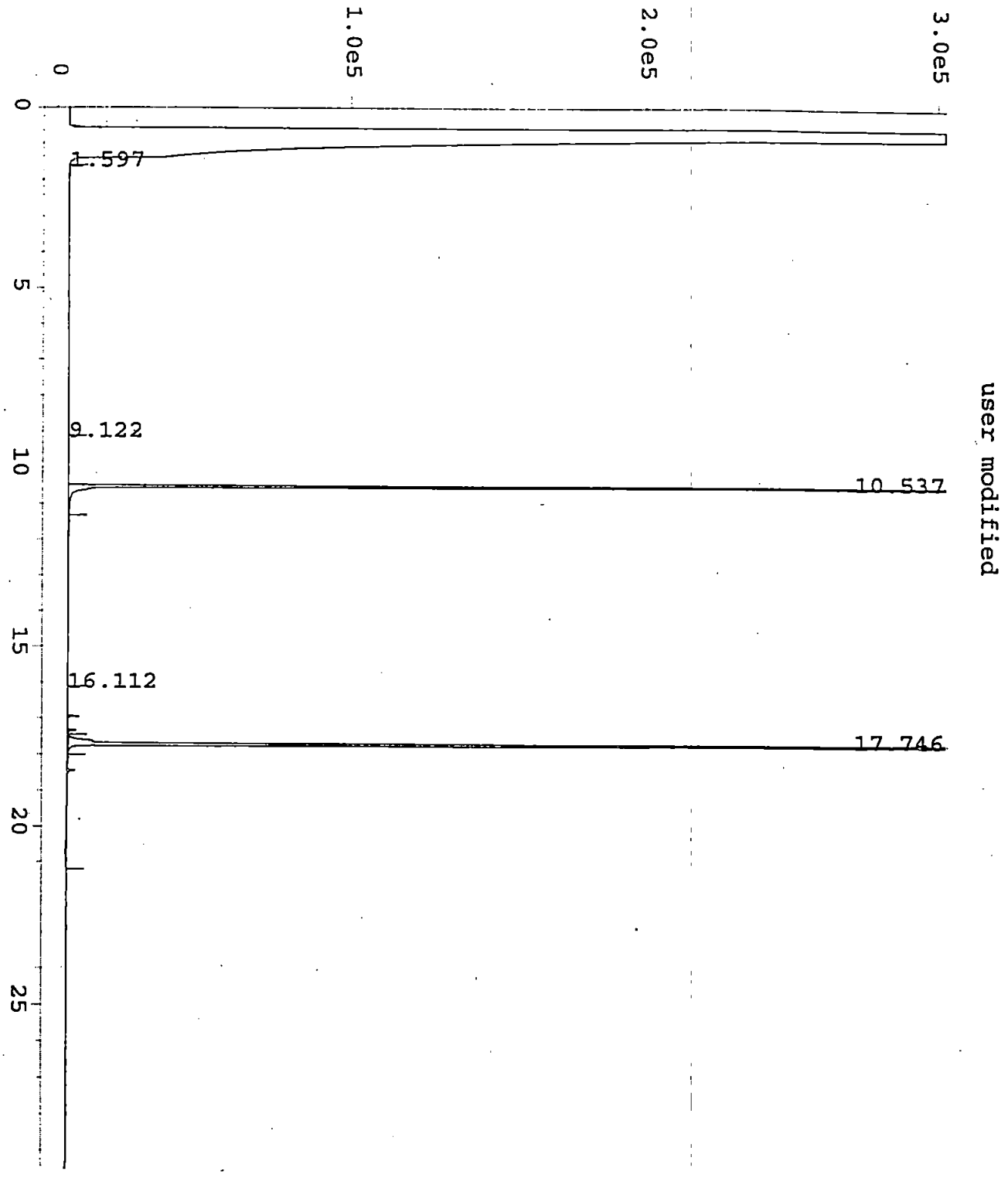


Data File Name : C:\HPCHEM\2\DATA\NOV12\060R0701.D
Operator : TF
Instrument : BOB
Sample Name : 711179-05 h
Run Time Bar Code:
Acquired on : 12 Nov 97 09:37 PM
Report Created on: 13 Nov 97 08:32 AM

Page Number : 1
Vial Number : 60
Injection Number : 1
Sequence Line : 7
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH

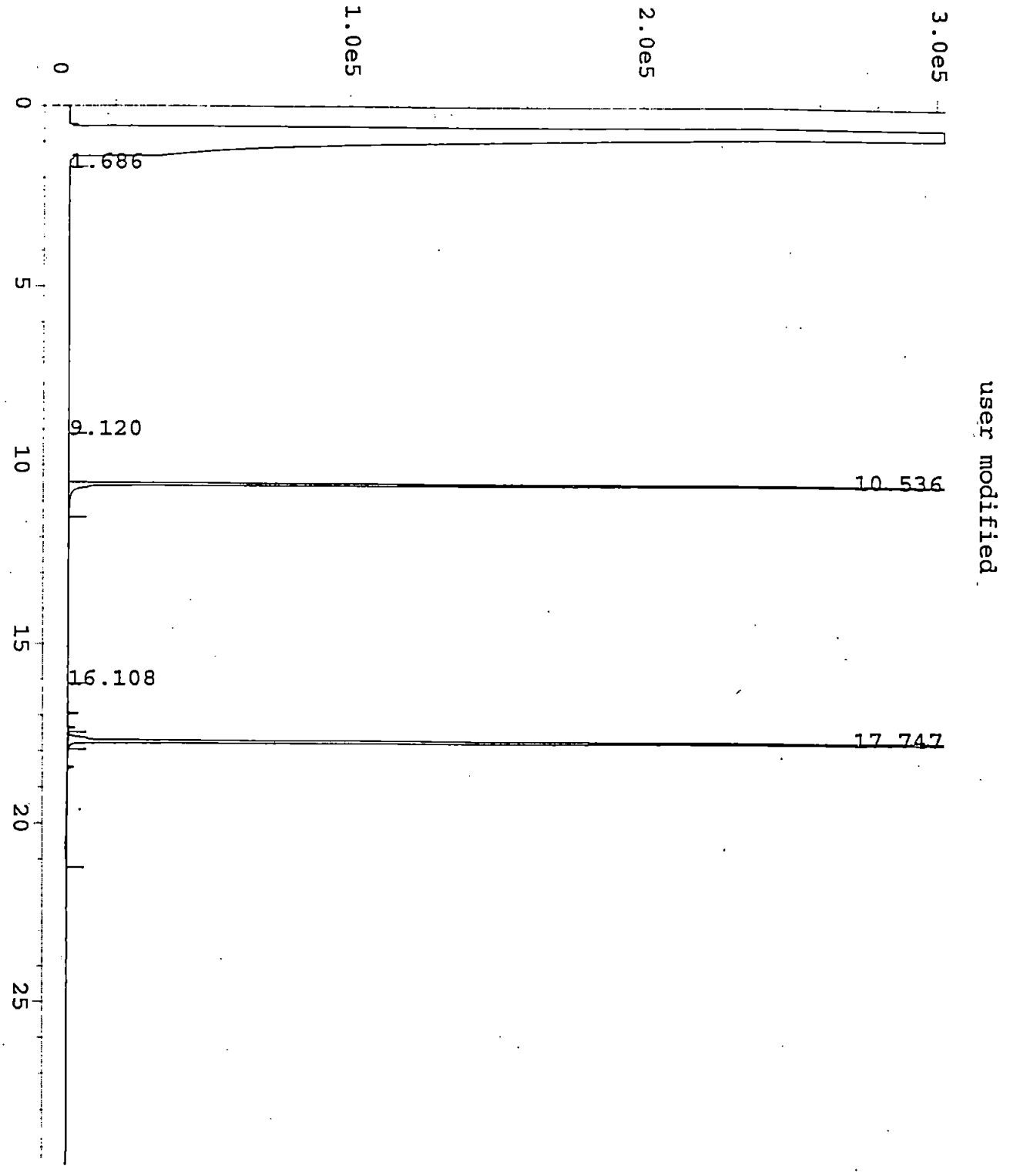


Data File Name	: C:\HPCHEM\2\DATA\NOV12\061R0701.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 61
Sample Name	: 711179-06 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 12 Nov 97 10:15 PM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:33 AM	Analysis Method	: TPHD.MTH

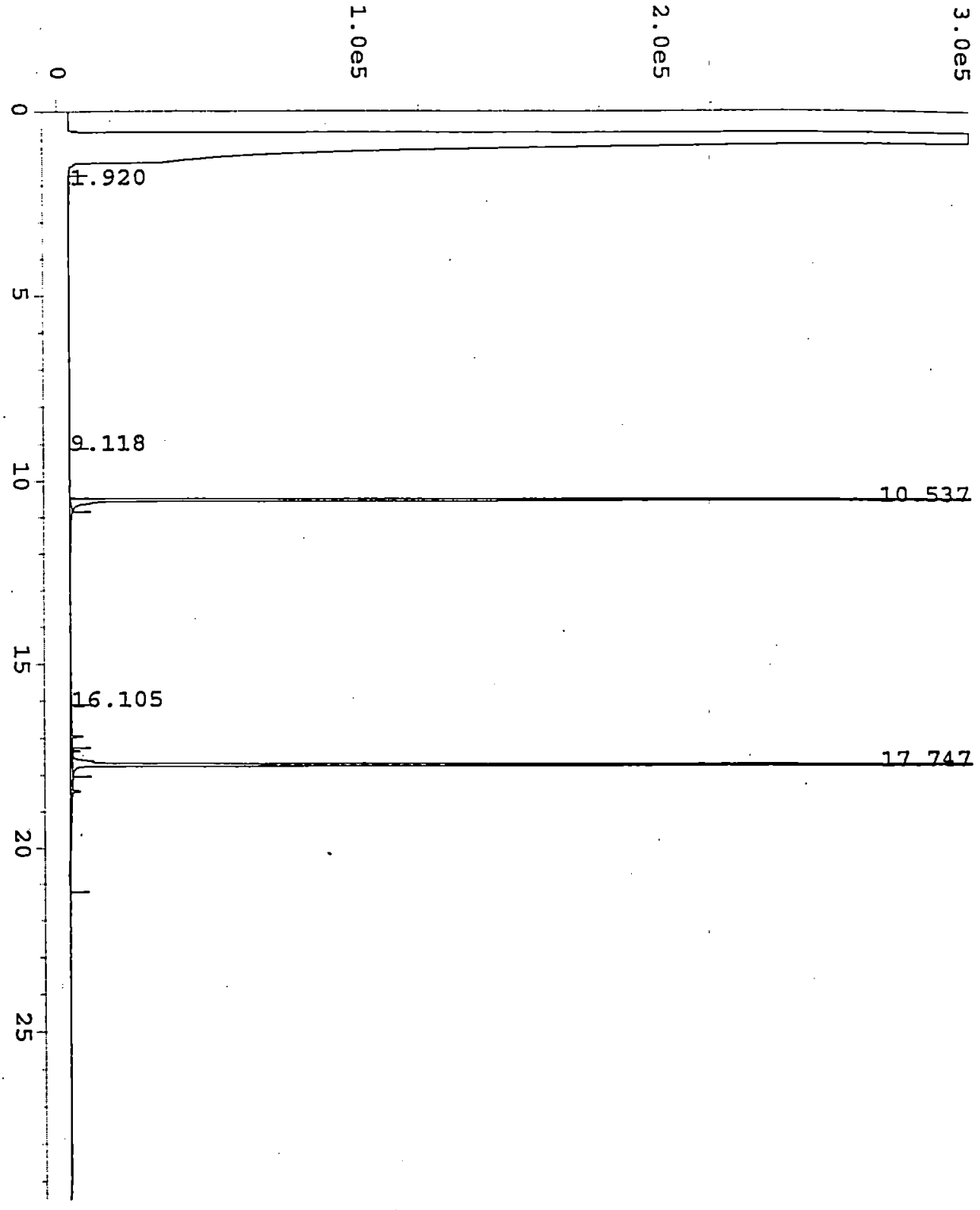


Data File Name : C:\HPCHEM\2\DATA\NOV12\062R1101.D
Operator : TF
Instrument : BOB
Sample Name : 711179-07 h
Run Time Bar Code:
Acquired on : 13 Nov 97 00:46 AM
Report Created on: 13 Nov 97 08:34 AM

Page Number : 1
Vial Number : 62
Injection Number : 1
Sequence Line : 11
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH

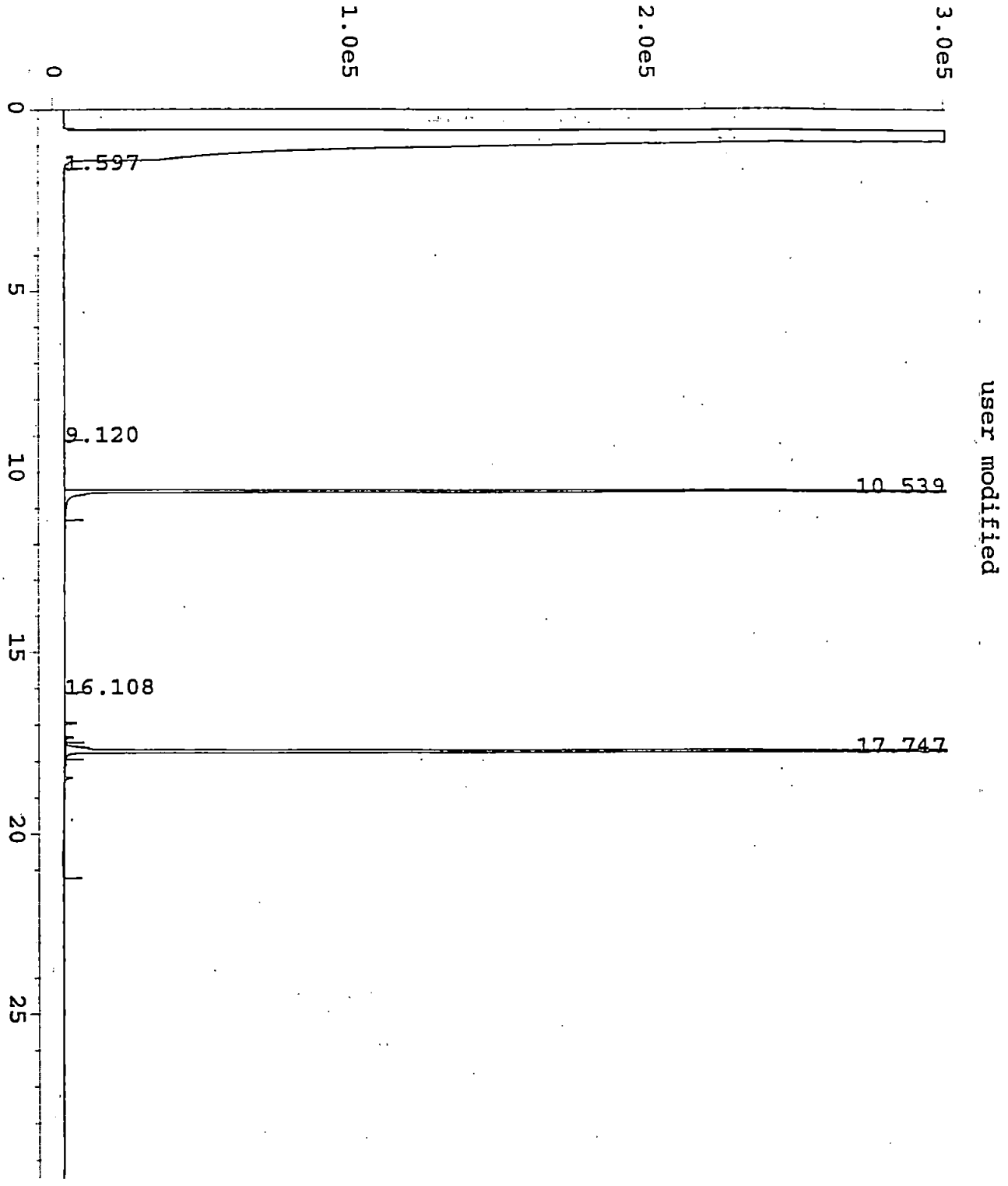


Data File Name	: C:\HPCHEM\2\DATA\NOV12\063R1101.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 63
Sample Name	: 711179-08 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 13 Nov 97 01:23 AM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:35 AM	Analysis Method	: TPHD.MTH

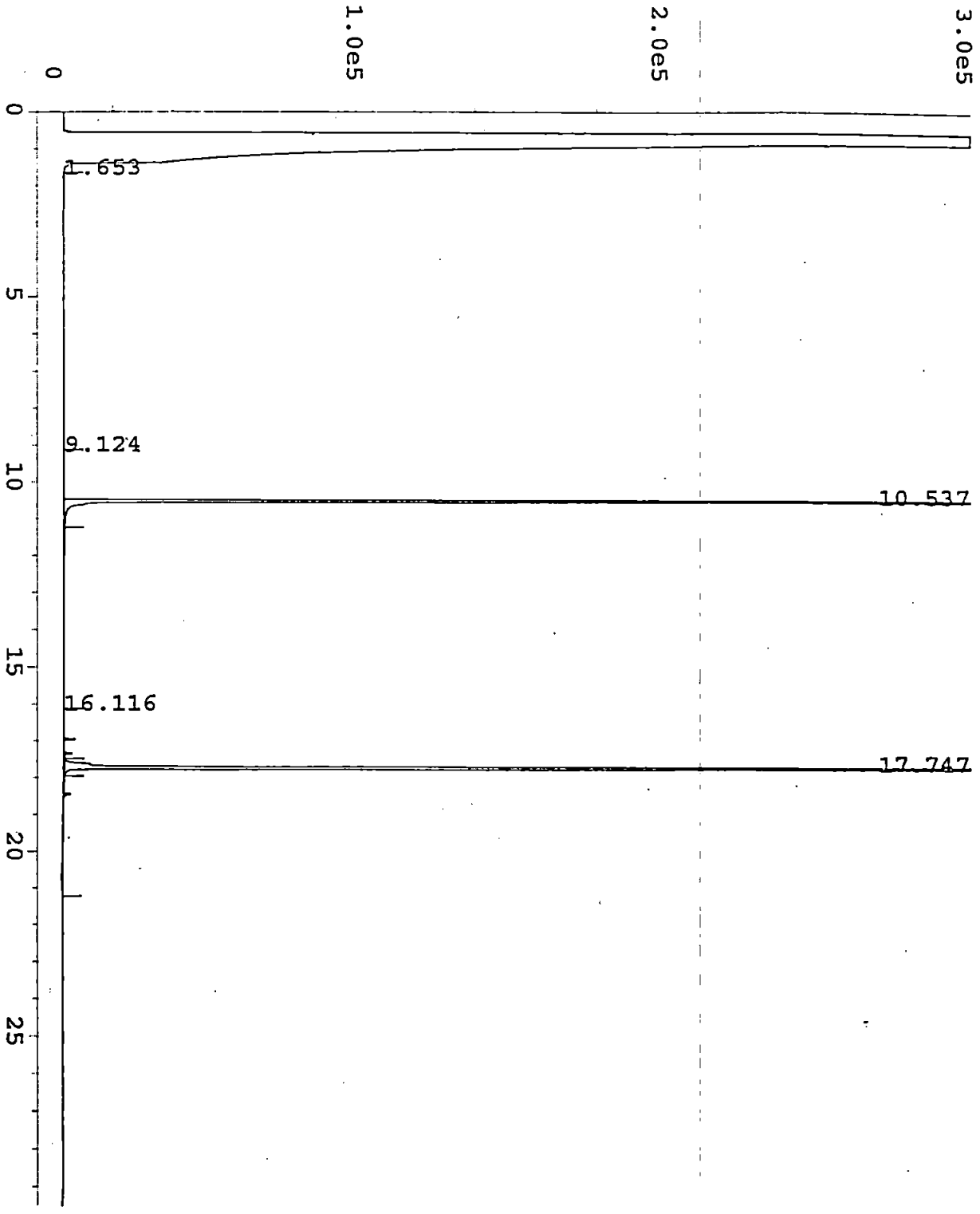


Data File Name : C:\HPCHEM\2\DATA\NOV12\064R1101.D
Operator : TF
Instrument : BOB
Sample Name : 711179-09 h
Run Time Bar Code:
Acquired on : 13 Nov 97 02:01 AM
Report Created on: 13 Nov 97 08:36 AM

Page Number : 1
Vial Number : 64
Injection Number : 1
Sequence Line : 11
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH

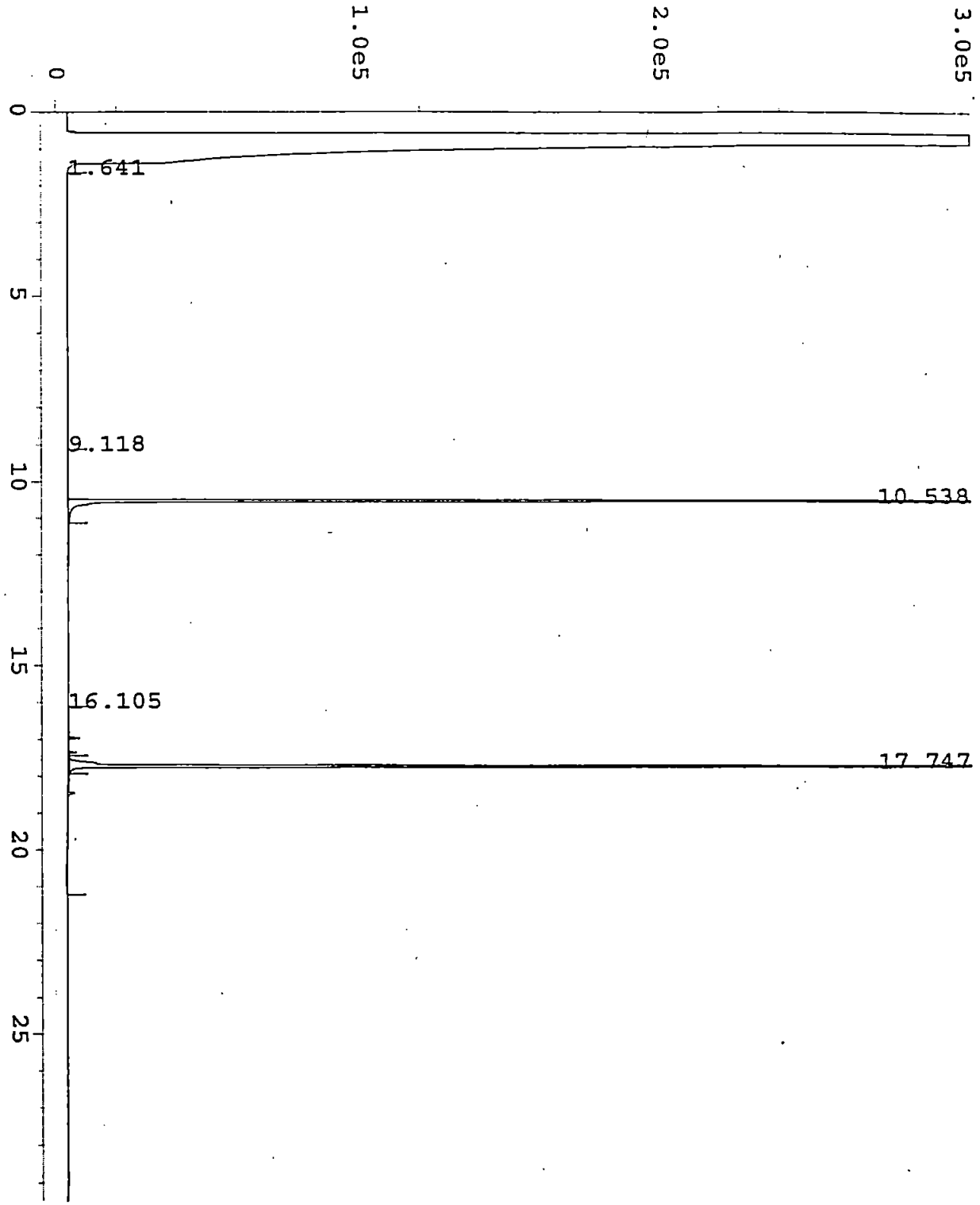


Data File Name	: C:\HPCHEM\2\DATA\NOV12\065R1101.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 65
Sample Name	: 711179-10 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 13 Nov 97 02:38 AM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:38 AM	Analysis Method	: TPHD.MTH

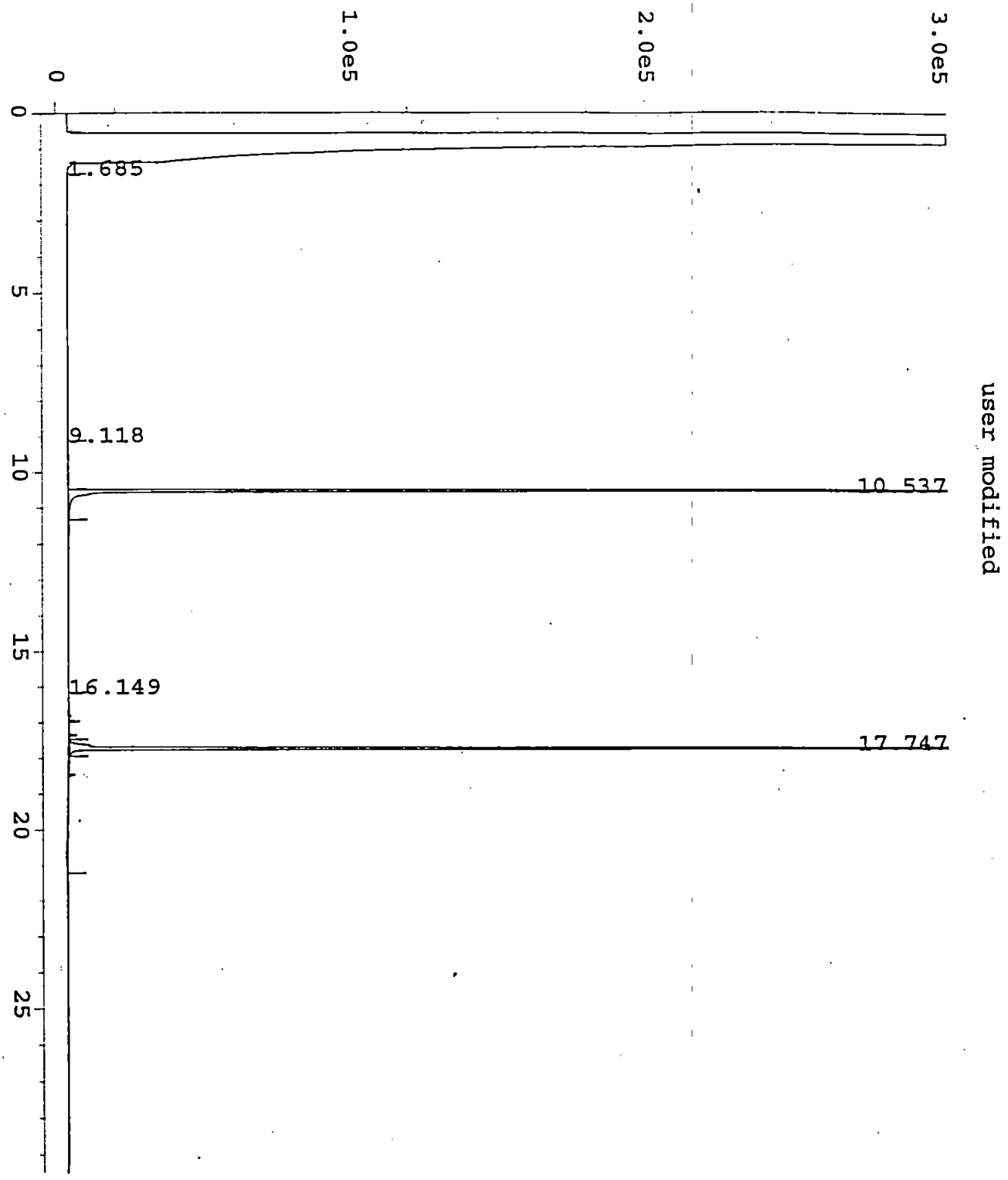


Data File Name : C:\HPCHEM\2\DATA\NOV12\066R1101.D
Operator : TF
Instrument : BOB
Sample Name : 711179-13 h
Run Time Bar Code:
Acquired on : 13 Nov 97 03:16 AM
Report Created on: 13 Nov 97 08:40 AM

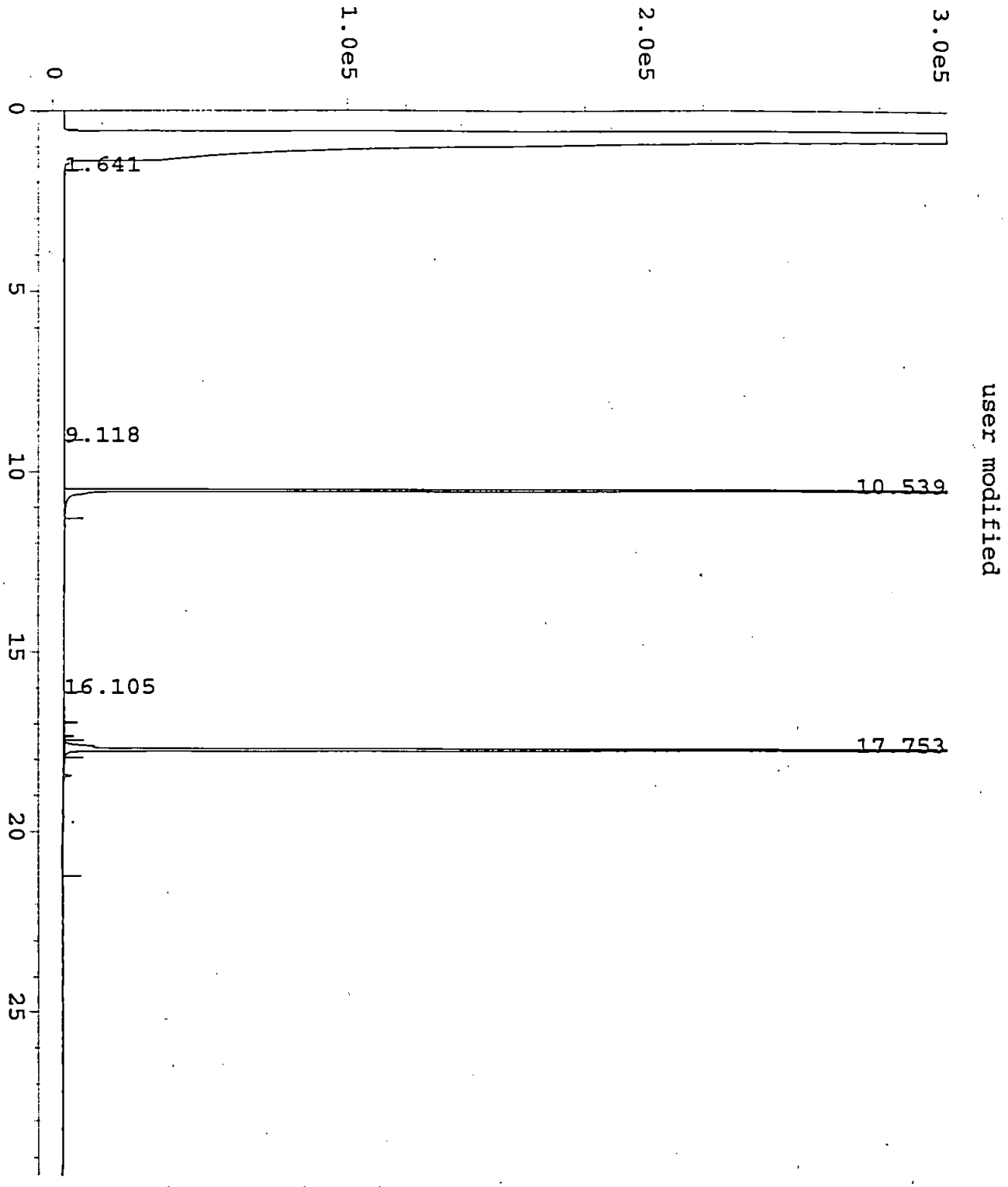
Page Number : 1
Vial Number : 66
Injection Number : 1
Sequence Line : 11
Instrument Method: TPHER.MTH
Analysis Method : TPHD.MTH



Data File Name	: C:\HPCHEM\2\DATA\NOV12\067R1301.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 67
Sample Name	: 711179-15 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 13 Nov 97 04:31 AM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:41 AM	Analysis Method	: TPHD.MTH



Data File Name	: C:\HPCHEM\2\DATA\NOV12\068R1301.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 68
Sample Name	: 711179-16 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 13 Nov 97 05:08 AM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:42 AM	Analysis Method	: TPHD.MTH



Data File Name	: C:\HPCHEM\2\DATA\NOV12\069R1301.D		
Operator	: TF	Page Number	: 1
Instrument	: BOB	Vial Number	: 69
Sample Name	: 711179-17 h	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 13
Acquired on	: 13 Nov 97 05:45 AM	Instrument Method	: TPHER.MTH
Report Created on	: 13 Nov 97 08:43 AM	Analysis Method	: TPHD.MTH

NORTH CREEK ANALYTICAL

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9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

CHAIN OF CUSTODY REPORT

Work Order #: B711179

CLIENT: Geo engineers
ADDRESS: SEATTLE OFFICE
PHONE: 728-2674 FAX: 861-6050
PROJECT NAME: Stevens Healthcare
PROJECT NUMBER: 5397-007-85
SAMPLED BY: D BAUMGARTEN

REPORT TO: GEOENGINEERS
ATTENTION: DAVE COOK
BILLING TO: SAME
P.O. NUMBER:
NCA QUOTE #:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: ~~10~~ 5 3 2 1
Fuels & Hydrocarbon Analyses: 5 3 2 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

Analysis Request: TPH-HCID w/follow up; TPH-Dx; HVOCs (8010); RCRA metals

NCA SAMPLE NUMBER	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	TPH-HCID w/follow up	TPH-Dx	HVOCs (8010)	RCRA metals						MATRIX (W, S, O)	# OF CONTAINERS	COMMENTS & PRESERVATIVES USED
B711179 01	1. S-1	11/7 1100	X									S	1	
02	2. S-2	1115	X										1	
03	3. S-3	1215	X										1	
04	4. S-4	1230	X										1	
05	5. S-5	1245	X										1	
06	6. GP-1-5	11/6 850	X	X	X								1	
07	7. GP-2-6	11/6 940	X		X								1	
08	8. GP-3-7	11/6 1020	X		X								1	
09	9. GP-4-4	11/6 1105	X		X								1	4oz
10	10. GP-4-6	11/6 1130	X		X								1	

RELINQUISHED BY: [signature] DATE: 11/10/97
PRINT NAME: D BAUMGARTEN FIRM: GEI TIME: 1400
RECEIVED BY: Lisa Hurley DATE: 11/10/97
PRINT NAME: Lisa Hurley FIRM: NCA TIME: 1700

RELINQUISHED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
Please run petroleum analyses with Northwest methods (Thanks)

NORTH CREEK ANALYTICAL
18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992
East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

CHAIN OF CUSTODY REPORT

Work Order #: B711179

CLIENT: Geoengineers
ADDRESS: SEATTLE
PHONE: 728-2674 FAX: 861-6050

REPORT TO: DAVE COOK
ATTENTION:
BILLING TO:
P.O. NUMBER: SAME
NCA QUOTE #:

PROJECT NAME: Stevens Healthcare
PROJECT NUMBER: 5397-007-85
SAMPLED BY: P BAUMANTEN

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [10] 5 3 2 1
Fuels & Hydrocarbon Analyses: 5 3 2 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

NCA SAMPLE NUMBER	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	Analysis Request: TPH-HCID w/ Followup	TPH-Dext	HVOCs (8010)	RCRA metals	MATRIX (W, S, O)	# OF CONTAINERS	COMMENTS & PRESERVATIVES USED
B711179-01	1. OMW-2	11/7/97 / 230		X			W	3	
02	2. MW-1	11/7/97 / 145		X			W	3	
03	3. GP-5-8	11/6 / 1200	X	X	X		S	1	
04	4. GP-6-9	11/6 / 1525	X	X	X		S	1	
05	5. GP-7-9	11/6 1635	X				S	1	
06	6. GP-8-9	11/7 810	X						
07	7. GP-9-3	11/7 915	X						
	8.								
	9.								
	10.								

RELINQUISHED BY: [signature] DATE: 11/10/97
PRINT NAME: P BAUMANTEN FIRM: GEI TIME: 1400

RECEIVED BY: [signature] DATE: 11-10-97
PRINT NAME: Lisa Hurley FIRM: NCA TIME: 1700

RELINQUISHED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
Please Run Petroleum analysis with Northwest methods

PAGE 2 OF 2

COC Rev 7, 8/95

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PORTLAND ▪ (503) 643-9200 ▪ FAX 644-2202

Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1-28.5	B711180-03	Soil	11/6/97
MW-2-14	B711180-04	Soil	11/6/97
B-5-34	B711180-09	Soil	11/6/97
B-5-39	B711180-10	Soil	11/6/97

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1-28.5			**B711180-03**				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*102*	*%*	
MW-2-14			**B711180-04**				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	

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**Refer to end of report for text of notes and definitions.*

Joy B Chang, Project Manager

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-2-14 (continued)			**B711180-04**				Soil	
Chloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*106*	*%*	
B-5-34			**B711180-09**				Soil	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-5-34 (continued)			**B711180-09**				**Soil**	
1,1-Dichloroethene	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	**0.155**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*90.4*	*%*	
B-5-39			**B711180-10**				**Soil**	
Bromodichloromethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	

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Joy B Chang, Project Manager

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-5-39 (continued)			**B711180-10**				**Soil**	
1,1,2,2-Tetrachloroethane	1170309	11/12/97	11/12/97		0.0500	ND	mg/kg dry	
Tetrachloroethene	"	"	"		0.0500	**0.197**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*101*	*%*	

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**Refer to end of report for text of notes and definitions*

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
MW-1-28.5	B711180-03	Soil	89.7	%
MW-2-14	B711180-04	Soil	93.6	%
B-5-34	B711180-09	Soil	80.4	%
B-5-39	B711180-10	Soil	93.2	%

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Geo Engineers - Seattle	Project: Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number: 5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager: Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170309	**Date Prepared: 11/12/97**					**Extraction Method: EPA 5030 [MeOH]**				
Blank	**1170309-BLK1**									
Bromodichloromethane	11/12/97			ND	mg/kg dry	0.0500				
Bromoform	"			ND	"	0.0500				
Bromomethane	"			ND	"	0.0500				
Carbon tetrachloride	"			ND	"	0.0500				
Chlorobenzene	"			ND	"	0.0500				
Chloroethane	"			ND	"	0.0500				
Chloroform	"			ND	"	0.0500				
Chloromethane	"			ND	"	0.0500				
Dibromochloromethane	"			ND	"	0.0500				
1,2-Dichlorobenzene	"			ND	"	0.0500				
1,3-Dichlorobenzene	"			ND	"	0.0500				
1,4-Dichlorobenzene	"			ND	"	0.0500				
1,1-Dichloroethane	"			ND	"	0.0500				
1,2-Dichloroethane	"			ND	"	0.0500				
1,1-Dichloroethene	"			ND	"	0.0500				
cis-1,2-Dichloroethene	"			ND	"	0.0500				
trans-1,2-Dichloroethene	"			ND	"	0.0500				
1,2-Dichloropropane	"			ND	"	0.0500				
cis-1,3-Dichloropropene	"			ND	"	0.0500				
trans-1,3-Dichloropropene	"			ND	"	0.0500				
Methylene chloride	"			ND	"	0.500				
1,1,2,2-Tetrachloroethane	"			ND	"	0.0500				
Tetrachloroethene	"			ND	"	0.0500				
1,1,1-Trichloroethane	"			ND	"	0.0500				
1,1,2-Trichloroethane	"			ND	"	0.0500				
Trichloroethene	"			ND	"	0.0500				
Trichlorofluoromethane	"			ND	"	0.0500				
Vinyl chloride	"			ND	"	0.0500				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*2.03*	"	*50.0-150*	*101*			
LCS	**1170309-BS1**									
Chlorobenzene	11/12/97	1.00		0.898	mg/kg dry	60.0-140	89.8			
1,1-Dichloroethene	"	1.00		0.870	"	60.0-140	87.0			
Trichloroethene	"	1.00		1.01	"	60.0-140	101			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.86*	"	*50.0-150*	*93.0*			

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**Refer to end of report for text of notes and definitions*

Joy B Chang, Project Manager

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received: 11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 15:04

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	1170309-MS1		B711179-06							
Chlorobenzene	11/12/97	1.07	ND	0.890	mg/kg dry	60.0-140	**83.2**			
1,1-Dichloroethene	"	1.07	ND	0.864	"	60.0-140	**80.7**			
Trichloroethene	"	1.07	ND	0.952	"	60.0-140	**89.0**			
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.86*	"	*50.0-150*	*87.3*			
Matrix Spike Dup	1170309-MSD1		B711179-06							
Chlorobenzene	11/12/97	1.07	ND	0.909	mg/kg dry	60.0-140	**85.0**	30.0	**2.14**	
1,1-Dichloroethene	"	1.07	ND	0.861	"	60.0-140	**80.5**	30.0	**0.248**	
Trichloroethene	"	1.07	ND	1.01	"	60.0-140	**94.4**	30.0	**5.89**	
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.81*	"	*50.0-150*	*85.0*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled:	11/6/97
600 Stewart Street, Suite 1215	Project Number:	5397-007	Received:	11/10/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported:	11/24/97 15:04

Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

NORTH CREEK ANALYTICAL

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CHAIN OF CUSTODY REPORT

Work Order #: B711180

CLIENT: Geo Engineers
ADDRESS: SEATTLE OFFICE
PHONE: 728-2674 FAX: 861-6050

REPORT TO: GEI
ATTENTION: DAVE COOK
BILLING TO:
P.O. NUMBER: Same
NCA QUOTE #:

PROJECT NAME: Stevens Healthcare
PROJECT NUMBER: 5397-007
SAMPLED BY: P B BUMGARNER

TURNAROUND REQUEST In Business Days *
Organic & Inorganic Analyses: [10] 5 3 2 1
Fuels & Hydrocarbon Analyses: 5 3 2 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

NCA SAMPLE NUMBER	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	Analysis Request: HydroCS (5010)	MATRIX (W, S, O)	# OF CONTAINERS	COMMENTS & PRESERVATIVES USED
B711180-01	1. MW-1-15	11/6		S	1	HOLD
02	2. MW-1-24	"				HOLD
03	3. MW-1-28.5		X			
04	4. MW-2-14		X			
05	5. MW-2-24					HOLD
06	6. MW-2-34					HOLD
07	7. B-5-14					HOLD
08	8. B-5-29					HOLD
09	9. B-5-34		X			
10	10. B-5-39		X			

RELINQUISHED BY: [signature] DATE: 11/10/97
PRINT NAME: P B BUMGARNER FIRM: GEI TIME: 1400

RECEIVED BY: Lisa Hurley DATE: 11/10/97
PRINT NAME: Lisa Hurley FIRM: NCA TIME: 1700

RELINQUISHED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: Northwest methods

PAGE 1 OF 1

COC Rev 7, 8/95

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-2	B711256-01	Water	11/12/97
MW-3	B711256-02	Water	11/12/97
MW-4	B711256-03	Water	11/12/97
MW-4 #3-14.0	B711256-04	Soil	11/10/97
MW-4 #4-19	B711256-05	Soil	11/10/97
MW-3 #2-9.0	B711256-06	Soil	11/10/97

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Hydrocarbon Identification by Washington DOE Method WTPH-HCID
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-4 #3-14.0			**B711256-04**				**Soil**	
Gasoline Range Hydrocarbons	1170380	11/14/97	11/14/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*104*	*%*	
MW-4 #4-19			**B711256-05**				**Soil**	
Gasoline Range Hydrocarbons	1170380	11/14/97	11/14/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*109*	*%*	
MW-3 #2-9.0			**B711256-06**				**Soil**	
Gasoline Range Hydrocarbons	1170380	11/14/97	11/14/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	"	"	"		50.0	ND	"	
Heavy Oil Range Hydrocarbons	"	"	"		100	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*115*	*%*	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-3			B711256-02				Water	
Gasoline Range Hydrocarbons	1170381	11/17/97	11/17/97		50.0	**54.5**	ug/l	
Benzene	"	"	"		0.500	**0.806**	"	
Toluene	"	"	"		0.500	**0.956**	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*83.1*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*77.7*	"	
MW-4			B711256-03				Water	
Gasoline Range Hydrocarbons	1170381	11/17/97	11/17/97		50.0	**51.8**	ug/l	
Benzene	"	"	"		0.500	**0.583**	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*83.8*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*77.9*	"	

North Creek Analytical, Inc.

**Refer to end of report for text of notes and definitions*

Joy B Chang, Project Manager

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-3			B711256-02				Water	
Diesel Range Hydrocarbons	1170405	11/17/97	11/18/97		0.250	ND	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*70.7*	%	
MW-4			B711256-03				Water	
Diesel Range Hydrocarbons	1170405	11/17/97	11/19/97		0.250	ND	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*94.4*	%	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-2			**B711256-01**				**Water**	
Bromodichloromethane	1170506	11/19/97	11/20/97		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*82.0*	*%*	
MW-3			**B711256-02**				**Water**	
Bromodichloromethane	1170506	11/19/97	11/20/97		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-3 (continued)			**B711256-02**				**Water**	
Chloromethane	1170506	11/19/97	11/20/97		1.00	ND	ug/l	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	**16.3**	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*81.7*	*%*	
MW-4			**B711256-03**				**Water**	
Bromodichloromethane	1170506	11/19/97	11/20/97		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	ND	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	

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600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
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Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-4 (continued)			**B711256-03**				**Water**	
1,1-Dichloroethene	1170506	11/19/97	11/20/97		1.00	ND	ug/l	
cis-1,2-Dichloroethene	"	"	"		1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	"		1.00	ND	"	
1,1,1-Trichloroethane	"	"	"		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	ND	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*93.5*	*%*	
MW-4 #4-19			**B711256-05**				**Soil**	
Bromodichloromethane	1170471	11/18/97	11/18/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	

North Creek Analytical, Inc.

**Refer to end of report for text of notes and definitions*

Joy B Chang, Project Manager

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Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-4 #4-19 (continued)			**B711256-05**				Soil	
1,1,2,2-Tetrachloroethane	1170471	11/18/97	11/18/97		0.0500	ND	mg/kg dry	
Tetrachloroethene	"	"	"		0.0500	**0.0503**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*99.1*	*%*	
MW-3 #2-9.0			**B711256-06**				Soil	
Bromodichloromethane	1170471	11/18/97	11/18/97		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	

North Creek Analytical, Inc.

**Refer to end of report for text of notes and definitions.*

Joy B Chang, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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PORTLAND ▪ (503) 643-9200 ▪ FAX 644-2202

Geo Engineers - Seattle	Project: Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number: 5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager: Dave Cook	Reported: 11/24/97 09:57

Halogenated Volatile Organics by EPA Method 8010B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-3 #2-9.0 (continued)			B711256-06				Soil	
Surrogate: 4-BFB (ELCD)	*1170471*	*11/18/97*	*11/18/97*	*50.0-150*		*98.2*	*%*	

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600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received:	11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported:	11/24/97 09:57

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
MW-4 #3-14.0	B711256-04	Soil	90.5	%
MW-4 #4-19	B711256-05	Soil	92.9	%
MW-3 #2-9.0	B711256-06	Soil	88.4	%

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600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Hydrocarbon Identification by Washington DOE Method WTPH-HCID/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170380	**Date Prepared: 11/14/97**					**Extraction Method: HCID (WA)**				
Blank	1170380-BLK1									
Gasoline Range Hydrocarbons	11/14/97			ND	mg/kg dry	20.0				
Diesel Range Hydrocarbons	"			ND	"	50.0				
Heavy Oil Range Hydrocarbons	"			ND	"	100				
Surrogate: 2-FBP	"	*DET*		*DET*	"	*50.0-150*	*105*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170381	**Date Prepared: 11/17/97**					**Extraction Method: EPA 5030 (P/T)**				
Blank	**1170381-BLK1**									
Gasoline Range Hydrocarbons	11/17/97			**ND**	ug/l	**50.0**				
Benzene	"			**ND**	"	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**1.00**				
Surrogate: 4-BFB (FID)	"	*48.0*		*38.2*	"	*50.0-150*	*79.6*			
Surrogate: 4-BFB (PID)	"	*48.0*		*39.5*	"	*50.0-150*	*82.3*			
LCS	**1170381-BS1**									
Gasoline Range Hydrocarbons	11/17/97	500		520	ug/l	75.0-125	104			
Surrogate: 4-BFB (FID)	"	*48.0*		*42.5*	"	*50.0-150*	*88.5*			
Duplicate	**1170381-DUP1**		**B711168-03**							
Gasoline Range Hydrocarbons	11/18/97		527	479	ug/l			25.0	**9.54**	
Surrogate: 4-BFB (FID)	"	*48.0*		*46.2*	"	*50.0-150*	*96.3*			
Duplicate	**1170381-DUP2**		**B711257-04**							
Gasoline Range Hydrocarbons	11/17/97		26900	28400	ug/l			25.0	**5.42**	
Surrogate: 4-BFB (FID)	"	*48.0*		*49.8*	"	*50.0-150*	*104*			
Matrix Spike	**1170381-MS1**		**B711248-01**							
Benzene	11/17/97	10.0	ND	9.03	ug/l	70.0-130	**90.3**			
Toluene	"	10.0	ND	8.89	"	70.0-130	**88.9**			
Ethylbenzene	"	10.0	ND	8.87	"	70.0-130	**88.7**			
Xylenes (total)	"	30.0	ND	26.4	"	70.0-130	**88.0**			
Surrogate: 4-BFB (PID)	"	*48.0*		*39.3*	"	*50.0-150*	*81.9*			
Matrix Spike Dup	**1170381-MSD1**		**B711248-01**							
Benzene	11/17/97	10.0	ND	9.22	ug/l	70.0-130	**92.2**	15.0	**2.08**	
Toluene	"	10.0	ND	9.04	"	70.0-130	**90.4**	15.0	**1.67**	
Ethylbenzene	"	10.0	ND	8.89	"	70.0-130	**88.9**	15.0	**0.225**	
Xylenes (total)	"	30.0	ND	26.2	"	70.0-130	**87.3**	15.0	**0.799**	
Surrogate: 4-BFB (PID)	"	*48.0*		*38.5*	"	*50.0-150*	*80.2*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170405	**Date Prepared: 11/17/97**					**Extraction Method: EPA 3520/600 Series**				
Blank	**1170405-BLK1**									
Diesel Range Hydrocarbons	11/18/97			**ND**	mg/l	**0.250**				
Heavy Oil Range Hydrocarbons	"			**ND**	"	**0.750**				
Surrogate: 2-FBP	"	*0.358*		*0.361*	"	*50.0-150*	*101*			
LCS	**1170405-BS1**									
Diesel Range Hydrocarbons	11/18/97	2.00		1.92	mg/l	60.0-140	96.0			
Surrogate: 2-FBP	"	*0.358*		*0.340*	"	*50.0-150*	*95.0*			
Duplicate	**1170405-DUP1**		**B711207-22**							
Diesel Range Hydrocarbons	11/18/97		0.264	ND	mg/l			44.0		
Surrogate: 2-FBP	"	*0.682*		*0.610*	"	*50.0-150*	*89.4*			
Duplicate	**1170405-DUP2**		**B711207-24**							
Diesel Range Hydrocarbons	11/18/97		ND	ND	mg/l			44.0		
Surrogate: 2-FBP	"	*0.682*		*0.645*	"	*50.0-150*	*94.6*			

North Creek Analytical, Inc.

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1170471	**Date Prepared: 11/18/97**					**Extraction Method: EPA 5030 [MeOH]**				
Blank	**1170471-BLK1**									
Bromodichloromethane	11/18/97			ND	mg/kg dry	0.0500				
Bromoform	"			ND	"	0.0500				
Bromomethane	"			ND	"	0.0500				
Carbon tetrachloride	"			ND	"	0.0500				
Chlorobenzene	"			ND	"	0.0500				
Chloroethane	"			ND	"	0.0500				
Chloroform	"			ND	"	0.0500				
Chloromethane	"			ND	"	0.0500				
Dibromochloromethane	"			ND	"	0.0500				
1,2-Dichlorobenzene	"			ND	"	0.0500				
1,3-Dichlorobenzene	"			ND	"	0.0500				
1,4-Dichlorobenzene	"			ND	"	0.0500				
1,1-Dichloroethane	"			ND	"	0.0500				
1,2-Dichloroethane	"			ND	"	0.0500				
1,1-Dichloroethene	"			ND	"	0.0500				
cis-1,2-Dichloroethene	"			ND	"	0.0500				
trans-1,2-Dichloroethene	"			ND	"	0.0500				
1,2-Dichloropropane	"			ND	"	0.0500				
cis-1,3-Dichloropropene	"			ND	"	0.0500				
trans-1,3-Dichloropropene	"			ND	"	0.0500				
Methylene chloride	"			ND	"	0.500				
1,1,2,2-Tetrachloroethane	"			ND	"	0.0500				
Tetrachloroethene	"			ND	"	0.0500				
1,1,1-Trichloroethane	"			ND	"	0.0500				
1,1,2-Trichloroethane	"			ND	"	0.0500				
Trichloroethene	"			ND	"	0.0500				
Trichlorofluoromethane	"			ND	"	0.0500				
Vinyl chloride	"			ND	"	0.0500				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.93*	"	*50.0-150*	*96.5*			
LCS	**1170471-BS1**									
Chlorobenzene	11/18/97	1.00		0.851	mg/kg dry	60.0-140	85.1			
1,1-Dichloroethene	"	1.00		0.840	"	60.0-140	84.0			
Trichloroethene	"	1.00		0.952	"	60.0-140	95.2			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.75*	"	*50.0-150*	*87.5*			

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Geo Engineers - Seattle	Project:	Stevens Health Care	Sampled: 11/10/97 to 11/12/97
600 Stewart Street, Suite 1215	Project Number:	5397-007-85	Received: 11/13/97
Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	1170471-MS1		B711152-08							
Chlorobenzene	11/18/97	1.17	ND	0.918	mg/kg dry	60.0-140	78.5			
1,1-Dichloroethene	"	1.17	ND	0.787	"	60.0-140	67.3			
Trichloroethene	"	1.17	ND	0.973	"	60.0-140	83.2			
Surrogate: 4-BFB (ELCD)	"	*2.33*		*1.95*	"	*50.0-150*	*83.7*			
Matrix Spike Dup	1170471-MSD1		B711152-08							
Chlorobenzene	11/18/97	1.17	ND	0.885	mg/kg dry	60.0-140	75.6	30.0	3.76	
1,1-Dichloroethene	"	1.17	ND	0.810	"	60.0-140	69.2	30.0	2.78	
Trichloroethene	"	1.17	ND	0.999	"	60.0-140	85.4	30.0	2.61	
Surrogate: 4-BFB (ELCD)	"	*2.33*		*1.96*	"	*50.0-150*	*84.1*			
Batch: 1170506	Date Prepared: 11/19/97					Extraction Method: EPA 5030 [P/T]				
Blank	1170506-BLK1									
Bromodichloromethane	11/19/97			ND	ug/l	1.00				
Bromoform	"			ND	"	1.00				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	1.00				
Chlorobenzene	"			ND	"	1.00				
Chloroethane	"			ND	"	1.00				
Chloroform	"			ND	"	1.00				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	1.00				
1,2-Dichlorobenzene	"			ND	"	1.00				
1,3-Dichlorobenzene	"			ND	"	1.00				
1,4-Dichlorobenzene	"			ND	"	1.00				
1,1-Dichloroethane	"			ND	"	1.00				
1,2-Dichloroethane	"			ND	"	1.00				
1,1-Dichloroethene	"			ND	"	1.00				
cis-1,2-Dichloroethene	"			ND	"	1.00				
trans-1,2-Dichloroethene	"			ND	"	1.00				
1,2-Dichloropropane	"			ND	"	1.00				
cis-1,3-Dichloropropene	"			ND	"	1.00				
trans-1,3-Dichloropropene	"			ND	"	1.00				
Methylene chloride	"			5.62	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	1.00				
Tetrachloroethene	"			ND	"	1.00				
1,1,1-Trichloroethane	"			ND	"	1.00				
1,1,2-Trichloroethane	"			ND	"	1.00				

North Creek Analytical, Inc.

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Halogenated Volatile Organics by EPA Method 8010B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**1170506-BLK1**									
Trichloroethene	11/19/97			**ND**	ug/l	**1.00**				
Trichlorofluoromethane	"			**ND**	"	**1.00**				
Vinyl chloride	"			**ND**	"	**1.00**				
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.65*	"	*50.0-150*	*91.3*			
LCS	**1170506-BS1**									
Chlorobenzene	11/19/97	5.00		4.43	ug/l	70.0-130	88.6			
1,1-Dichloroethene	"	5.00		4.88	"	70.0-130	97.6			
Trichloroethene	"	5.00		5.60	"	70.0-130	112			
Surrogate: 4-BFB (ELCD)	"	*4.00*		*4.14*	"	*50.0-150*	*103*			
Matrix Spike	**1170506-MS1**		**B711131-01**							
Chlorobenzene	11/19/97	10.0	ND	9.23	ug/l	70.0-130	**92.3**			
1,1-Dichloroethene	"	10.0	ND	9.44	"	70.0-130	**94.4**			
Trichloroethene	"	10.0	ND	10.1	"	70.0-130	**101**			
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.40*	"	*50.0-150*	*85.0*			
Matrix Spike Dup	**1170506-MSD1**		**B711131-01**							
Chlorobenzene	11/19/97	10.0	ND	9.08	ug/l	70.0-130	**90.8**	20.0	**1.64**	
1,1-Dichloroethene	"	10.0	ND	9.20	"	70.0-130	**92.0**	20.0	**2.58**	
Trichloroethene	"	10.0	ND	9.98	"	70.0-130	**99.8**	20.0	**1.20**	
Surrogate: 4-BFB (ELCD)	"	*4.00*		*3.35*	"	*50.0-150*	*83.7*			

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Seattle, WA 98101	Project Manager:	Dave Cook	Reported: 11/24/97 09:57

Notes and Definitions

#	Note
1	Analyte is a suspected laboratory contaminant. Please refer to the Method Blank.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

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Quantitation Report

Data File : C:\HPCHEM\2\DATA\K17008.D\FID1A.CH
Acq On : 17 Nov 1997 9:59 am
Sample : b711256-02
Misc : 5 mL
IntFile : SURR.E

Vial: 8
Operator: LAC
Inst : GC #4
Multiplr: 1.00

Data File : C:\HPCHEM\2\DATA\K17008.D\FID2B.CH
Acq On : 17 Nov 97 9:59 am
Sample : b711256-02
Misc : 5 mL
IntFile : SURR2.E

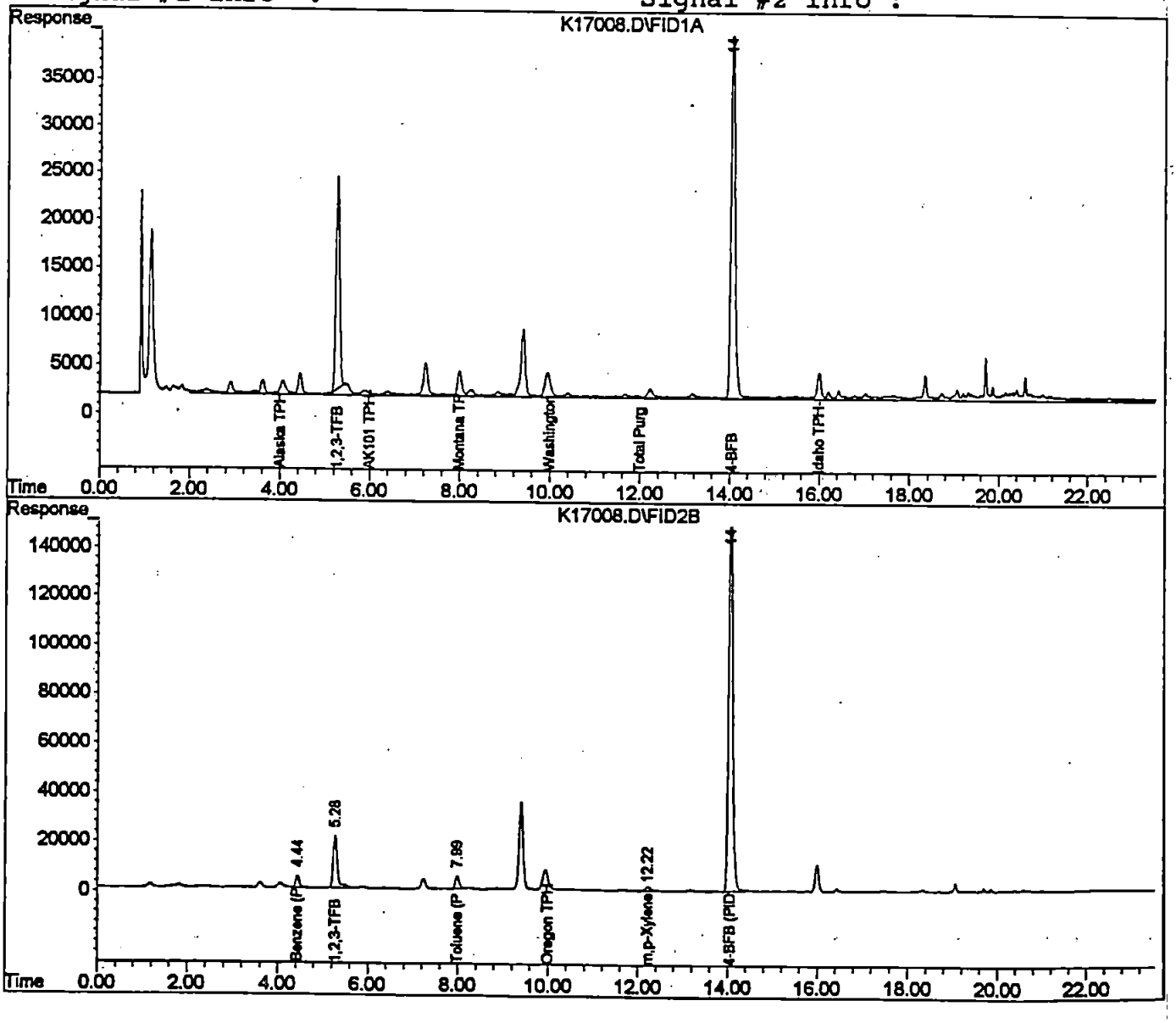
Vial: 8
Operator: LAC
Inst : GC #4
Multiplr: 1.00

Quant Time: Nov 17 10:23 1997 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\2\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Fri Nov 14 12:14:18 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Quantitation Report

Data File : C:\HPCHEM\2\DATA\K17009.D\FID1A.CH
Acq On : 17 Nov 1997 10:29 am
Sample : b711256-03
Misc : 5 mL
IntFile : SURR.E

Vial: 9
Operator: LAC
Inst : GC #4
Multiplr: 1.00

Data File : C:\HPCHEM\2\DATA\K17009.D\FID2B.CH
Acq On : 17 Nov 97 10:29 am
Sample : b711256-03
Misc : 5 mL
IntFile : SURR2.E

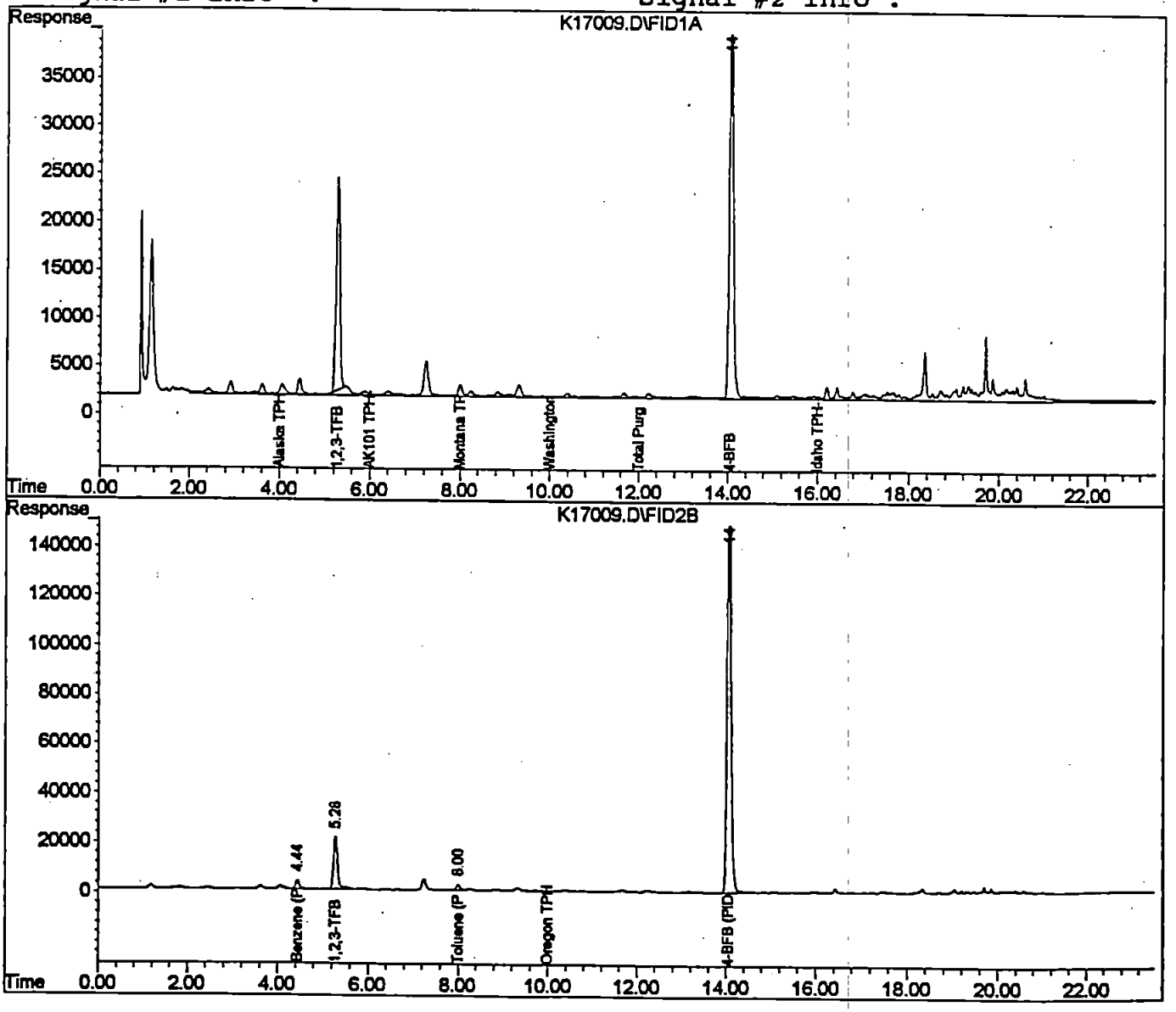
Vial: 9
Operator: LAC
Inst : GC #4
Multiplr: 1.00

Quant Time: Nov 17 10:53 1997 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\2\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Fri Nov 14 12:14:18 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :

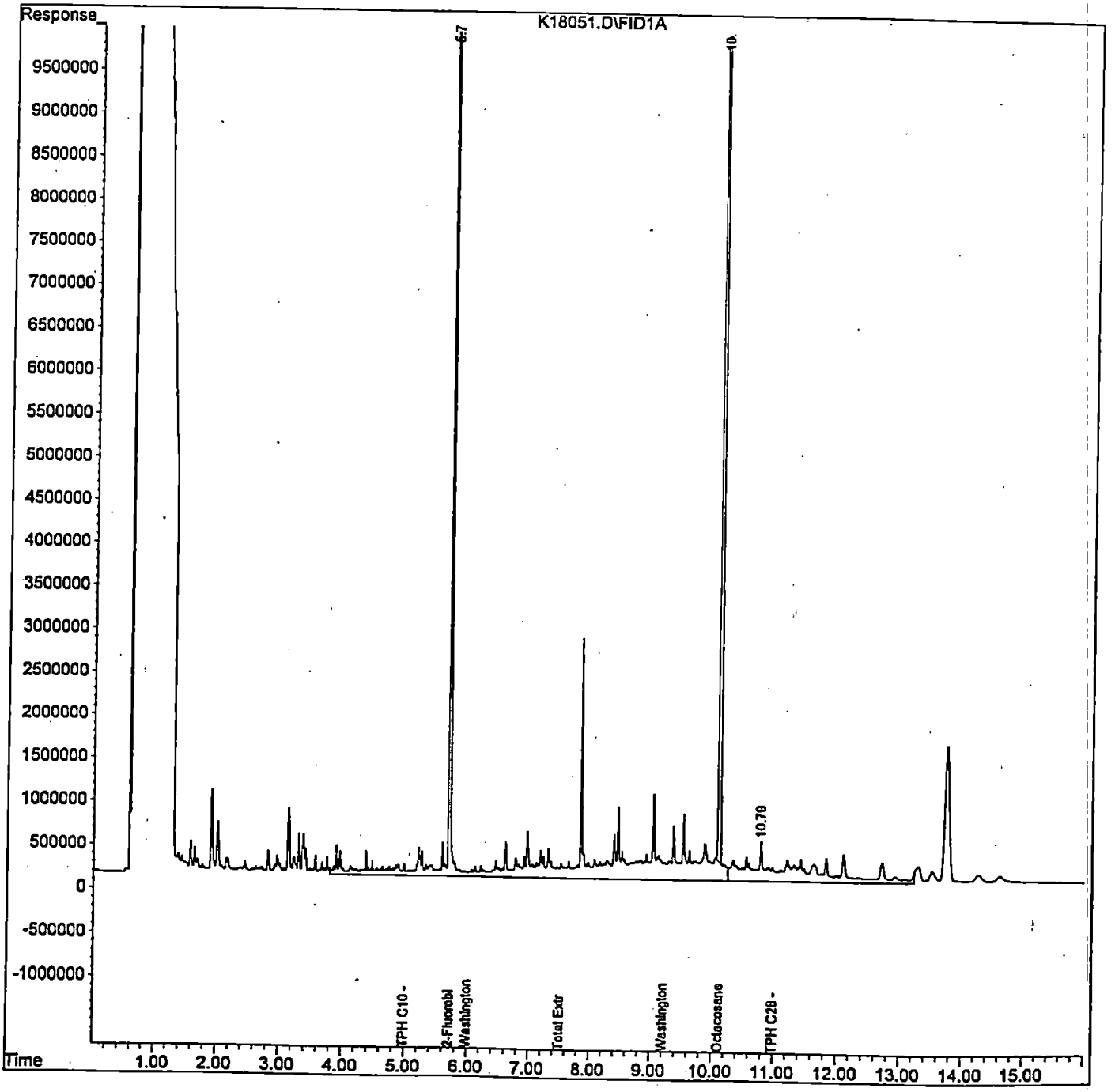


Quantitation Report

Data File : C:\HPCHEM\4\DATA\K18051.D
Acq On : 18-11-1997 23:49:35
Sample : b711256-02
Misc :
IntFile : SURR.E
Vial: 37
Operator:
Inst : GC #7
Multiplr: 1.00
Quant Time: Nov 19 7:44 1997 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Fri Nov 07 07:43:08 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



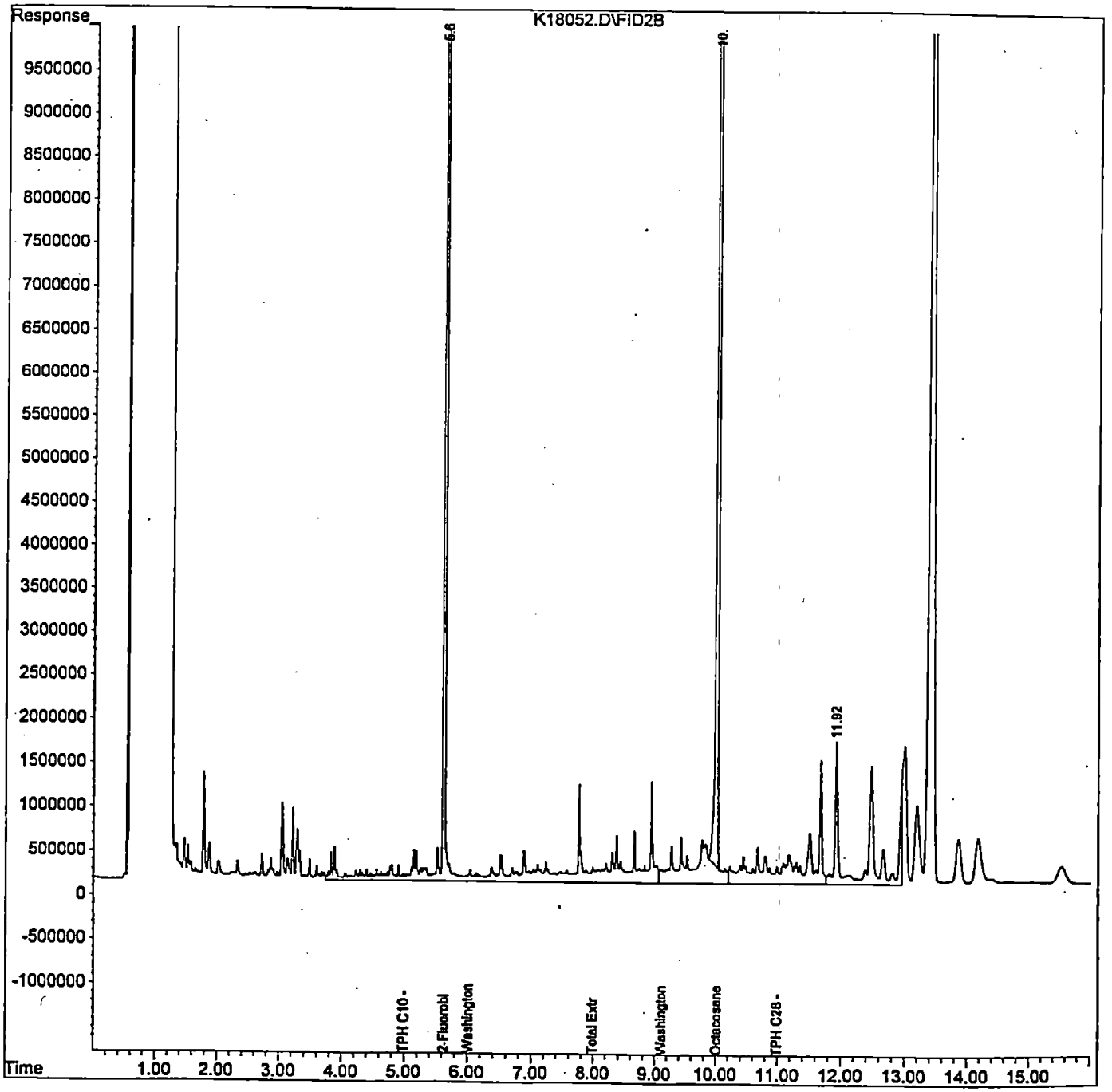
Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\K18052.D
Acq On : 19-11-1997 12:12:33
Sample : b711256-03
Misc :
IntFile : SURR.E
Quant Time: Nov 19 8:05 1997 Quant Results File: TPHD2.RES

Vial: 38
Operator:
Inst : GC #7
Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Sat Nov 15 12:29:32 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



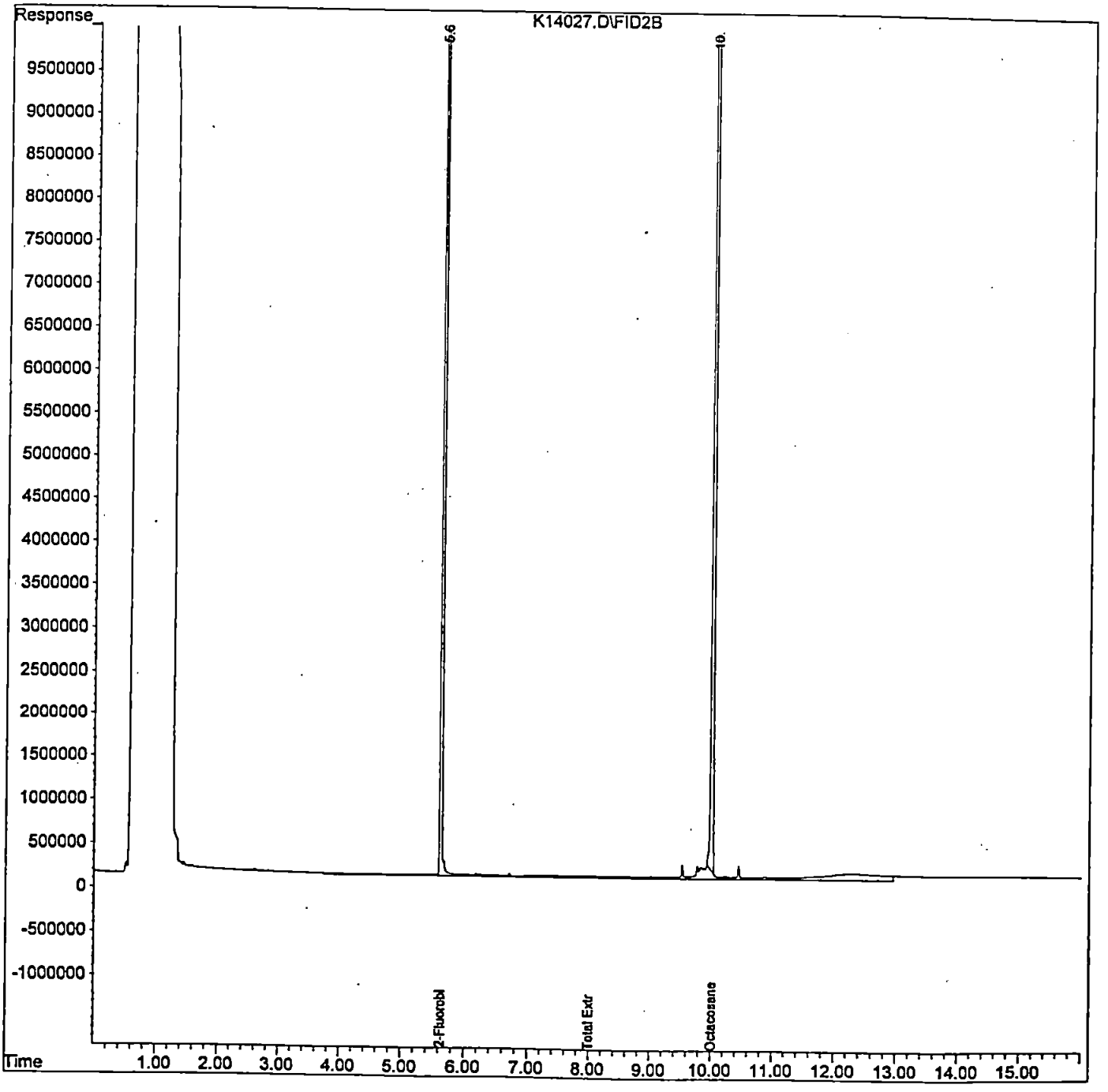
Quantitation Report

Data File : C:\HPCHEM\4\DATA\111497\K14027.D
Acq On : 14-11-1997 16:14:11
Sample : B711256-04 H
Misc :
IntFile : SURR.E
Quant Time: Nov 17 16:01 1997 Quant Results File: HCID2.RES

Vial: 22
Operator:
Inst : GC #7
Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\HCID2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Nov 17 15:31:17 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



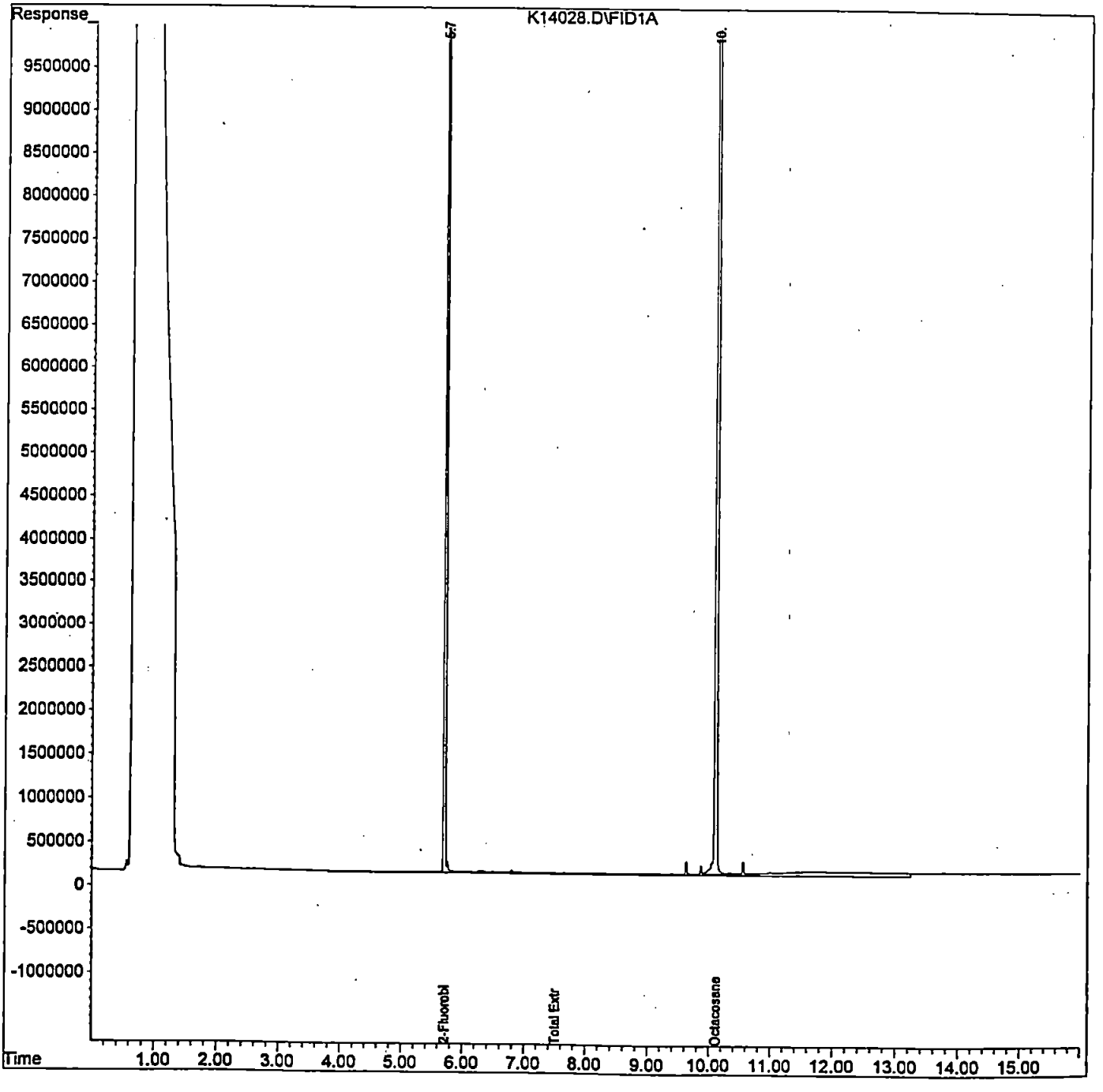
Quantitation Report

Data File : C:\HPCHEM\4\DATA\111497\K14028.D
Acq On : 14-11-1997 16:14:11
Sample : B711256-05 H
Misc :
IntFile : TPH.E
Quant Time: Nov 17 15:41 1997 Quant Results File: HCID.RES

Vial: 23
Operator:
Inst : GC #7
Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\HCID.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Mon Nov 17 15:18:45 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



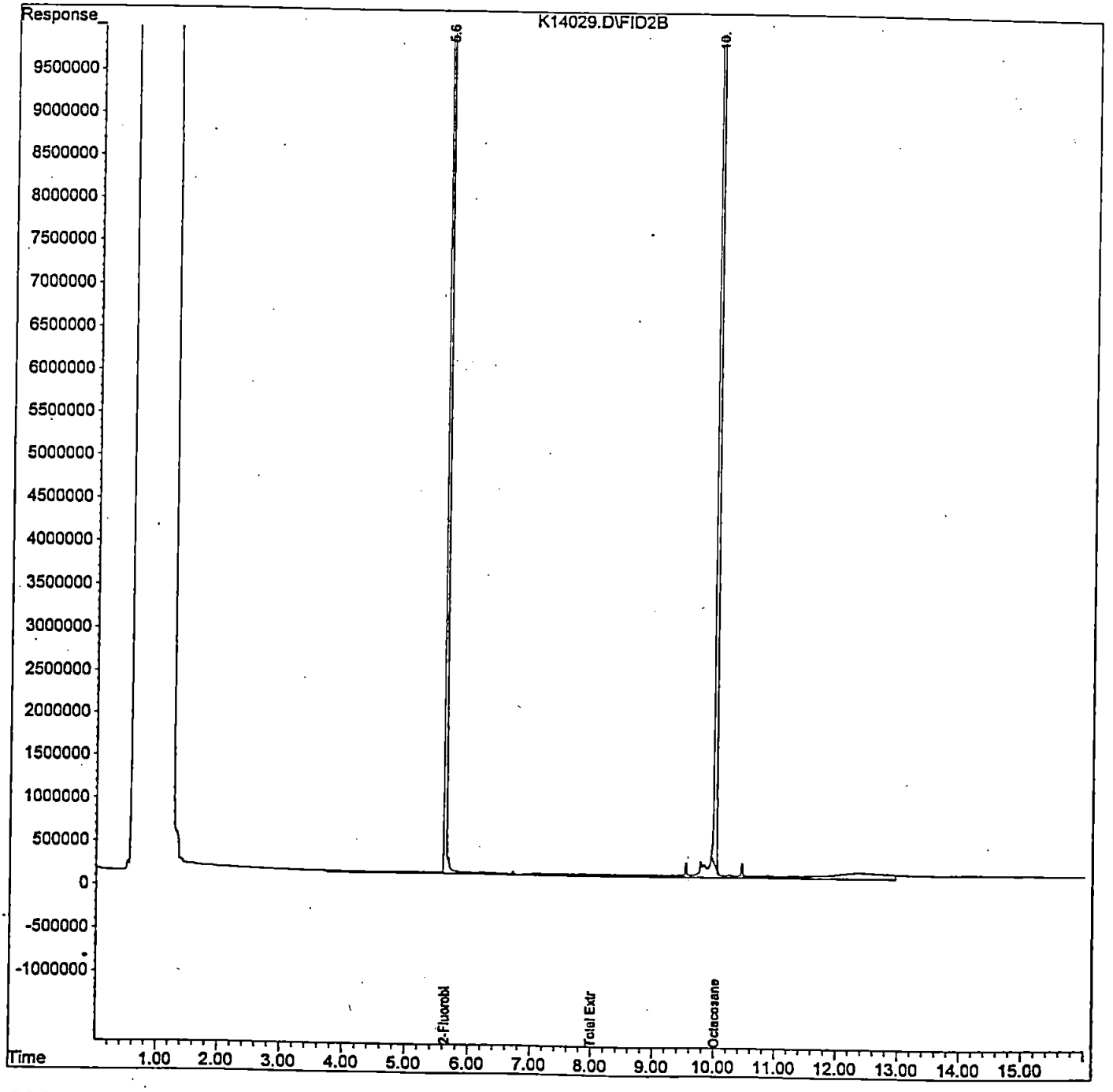
Quantitation Report

Data File : C:\HPCHEM\4\DATA\111497\K14029.D
Acq On : 14-11-1997 16:37:49
Sample : B711256-06 H
Misc :
IntFile : SURR.E
Quant Time: Nov 17 16:02 1997 Quant Results File: HCID2.RES

Vial: 24
Operator:
Inst : GC #7
Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\HCID2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Nov 17 15:31:17 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



NORTH CREEK ANALYTICAL
Environmental Laboratory Services

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992 X
East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

CHAIN OF CUSTODY REPORT

Work Order # B711256

REPORT TO:	INVOICE TO:
ATTENTION: DAVE COOK GEI SEATTLE	ATTENTION: DAVE COOK / GEI SEATTLE
ADDRESS: PLAZA 600 BLDG, 600 STEWART ST. STE. SEATTLE WA 98101	ADDRESS:
PHONE: (206) 728-2674 FAX: (206) 728-2732	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: STEVENS HEALTHCARE	
PROJECT NUMBER: 5397-007-85 T.2	
SAMPLED BY: BRICK SPANGLER & PAUL ROBINETTE	

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10 Standard] [7] [5] [4] [3] [2] [1] [Same Day]

Fuels & Hydrocarbon Analyses: [5 Standard] [3-4] [2] [1] [Same Day]

[OTHER] Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: HVOC (EPA 8010)	Lead (Confirmed)	WTPH-HCID	TPH-Dx/Ext.	WTPH-G/BTEX	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	MW-2	11/12 1500	B711256-01	X					W	2	
2.	MW-3	11/12 1340	-02	X			X	X	W	5	
3.	MW-4	11/12 1600	-03	X			X	X	W	5	
4.	MW-4 #3 14.0'	11/10	-04			X			S	1	ONLY WTPH-HCID
5.	MW-4 #4 19.0'	11/10	-05	X		X			S	1	
6.	MW-3 #2 9.0'	11/10	-06	X		X			S	1	
7.											
8.											
9.											
10.											

RELINQUISHED BY (Signature): Paul D. Robinette	DATE: 11/13	RECEIVED BY (Signature): Lisa Hurley	DATE: 11/13/96
PRINT NAME: PAUL ROBINETTE	FIRM: GEI TIME: 1140	PRINT NAME: Lisa Hurley	FIRM: NCA TIME: 1530
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	DATE:
PRINT NAME:	FIRM: TIME:	PRINT NAME:	FIRM: TIME:

ADDITIONAL REMARKS:

C4 W/C