Consulting Engineers
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Revised Cleanup Action Report
Family Fun Center Site
Tukwila, Washington

February 19, 2002

FAMILY FUN CENTER
TUKWILA
TCP 7300 FUN CENTER WAY 2000-2005

Consulting Engineers
and Geoscientists

GeoEngineers

Revised Cleanup Action Report
Family Fun Center Site
Tukwila, Washington

February 19, 2002

For

Family Fun Centers

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February 19, 2002

Consulting Engineers and Geoscientists

Family Fun Centers
7300 Fun Center Way
Tukwila, Washington 98188

Attention: Scott Huish

We are submitting three copies of our "Revised Cleanup Action Report" for the Family Fun Center site in Tukwila, Washington. This document summarizes 1998 remedial activities, which were completed in general accordance with the "Cleanup Action Plan and Engineering Report" dated September 14, 1998. The remediation was completed as an independent remedial action, and was conducted under consultation with Ecology's Voluntary Cleanup Program. The activities summarized in this report were completed from May 1998 to January 1999. This Cleanup Action Report was initially issued to Ecology on May 1, 2000. Gail Colburn of Ecology requested modifications and this revised report.

We appreciate the opportunity to be of continued service to Family Fun Centers on this project. Please call if you have any questions regarding this report.

Yours very truly,

GeoEngineers, Inc.

Debra Dunbar

for Kurt S. Anderson, C.P.G.
Principal

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cc: Gail Colburn
Washington State Department of Ecology

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REVISED CLEANUP ACTION REPORT
FAMILY FUN CENTER SITE
TUKWILA, WASHINGTON
FOR
FAMILY FUN CENTERS

1.0 EXECUTIVE SUMMARY

Final cleanup of the Family Fun Center site was completed concurrent with construction of the new Family Fun Center amusement park. Cleanup was conducted in general accordance with the *Cleanup Action Plan and Engineering Report* (GeoEngineers, September 14, 1998a). The Family Fun Center site includes three parcels. Parcels 1 and 2 were prepared for future property sale. Parcel 3 was retained for development of the Family Fun Center amusement park.

Selection of site-specific cleanup standards resulted in the following (1) use of Model Toxics Control Act (MTCA) Method A and B residential cleanup levels for soil, (2) site-specific calculation of total petroleum hydrocarbon cleanup level using MTCA Method B residential parameters, (3) recognition that the beneficial use of ground water is recharge to the adjacent surface water (Green River), (4) establishment of ground water points-of-compliance along the downgradient side of the property adjacent to the Green River, (5) deed restriction for Parcel 3 prohibiting the use of ground water, committing to maintenance of the cap overlying soils containing slag and concentrations of hydrocarbons that exceeded site-specific cleanup levels, and long-term ground water monitoring for dissolved hydrocarbons.

Cleanup actions included (1) the excavation of several "hot spots", (2) transport and recycling off site of excavated soils containing contaminants of concern other than hydrocarbons (metals, pesticides and polynuclear aromatic hydrocarbons [PAHs]), (3) screening and selective segregation of soil from an 80,000-cubic-yard-plus stockpile, and (4) placement and capping of soils containing slag and soil with hydrocarbons that exceeded site-specific cleanup levels. All soils exceeding site-specific residential cleanup levels were removed from Parcels 1 and 2 and either recycled off site or moved to Parcel 3 for containment and capping.

2.0 INTRODUCTION

GENERAL

Family Fun Centers purchased the site in 1998 for development into an amusement park. Pre-existing soil contamination was remediated by Family Fun Centers from May 1998 to January 1999, before and during site development. The cleanup action was conducted in general accordance with the *Cleanup Action Plan and Engineering Report* (CAP) (GeoEngineers, September 14, 1998a). This Cleanup Action Report (CAR) summarizes the remedial activities and, as appendices, provides plans for compliance monitoring of ground water, maintenance of institutional controls and soils handling for future subsurface work at the site.

LOCATION AND DESCRIPTION

The Family Fun Center site is located at 7300 Fun Center Way in Tukwila, Washington. The 14-acre site comprises three parcels (Parcels 1, 2 and 3, from west to east) that currently are owned by Family Fun Centers. The general vicinity of the site is shown in Figure 1.

The site is bounded by the Green River and commercial property to the north, Burlington Northern Railroad (BNRR) tracks and light industrial property to the east, South Grady Way and State Route 405 to the south, and State Route 181 and undeveloped property to the west. A former municipal landfill is located east of the BNRR right-of-way.

3.0 PROJECT BACKGROUND

3.1 SUMMARY OF INITIAL SITE CONDITIONS

Prior to 1998 demolition, the site was occupied by (1) five residences with ancillary buildings, (2) an auto repair shop, (3) a barn, (4) a former nursery retail shop, and (5) a milk processing plant and shed. The eastern portion of Parcel 3 was covered with an 80,000-cubic yard-plus stockpile from a former top soil manufacturing business. A man-made detention pond and other wet areas were located in the northern portion of Parcel 3. A high-voltage electrical transmission line crosses over the northern portions of the three parcels, and a line tower is located in the northern portion of Parcel 1. Southwest Monster Road formerly bisected the southern portion of Parcel 3.

3.2 PREVIOUS ASSESSMENT ACTIVITIES

The reader is referred to the CAP for a summary of previous environmental and geotechnical assessment activities at the site, and the nature and extent of soil contamination.

3.3 CLEANUP AND REMEDIATION LEVELS

GENERAL

The indicator hazardous substances (IHSs) and cleanup and remediation levels for the site are listed in Table 1 of the CAP.

TPH

A site-specific MTCA Method B residential soil cleanup level for TPH (exclusive of the former gasoline underground storage tank [UST] area) was calculated using equations in MTCA and Ecology's *Interim Interpretive and Policy Statement, Cleanup of Total Petroleum Hydrocarbons* (Interim TPH Policy) (GeoEngineers, January 6, 1998). The MTCA Method B residential cleanup level for soil direct contact of TPH was 2,984 milligrams per kilogram (mg/kg), of which no more than 1,786 mg/kg may consist of aromatic compounds. The Parcel 2 excavation remediation level for TPH (diesel- and heavy oil-range hydrocarbons) was the same as the site-specific MTCA Method B cleanup level. The Parcel 3 capping remediation level was concentrations of TPH (diesel- and heavy oil-range hydrocarbons) greater than 2,984 mg/kg. MTCA Method A cleanup levels (used for remediation levels) were selected for benzene and gasoline-range hydrocarbon concentrations in soil and for heavy oil-range hydrocarbons in

sediment, in Parcel 3. No gasoline-range hydrocarbons or benzene were detected on Parcels 1 and 2.

OTHER INDICATOR HAZARDOUS SUBSTANCES

IHSs other than TPH in soil were remediated to their respective MTCA Method A residential cleanup level or the most stringent MTCA Method B cleanup level for the given compound (Table 1). The Parcel 2 excavation remediation level for these compounds equaled the cleanup levels. If concentrations of IHSs other than TPH were greater than the respective MTCA Method A or B cleanup levels, the soils were transported offsite for recycling.

4.0 1998 REMEDIATION PROJECT OVERVIEW

4.1 SCOPE OF WORK

GeoEngineers completed the following scope of work during remediation activities.

1. Obtained pre-approval for off-site recycling of soil with contaminants other than petroleum hydrocarbons.
2. Observed excavation of contaminant hot spots. Obtained confirmatory soil samples from the excavation limits for chemical analysis in general accordance with the *Field Sampling and Chemical Analysis Plan* (GeoEngineers, September 14, 1998b).
3. Submitted confirmatory samples for chemical analyses of the contaminants of concern at each excavation, as discussed in the *Field Sampling and Chemical Analysis Plan.*
4. Monitored the removal of monitoring wells GCW-16 and GCW-17.
5. Obtained samples of excavated stockpiled soil for chemical analysis in general accordance with the *Field Sampling and Chemical Analysis Plan* (GeoEngineers, September 14, 1998b).
6. Conducted air quality monitoring at the site perimeter as described in Appendix A of this report.
7. Completed methane sampling in three hand-auger explorations completed on and adjacent to the site.

4.2 PERMITS AND AUTHORIZATIONS

The following permits and authorizations were relevant to the remedial work:

- Soil disposal facility clearance application, April 23, 1998.
- Final Ecology approval of Cleanup Action Plan, March 16, 1999.
- Land Altering and Rough Grading Permits with State Environmental Policy Act (SEPA) Permit, City of Tukwila, April 6, 1998.

A Hydraulic Project Approval, Section 401 Water Quality Certification and U.S. Army Corps of Engineers 404 Nationwide Permit 19 for Minor Dredging for the site did not apply to the remedial work.

4.3 CONTRACTORS' AND CONSULTANTS' RESPONSIBILITIES

S. D. Deacon was the general contractor for construction. Olympus Environmental Inc. of Auburn, Washington was the soil excavation contractor for the May 1998 remedial activities. Shear Transport of Buckley, Washington, a subcontractor of SD Deacon, was the soil excavation contractor for the remainder of the 1998 remedial activities. Other contractors involved in site activities included Custom Backhoe and Dumptruck Services, Inc. of Bellevue, Washington. Soil recycling services were provided by TPS Technologies, Inc. (TPS) of Tacoma, Washington.

North Creek Analytical (NCA) of Bothell, Washington performed most of the chemical analytical services. Multichem Analytical Services performed chemical analyses for the May 1998 hot spot excavation samples.

GeoEngineers performed remedial excavation monitoring and documentation. GeoEngineers also monitored the existing stockpile as the soil was graded onto the site. GeoEngineers' services generally included (1) observing and documenting daily site activities, (2) obtaining soil samples from the excavations for field screening and chemical analysis in accordance with the *Field Sampling and Chemical Analysis Plan* (GeoEngineers, September 14, 1998b), (3) advising the contractor regarding areas to be excavated, (4) advising the contractor regarding segregation of soil stockpiles, (5) obtaining soil samples from the stockpiles for field screening and chemical analysis, (6) conducting health and safety air monitoring for worker protection and at the site perimeter, and (7) evaluating the field observations and chemical analytical data with respect to the remediation levels and objectives. The field sampling procedures used during this project are described in Appendix A.

GeoEngineers conducted geotechnical monitoring services concurrently with environmental services in August and September 1998. Our geotechnical monitoring services are reported in GeoEngineers' summary letter dated August 4, 1999.

4.4 GENERAL EXCAVATION APPROACH

Before 1998 construction activities, the site generally was flat, except for the 80,000-cubic-yard-plus stockpile that occupied the eastern portion of Parcel 3. The stockpile was up to 35 feet higher than surrounding grade. Family Fun Centers' intent was to maintain a soil budget that would keep all soil on site, except for soil contaminated with non-petroleum IHSs. The latter would be recycled off site. As discussed, in Section 7.0, a portion of the existing stockpile was placed on adjacent City of Tukwila property. The remainder of the stockpile was graded onto the Family Fun Center site, which brought the overall site grade to an average of 30 feet in elevation, up from the average initial 23 feet in elevation. GeoEngineers monitored the grading of the existing stockpile in the event that contaminants were encountered that had not been anticipated, based on previous assessment results.

Hot spots identified during the 1997 assessment (GeoEngineers, November 17, 1997) were labeled "A" through "H." The hot spots are shown in Figure 3. Except for hot spots "E", "I" and parts of "F" and "H," these hot spots were excavated prior to construction activities. Hot spot "E" and part of "H" were excavated as they became accessible after the existing soil stockpile

was graded. Hot spot "F" initially was named for the area of the pre-existing detention pond, where sediments with heavy oil-range hydrocarbon excavations were excavated. As hot spot "F" was excavated, soil with creosote-like odors was encountered. Hot spot "F" was expanded to include remediation of the creosote-contaminated soil, with hydrocarbons, metals and/or carcinogenic PAH (cPAH) concentrations exceeding the remediation levels. Hot spot "I" was encountered during excavation of the fish habitat pond, where creosote-coated timbers were uncovered.

4.5 GENERAL SOIL SEGREGATION AND STOCKPILE END USE

Soil excavated from the hot spots was segregated according to the following guidelines:

- Soil with field screening results that suggested diesel- and heavy oil-range petroleum hydrocarbon concentrations were above the remediation levels.
- Soil with field screening results that suggested diesel- and heavy oil-range petroleum hydrocarbon concentrations were less than the remediation levels.
- Soil with gasoline-range hydrocarbons.
- Soil with non-petroleum IHSs, based on previous assessment.

Excavated soil was handled as follows:

- Soil with field screening results that suggested petroleum hydrocarbon concentrations were above the remediation levels was placed in an area of Parcel 3 that was to be capped with an asphalt concrete parking lot.
- Soil with field screening results that suggested petroleum hydrocarbon concentrations were less than the remediation levels was used as fill on site, with the following exception.
- Pond sediments removed from hot spot "F" and sediments removed from hotspot "H" were placed in an area of Parcel 3 that was to be capped.
- Soil with gasoline-range hydrocarbons was treated on site by aeration. The treated soil was graded out from the stockpile location, in the southern portion of the site, and ended up under a paved area.
- Soil with non-petroleum IHSs either was stockpiled temporarily and then transported or loaded directly into trucks for transport to TPS.
- Soil graded from the existing 80,000-cubic-yard-plus stockpile either remained on site or was placed on the adjacent City of Tukwila property.

Section 7.0 presents a detailed discussion of the volume of material transported to TPS or to the adjacent City of Tukwila property and the results of soil stockpile sampling and stockpile disposition.

4.6 SOIL SAMPLING AND TESTING METHODOLOGY

Soil samples from the limits of the hot spot excavations and stockpiles were obtained in general accordance with the *Field Sampling and Chemical Analysis Plan* (GeoEngineers,

September 14, 1999b). The chemical analytical data reports are presented in Appendix B with GeoEngineers' quality control (QC) review.

4.7 DESCRIPTION OF BACKFILL

The hot spot excavations were backfilled with soil graded from the existing stockpile, except for hot spots "F" and "H". Since the objective was to remove sediments with petroleum hydrocarbon concentrations exceeding the MTCA Method A cleanup levels from the former detention pond (hotspot "F") and drainage ditch (hotspot "H"), these hot spots were not backfilled with soil from the existing stockpile. Petroleum hydrocarbon concentrations were known to exceed the MTCA Method A cleanup levels in the existing stockpile, based on previous assessments. Hot spots "F" and "H" were backfilled with silty sand from a borrow pit excavated in the western portion of Parcel 3.

Soil imported for placement above the capped soil, beneath the asphalt concrete pavement in Parcel 3, consisted of base course comprising 1-1/4-inch-minus sand and gravel.

4.8 VAPOR PATHWAY

Sections 2.4.3 and 4.3.4 of the *Cleanup Action Plan and Engineering Report* (GeoEngineers, September 14, 1998b) discuss (1) the potential risk of a soil-to-vapor pathway for petroleum hydrocarbon or methane vapors at the site and (2) a precautionary passive venting system and vapor barrier beneath the Family Fun Center building to mitigate the potential pathway. At Family Fun Centers' request, we conducted a one-time methane sampling event at the site to assess whether the abandoned landfill to the east of the site is generating methane vapors. GeoEngineers concluded that methane vapors were not migrating onto the site. The results of assessment are summarized in the letter titled *Methane Sampling* (GeoEngineers, February 8, 1999). Hydrocarbons remaining in the soil consist predominantly of the heavier, relatively low volatility fractions. Based on the findings of the methane sampling and low volatility of the on-site hydrocarbons, Family Fun Center did not install a passive venting system or vapor barrier beneath the Family Fun Center building.

4.9 MONITORING WELL DECOMMISSIONING

The entire casings of monitoring wells GCW-16 and GCW-17 were removed on December 7, 1999. Monitoring well MW-19 was destroyed at the site during construction activities.

4.10 FUEL CONTAINER DISPOSAL

One empty 300-gallon oil tank and three 55-gallon drums (one containing used oil) were on-site from previous site activities. Custom Backhoe and Dumptruck Services cleaned the containers and removed them from the site on October 28, 1998. The disposal receipts are provided in Appendix C.

4.11 SCHEDULE OF WORK COMPLETED

The following is a schedule of the remedial work completed at the Family Fun Center site in 1998 and 1999:

- May 5 and 6: April 30 to May 13: Excavation of hot spots "A" through "D".
- August 10 through 27: Overexcavation of hot spots "B" and "G", excavation of slag, excavation of hot spots "F" and "H".
- August 25 through September 24: Grading of existing on-site stockpile.
- October 7 through 13: Overexcavation of hot spot "F", excavation of hot spots "E" and "I".
- December 7 and January 21: Overexcavation of hot spot "F".
- December 21: Sampling of soil placed on City of Tukwila property.
- January 27: Methane sampling.
- Week of August 2: Placement of cap (parking lot).

5.0 SOIL EXCAVATION AND SAMPLING

5.1 SOIL CONDITIONS ENCOUNTERED

Soils encountered during excavation included variable fills and alluvial silt and sand deposits. In general the site fill encountered during soil excavation consisted of sand, sand with silt, silty sand and silt with variable amounts of sand. Debris also was encountered in portions of the site fill. The debris included wood, concrete, brick, slag and railroad ties.

Soils encountered in the existing soil stockpile in Parcel 3 included silty sand, silty gravel, silt with variable amounts of sand and gravel and silt with fine organic matter (wood shavings). Debris was also encountered in the stockpile fill. The debris included wood, concrete, brick, metal, wire, slag, and other refuse.

5.2 SUPPORTING TABLES AND FIGURES

Sections 5.3 through 5.12 describe GeoEngineers' observations and the results of sampling of excavation limits, excavated soil volumes and final soil disposition. The text in Sections 5.3 through 5.12 is supported by information presented in Table 1 and Figures 4 through 7.

5.3 HOT SPOT EXCAVATIONS

5.3.1 Hot Spot "A"

- Hot spot "A" excavation removed soil with the pesticide chlordane in the location of October 1997 hand auger exploration HA-2.
- The maximum depth of excavation was approximately 1.5 feet below the pre-construction site grade.
- No ground water seepage was observed.
- Five confirmation samples were obtained from hot spot "A" (Figure 4). Chlordane and other pesticides were not detected in the samples (Table 1).
- Approximately 60 cubic yards (estimated stockpile volume) of soil were removed from hot spot "A" and eventually recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.2 Hot Spot "B"

- Hot spot "B" excavation removed soil with petroleum hydrocarbons, arsenic, nickel and chromium in the location of October 1997 direct-push boring SP-23.
- The maximum depth of excavation was approximately 2 foot below the pre-construction site grade.
- No ground water seepage was observed.
- One sample (EX-B4-1.0) obtained on August 5, 1998 subsequently was overexcavated because the beryllium and lead concentrations exceeded the remediation levels. The chemical analytical data for this sample is in Table 1. During overexcavation on August 10, 1998, the sample location was resampled for beryllium and lead (EX-B6-2 and EX-B7-2) and concentrations were less than remediation levels.
- A total of six confirmation samples were obtained from the excavation for analysis of BETX, petroleum hydrocarbons and priority pollutant metals and barium. Concentrations of the analytes in the samples were less than the remediation levels (Table 1).
- Approximately 35 cubic yards (stockpiled volume) of soil were removed from hot spot "B", transported and recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.3 Hot Spot "C"

- Hot spot "C" excavation removed soil with petroleum hydrocarbons and cPAHs in the location of hand auger boring HA-4 completed in October 1997.
- The maximum depth of excavation was approximately 1.5 feet below the pre-construction site grade.
- No ground water seepage was observed.
- Three samples from the excavation were field screened for the potential presence of petroleum hydrocarbons. One of these samples was selected for confirmation of cleanup and was submitted for analysis of petroleum hydrocarbons and PAHs. These analytes were not detected in the sample.
- Approximately 10 cubic yards (stockpiled volume) of soil were excavated from hot spot "C", transported and recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.4 Hot Spot "D"

- Hot spot "D" excavation removed soil with petroleum hydrocarbons in the locations of October 1997 hand-auger exploration HA-6 and direct-push boring SP-25.
- The maximum depth of excavation was approximately 3 foot below the pre-construction site grade.
- No ground water seepage was observed.
- Ten samples from the excavation were field screened for the potential presence of petroleum hydrocarbons. Five of these samples were selected for confirmation of cleanup and were

submitted for analysis of petroleum hydrocarbons. Petroleum hydrocarbons either were not detected in the samples or were detected at concentrations less than the remediation level (Table 1).

- Approximately 10 cubic yards (stockpiled volume) of soil were removed from hot spot "D" and moved to Parcel 3 for containment and capping (Figure 8). The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.5 Hot Spot "E"

- Hot spot "E" excavation removed soil with chromium in the location of October 1997 direct-push boring SP-7. Boring SP-7 was completed through the existing soil stockpile, and sampled at approximately the native soil – stockpile interface.
- The maximum depth of excavation was approximately 15.5 feet below the finish grade of the site, which was approximately 1 foot lower than the location of SP-7.
- No ground water seepage was observed.
- Two samples were selected for confirmation of cleanup and were submitted for analysis of total chromium. Chromium was detected at concentrations less than the remediation level in both samples (Table 1).
- Approximately 20 cubic yards (stockpiled volume) of soil were removed from hot spot "E", transported and recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.6 Hot Spot "F"

- Hot spot "F" excavation was started on August 12, 1998, to remove sediments in the former retention pond with petroleum hydrocarbons detected during hand-auger exploration HA-1 in October 1997. However, during the course of excavation, soil that exhibited a creosote-like odor was encountered in the northern portion of the excavation. The northern portion of hot spot "F" was overexcavated on October 8 and December 7, 1998 and January 21, 1999 to remove soil with carcinogenic PAHs.
- The maximum depth of the northern portion of the excavation was approximately 18 feet below the pre-construction site grade. The average depth of the excavation where pond sediments were removed ranged from 1.0 to 10.0 feet below the pre-construction site grade.
- Ground water seepage was observed in the northern portion of the excavation at a depth of approximately 12 feet below the pre-construction site grade on January 21, 1999.
- Carcinogenic PAHs were detected in samples EX-F6-10, EX-F16-12 and EX-F17-15 at concentrations exceeding the remediation level. Soil in areas where these samples subsequently were obtained were overexcavated and the areas were resampled (EX-F14-15, EX-F18-12 and EX-F19-18). Seven samples from the final limits of the excavation were selected for confirmation of cleanup and were submitted for analysis of petroleum hydrocarbons, priority pollutant metals and/or PAHs. The analytes either were not detected or were detected at concentrations less than remediation levels (Table 1).

- Twelve samples from the pond sediment portion of the excavation were field screened for the potential presence of petroleum hydrocarbons. All twelve of these samples were submitted for analysis of petroleum hydrocarbons. Petroleum hydrocarbons either were not detected in the samples or were detected at concentrations less than remediation level (Table 1).
- Hot spot "F" was backfilled with native soil from the borrow pit in the western portion of Parcel 3 .
- A total of approximately 50 cubic yards (stockpiled volume) of soil were removed from the northern (PAH) portion of hot spot "F" during the initial excavation and overexcavations, transported, and recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.
- Approximately 350 cubic yards (stockpiled volume) of soil were removed from the pond sediment portion of hot spot "F" and moved to the containment and capping area of Parcel 3 (Figure 8). The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.7 Hot Spot "G"

- Hot spot "G" excavation removed soil with benzene and/or gasoline-range hydrocarbons from the limits of the February 1998 gasoline UST excavation.
- The maximum depth of excavation was approximately 12 feet below the pre-construction site grade.
- No ground water seepage was observed.
- Four samples from the excavation were field screened for the potential presence of gasoline-range hydrocarbons. The samples were selected for confirmation of cleanup and were submitted for analysis of BETX and gasoline-range hydrocarbons. The analytes were not detected in the confirmation samples (Table 1).
- Approximately 15 cubic yards (stockpiled volume) of soil were removed from hot spot "G", aerated, confirmed to be below remediation levels and used as construction fill on Parcel 3. The sampling and disposition of these stockpiles are discussed in Section 7.0.

5.3.8 Hot Spot "H"

- Hot spot "H" excavation removed soil/sediment with petroleum hydrocarbons, represented by October 1998 hand-auger sample HA-3-0.5, from a drainage ditch that bordered the eastern property boundary.
- The maximum depth of excavation was approximately 2 feet below the pre-construction site grade.
- No ground water seepage was observed.
- Three samples from the excavation were field screened for the potential presence of petroleum-range hydrocarbons. The samples were selected for confirmation of cleanup and were submitted for analysis of petroleum hydrocarbons. Petroleum hydrocarbons were detected in the samples at concentrations less than the sediment remediation levels. (Table 1).

- Hot spot "H" was backfilled with native soil from the borrow pit in the western portion of Parcel 3.
- Approximately 20 cubic yards (stockpiled volume) of soil were removed from hot spot "H" and moved to the containment and capping area of Parcel 3 (Figure 8). The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.9 Hot Spot "I"

- Hot spot "I" excavation was completed when soil that exhibited a creosote-like odor was encountered with buried treated wood timbers during excavation for the fish habitat pond.
- The maximum depth of excavation was approximately 5 feet below the pre-construction site grade.
- No ground water seepage was observed.
- One sample was obtained for confirmation of cleanup by submitting for analysis of priority pollutant metals and PAHs. The analytes were detected at concentrations less than the remediation levels (Table 1). The sample from the excavation was field screened for the potential presence of petroleum hydrocarbons. Based on field screening results, the sample was not submitted for analysis of petroleum hydrocarbons because petroleum hydrocarbon concentrations, if present, appeared to be much less than the remediation level.
- Based on field screening results, approximately 20 cubic yards (stockpiled volume) of soil were removed from hot spot "I", transported and recycled at TPS. The sampling and disposition of the stockpile is discussed in Section 7.0.

5.3.10 Slag Excavation

- Slag was removed from existing gravel roads and driveways at the site at the request of Ecology and stockpiled for placement under the cap because it was considered a potential source of metals contamination (Figure 7).
- The maximum depth of the slag excavation was approximately 2.0 feet below the pre-construction site grade.
- No ground water seepage was observed.
- Two discrete samples (EX-S1-1.5 and EX-S2-1.5) from the limits of the slag excavation were field screened for the potential presence of petroleum hydrocarbons. One sample (EX-S1-1.5) was submitted for analysis of petroleum hydrocarbons to characterize soil beneath the roadway. Petroleum hydrocarbons were detected at concentrations below the site specific remediation level for petroleum (Table 1). A composite limit sample (EX-S3-2.0) was obtained from the base of the slag excavation and submitted for analysis of priority pollutant metals. The analytes were detected at concentrations less than the remediation levels for metals (Table 1).
- Approximately 150 cubic yards (stockpiled volume) of slag/soil were removed from the existing site roads and driveways and moved to the containment and capping area of Parcel 3 (Figure 8). The sampling and disposition of the stockpile is discussed in Section 7.0.

6.0 GRADING OF EXISTING ON-SITE STOCKPILE

The on-site stockpile was graded onto parcels 1, 2 and 3 by Shear Transport. A field representative from GeoEngineers monitored the grading of the on-site stockpile. Soil samples were periodically field screened during grading of the stockpile by visual observation and testing for water sheen and for headspace vapors. Approximately 500 cubic yards of soil suspected of containing hydrocarbon concentrations above the site-specific remediation level and 60 cubic yards of slag were segregated from the on-site stockpile during grading activities.

7.0 EXCAVATED SOIL REUSE AND STOCKPILE DISPOSITION

- Excavated soil was segregated as described generally in Section 4.5 and as indicated in Table 2. Stockpile sampling procedures are discussed in Appendix A.
- Approximately 260 cubic yards of soil excavated from hot spot excavations "A", "B", "C", "E", "F" and "I" were transported off-site to TPS in Tacoma. This volume is based on conversion of the measured weight received at the landfill (377.56 tons) and the assumed in-place soil density of 1.6 tons per in-place cubic yard as our observations during excavation of the hotspots. The tipping summary for TPS is provided in Appendix C.
- Approximately 1,100 cubic yards (bulked volume) of soil and slag that were excavated from hotspots "D" and "H", the pond sediments from hot spot "F", existing roads and the on-site stockpile were placed as fill under the cap in the south parking lot.
- Approximately 10 cubic yards of soil excavated from hot spot excavation "G" were aerated, confirmed to be below remediation levels and used as construction fill on Parcel 3.
- Approximately 4,100 cubic yards of soil was placed on City of Tukwila property, including beneath the Grady Way right-of-way, adjacent to the southern property boundary of the Family Fun Center site, and at the southwest entrance to the site, at the former location of the construction job shack. Based on results from characterization samples (Table 2), the TPH concentrations in the soil are an order of magnitude less than the concentration protective of human health by direct contact with the soil (the MTCA Method B cleanup level). It is our opinion that if the soil is not moved from the current locations, the soil is unlikely to pose a risk to human health or the environment. The City of Tukwila provided an acknowledgement of the soil on their property in a letter to Family Fun Center dated March 28, 2001 (Appendix D).

8.0 CONCLUSIONS

8.1 SOIL EXCAVATED AND RECYCLED OR CAPPED

- Approximately 1,370 cubic yards (bulked volume) of soil were excavated from Parcels 2 and 3 during the 1998 and 1999 soil remedial activities.
- Approximately 260 cubic yards (bulked volume) of soil excavated were transported off site to TPS. This volume is estimated based on converting the measured 378 tons delivered to TPS, assuming an in-place soil density of 1.6 tons per cubic yard.
- Approximately 1,100 cubic yards (bulked volume) of soil and slag excavated were placed under an engineered cap on Parcel 3.

8.2 EXCAVATION BACKFILL AND CAP

- The excavations were backfilled with on-site soil, either from the existing stockpile or from a borrow pit excavated in Parcel 3.
- Imported base course material was placed over the soil in Parcel 3 to be contained (capped), and approximately 4 inches of asphalt concrete were laid over the base course in June 1999.

8.3 SOIL SAMPLES AND CLEANUP CONFIRMATION

- A total of 41 cleanup confirmation samples were obtained from the limits of remedial excavations in Parcels 2 and 3. Concentrations of contaminants of concerns were less than the remediation levels in all excavation limit confirmation samples.

8.4 INSTITUTIONAL CONTROLS

- A deed restriction has been filed with King County (Appendix E). The deed restriction requires that (1) on-site ground water not be used, and (2) capping over the contained hydrocarbons be maintained.
- Long-term monitoring of ground water will be completed at the points-of-compliance. Ground water will be sampled for total petroleum hydrocarbons to ensure that the completed cleanup is protective. The compliance monitoring plan and cap maintenance plan are provided in Appendices F and G.

9.0 LIMITATIONS

We have prepared this report for use by Family Fun Centers. This report also may be made available to Ecology, other agencies and potential purchasers for their review. This report is not intended for use by others and the information contained herein is not applicable to other sites.

Our interpretations of subsurface conditions are based on observations and testing data from the explored portions of the site. It is possible that conditions vary from our conclusions in areas of the site that have not been explored, sampled or tested.

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

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

Respectfully submitted,

GeoEngineers, Inc.

Lisa J. Bona
Senior Geologist

for Kurt S. Anderson, C.P.G.
Principal

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REFERENCES

GeoEngineers. January 6, 1998. "Site-specific Method B Soil Cleanup Level for Petroleum Hydrocarbons" (prepared for Family Fun Centers).

GeoEngineers September 14, 1998a. "Cleanup Action Plan and Engineering Report" (prepared for Family Fun Centers).

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GeoEngineers. September 14, 1998c. "Site Safety Plan" (prepared for Family Fun Centers).

GeoEngineers. February 8, 1999. "Methane Sampling" (prepared for Family Fun Centers).

Washington State Department of Ecology. January 16, 1997. "Interim Interpretive and Policy Statement, Cleanup of Total Petroleum Hydrocarbons (TPH)," Publication No. ECY97-600.

Washington State. June 17, 1998. "Minimum Standards for Construction and Maintenance of Wells," Chapter 173-160 WAC.

TABLE 1 (Page 1 of 6)
SUMMARY OF SOIL FIELD SCREENING AND CHEMICAL ANALYTICAL RESULTS
LIMITS OF HOT SPOT EXCAVATION
FAMILY FUN CENTER
TUKWILA, WASHINGTON

Sample Number[1]	Date Sampled	Depth of Sample (feet)	Field Screening Results[2]		BETX[3] (mg/kg)				Gasoline-range Hydrocarbons[4] (mg/kg)	Diesel-range Hydrocarbons[5] (mg/kg)	Heavy Oil-range Hydrocarbons[5] (mg/kg)	Priority Pollutant Metals and Barium[6] (mg/kg)		PAHs[7] (mg/kg)	Pesticides[8] (mg/kg)
			Headspace Vapors (ppm)	Sheen	B	E	T	X							
Excavation A - Former Pesticide Storage Area															
EX-A1-1.5	05/05/98	1.5	--	--	--	--	--	--	--	--	--	--		--	ND
EX-A2-1.5	05/05/98	1.5	--	--	--	--	--	--	--	--	--	--		--	ND
EX-A3-1.5	05/05/98	1.5	--	--	--	--	--	--	--	--	--	--		--	ND
EX-A4-0.75	05/05/98	0.75	--	--	--	--	--	--	--	--	--	--		--	ND
EX-A5-0.75	05/05/98	0.75	--	--	--	--	--	--	--	--	--	--		--	ND
Excavation B - Former Auto Repair Shop															
EX-B1-0.5	05/05/98	0.5	<100	SS	<0.028	<0.028	<0.028	<0.028	<5.6	<11	<45	Barium	52	--	--
												Chromium	8.6		
												Copper	16		
												Lead	15		
												Nickel	8.7		
												Zinc	84		
EX-B2-1.0	05/05/98	1.0	<100	SS	<0.032	<0.032	<0.032	<0.032	<6.3	22	58	Barium	96	--	--
												Cadmium	0.40		
												Chromium	13		
												Copper	28		
												Lead	110		
												Nickel	11		
												Zinc	110		
EX-B3-1.0	05/05/98	1.0	<100	SS	<0.029	<0.029	<0.029	<0.029	<5.9	<12	<47	Barium	58	--	--
												Chromium	11		
												Copper	20		
												Lead	25		
												Nickel	9.5		
												Zinc	55		
EX-B4-1.0[9]	05/05/98	1.0	<100	SS	<0.032	<0.032	<0.032	<0.032	<6.5	19	120	Barium	400	--	--
												Beryllium	0.59		
												Cadmium	1.00		
												Chromium	30		
												Copper	51		
												Lead	570		
												Nickel	16		
												Zinc	180		
EX-B5-0.5	05/05/98	0.5	<100	SS	<0.031	<0.031	<0.031	<0.031	<6.3	25	70	Barium	300	--	--
												Beryllium	0.33		
												Cadmium	0.87		
												Chromium	15		
												Copper	47		
												Lead	210		
												Nickel	21		
												Zinc	290		
EX-B6-2	08/10/98	2.0	<100	NS	--	--	--	--	--	--	--	Lead	6.26	--	--
EX-B7-2	08/10/98	2.0	<100	NS	--	--	--	--	--	--	--	Lead	3.75	--	--
Remediation Levels (see page 5 of 6)															

Notes appear on page 6 of 6

TABLE 1 (Page 2 of 6)

Sample Number[1]	Date Sampled	Depth of Sample (feet)	Field Screening Results[2] Headspace Vapors (ppm)	Sheen	BETX[3] (µg/l) B	E	T	X	Gasoline-range Hydrocarbons[4] (mg/l)	Diesel-range Hydrocarbons[5] (mg/l)	Heavy Oil-range Hydrocarbons[5] (mg/l)	Priority Pollutant Metals and Barium[6] (mg/kg)	PAHs[7] (mg/kg)	Pesticides[8] (mg/kg)
Excavation C - Former Auto Repair Shop/Drum Storage Area														
EX-C1-1.5	05/05/98	1.5	<100	NS	--	--	--	--	--	--	--	--	--	--
EX-C2-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	<12	<47	--	ND	--
EX-C3-0.75	05/05/98	0.75	110	SS	--	--	--	--	--	--	--	--	--	--
Excavation D - Former Oil Dump Area														
EX-D1-3	05/05/98	3.0	<100	SS	--	--	--	--	--	24	88	--	--	--
EX-D2-2	05/05/98	2.0	100	SS	--	--	--	--	--	--	--	--	--	--
EX-D3-1.5	05/05/98	1.5	650	SS	--	--	--	--	--	80	250	--	--	--
EX-D4-1.5	05/05/98	1.5	100	SS	--	--	--	--	--	--	--	--	--	--
EX-D5-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	450	830	--	--	--
EX-D6-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	--	--	--	--	--
EX-D7-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	41	190	--	--	--
EX-D8-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	--	--	--	--	--
EX-D9-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	270	710	--	--	--
EX-D10-1.5	05/05/98	1.5	<100	SS	--	--	--	--	--	--	--	--	--	--
Excavation E - Chromium Hot Spot (sample SP-7-30.0 from Phase II ESA)														
EX-E1-15.5	10/08/98	15.5	--	--	--	--	--	--	--	--	--	Chromium 95.5	--	--
EX-E2-14.0	10/08/98	14.0	--	--	--	--	--	--	--	--	--	Chromium 97.1	--	--
Excavation F - Sediment Excavation/Creosote-impacted Soil														
EX-F1-1.5	08/11/98	1.5	<100	NS	--	--	--	--	--	24.7	98.6	--	--	--
EX-F2-1.5	08/11/98	1.5	<100	NS	--	--	--	--	--	34.6	123	--	--	--
EX-F3-2	08/11/98	2.0	<100	NS	--	--	--	--	--	31.6	151	--	--	--
EX-F4-6	08/12/98	6.0	200	NS	--	--	--	--	--	36.0	116	--	--	--
EX-F5-4	08/12/98	4.0	130	NS	--	--	--	--	--	68.2	66.7	--	--	--
EX-F6-10[9]	08/12/98	10.0	400	SS	--	--	--	--	--	926	503	Arsenic 8.68 Chromium 10.6 Copper 21.6 Lead 41.9 Mercury 0.128 Nickel 34.7 Silver 1.16 Zinc 37.5	Carcinogenic PAHs Benzo(a)anthracene 69.3 Benzo(b)fluoranthene 117 Benzo(k)fluoranthene 35.9 Benzo(a)pyrene 119 Chrysene 82.0 Dibenzo(a,h)anthracene 14.2 Indeno(123-cd)pyrene 120 Noncarcinogenic PAHs Naphthalene 166 Acenaphthene 48.9 Acenaphthylene 12.0 Anthracene 32.6 Benzo(g,h,i)perylene 150 Dibenzoforan 3.93 Fluoranthene 209 Fluorene 25.4 2-methylnaphthalene 47.7 Phenanthrene 153 Pyrene 339	--
Remediation Levels (see page 5 of 6)														

Notes appear on page 6 of 6

TABLE 1 (Page 3 of 6)

Sample Number[1]	Date Sampled	Depth of Sample (feet)	Field Screening Results[2] Headspace Vapors (ppm)	Field Screening Results[2] Sheen	BETX[3] (µg/l) B	BETX[3] (µg/l) E	BETX[3] (µg/l) T	BETX[3] (µg/l) X	Gasoline-range Hydrocarbons[4] (mg/l)	Diesel-range Hydrocarbons[5] (mg/l)	Heavy Oil-range Hydrocarbons[5] (mg/l)	Priority Pollutant Metals and Barium[6] (mg/kg)		PAHs[7] (mg/kg)		Pesticides[8] (mg/kg)
Excavation F (continued)																
EX-F7-1.5	08/12/98	1.5	300	SS	--	--	--	--	--	<10.0	<25.0	--		--		--
EX-F8-10	08/12/98	10.0	250	SS	--	--	--	--	--	13.8	45.5	--		--		--
EX-F9-5	08/12/98	5.0	180	SS	--	--	--	--	--	187	208	--		--		--
EX-F10-5	08/12/98	5.0	150	SS	--	--	--	--	--	54.5	153	--		--		--
EX-F11-1.5	08/12/98	1.5	250	SS	--	--	--	--	--	<10.0	<25.0	--		--		--
EX-F12-2.5	08/12/98	2.5	200	NS	--	--	--	--	--	26.4	32.3	--		--		--
EX-F13-1.5	08/12/98	1.5	250	SS	--	--	--	--	--	34.9	93.5	--		--		--
EX-F13-12	10/08/98	12.0	<100	NS	--	--	--	--	--	--		Arsenic	5.82	ND		--
												Chromium	38.4			
												Copper	38.0			
												Lead	40.8			
												Mercury	0.116			
												Nickel	37.6			
												Zinc	65.7			
EX-F14-15	10/08/98	15.0	<100	NS	--	--	--	--	--	--		Arsenic	5.45	ND		--
												Chromium	12.1			
												Copper	30.5			
												Lead	16.7			
												Mercury	0.103			
												Nickel	11.3			
												Zinc	54.2			
EX-F15-12	10/08/98	12.0	<100	NS	--	--	--	--	--	--		Arsenic	3.65	Carcinogenic PAHs		--
												Chromium	22.8	Benzo(a)pyrene	0.0236[10]	
												Copper	40.0	Benzo(b)fluoranthene	0.0218[10]	
												Lead	23.9	Indeno(123-cd)pyrene	0.0218[10]	
												Nickel	25.7	Noncarcinogenic PAHs		
												Zinc	46.7	Benzo(ghi)perylene	0.0291[10]	
														Fluoranthene	0.0200	
														Pyrene	0.0655[10]	
EX-F16-12[9]	10/08/98	12.0	<100	NS	--	--	--	--	--	160	236	Arsenic	3.14	Carcinogenic PAHs		--
												Chromium	25.2	Benzo(a)anthracene	1.51	
												Copper	28.9	Benzo(b)fluoranthene	2.82	
												Lead	8.66	Benzo(k)fluoranthene	0.768	
												Mercury	0.128	Benzo(a)pyrene	2.41	
												Nickel	24.2	Chrysene	1.50	
												Zinc	43.0	Dibenzo(a,h)anthracene	0.218	
														Indeno(123-cd)pyrene	1.73	

Remediation Levels (see page 5 of 6)

Notes appear on page 6 of 6

TABLE 1 (Page 4 of 6)

Sample Number[1]	Date Sampled	Depth of Sample (feet)	Field Screening Results[2] Headspace Vapors (ppm)	Sheen	BETX[3] (µg/l) B	E	T	X	Gasoline-range Hydrocarbons[4] (mg/l)	Diesel-range Hydrocarbons[5] (mg/l)	Heavy Oil-range Hydrocarbons[5] (mg/l)	Priority Pollutant Metals and Barium[6] (mg/kg)	PAHs[7] (mg/kg)		Pesticides[8] (mg/kg)
Excavation F (continued)															
EX-F16-12 (continued)													Noncarcinogenic PAHs		
													Acenaphthene	0.161	–
													Acenaphthylene	0.834	
													Anthracene	0.417	
													Benzo(ghi)perylene	1.63	
													Fluoranthene	3.25	
													Fluorene	0.256	
													Naphthalene	0.171	
													Phenanthrene	1.51	
													Pyrene	4.77	
EX-F17-15[9]	12/07/98	15.0	–	SS	–	–	–	–	–	–	–	–	Carcinogenic PAHs		
													Benzo(a)anthracene	0.178	
													Benzo(b)fluoranthene	0.270	
													Benzo(k)fluoranthene	0.0609	–
													Benzo(a)pyrene	0.231	
													Chrysene	0.144	
													Indeno(123-cd)pyrene	0.270	
													Noncarcinogenic PAHs		
													Acenaphthene	0.178	
													Acenaphthylene	0.0914	
													Benzo(ghi)perylene	0.270	
													Fluoranthene	0.235	
													Naphthalene	0.0653	
													Phenanthrene	0.178	
													Pyrene	0.400	
EX-F18-12	12/07/98	12.0	–	NS	–	–	–	–	–	–	–	–	ND		–
EX-F19-18	01/21/99	18.0	–	NS	–	–	–	–	–	–	–	–	Phenanthrene	0.0234	–
Excavation G - Former Gasoline UST Area															
EX-G5-7	08/10/98	7.0	<100	NS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	–	–	–	–		–
B-G2-12	08/10/98	12.0	<100	NS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	–	–	–	–		–
EX-G6-7	08/10/98	7.0	100	NS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	–	–	–	–		–
B-G3-12	08/10/98	12.0	100	NS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	–	–	–	–		–
Excavation H - Sediment along Eastern Property Boundary															
H1-1.5	08/25/98	1.5	<100	SS	–	–	–	–	–	14.0	134	–	–		–
H2-1.5	08/25/98	1.5	<100	SS	–	–	–	–	–	22.2	109	–	–		–
EX-H3-1.0	10/08/98	1.0	<100	SS	–	–	–	–	–	54.3	171	–	–		–
Remediation Levels (see page 5 of 6)															

Notes appear on page 6 of 6

TABLE 1 (Page 5 of 6)

Sample Number[1]	Date Sampled	Depth of Sample (feet)	Field Screening Results[2]		BETX[3] (µg/l)				Gasoline-range Hydrocarbons[4] (mg/l)	Diesel-range Hydrocarbons[5] (mg/l)	Heavy Oil-range Hydrocarbons[5] (mg/l)	Priority Pollutant Metals and Barium[6] (mg/kg)		PAHs[7] (mg/kg)		Pesticides[8] (mg/kg)
			Headspace Vapors (ppm)	Sheen	B	E	T	X								
Excavation I - Creosote-treated Timbers in Detention Pond Excavation																
EX-I-5.0	10/08/98	5.0	<100	SS	--	--	--	--	--	--	--	Arsenic	3.70	Carcinogenic PAHs		--
												Cadmium	0.543	Benzo(b)fluoranthene	0.0533	
												Chromium	22.9	Noncarcinogenic PAHs		
												Copper	25.3	Fluoranthene	0.0755	
												Lead	24.5	Phenanthrene	0.0666	
												Nickel	25.3	Pyrene	0.102	
												Zinc	45.5			
Slag Excavation																
EX-S1-1.5	08/11/98	1.5	100	SS	--	--	--	--	--	45.0	96.9	--		--		--
EX-S2-1.5	08/12/98	1.5	<100	NS	--	--	--	--	--	--	--	--		--		--
EX-S3-2.0	08/15/98	2.0	--	--	--	--	--	--	--	--	--	Arsenic	2.27	--		--
												Barium	56.8			
												Chromium	22.0			
												Copper	18.8			
												Lead	23.6			
												Nickel	27.6			
												Zinc	38.5			
Remediation Levels																
Parcel 2 Excavation Remediation Level					NA	NA	NA	NA	2,984			Arsenic	20.0	cPAHs 1.0		Chlordane 0.769
												Barium	5,600			
												Beryllium	0.233			
												Cadmium	2.0			
												Chromium	100			
												Copper	2,960			
												Lead	250			
												Mercury	24			
												Nickel	1,600			
												Silver	400			
												Zinc	24,000			
Sediment Remediation Level					NA	NA	NA	NA	NA	200	200	NA		NA		NA
Parcel 3 Gasoline Remediation Level					0.5	30	40	20	100	NA	NA	NA		NA		NA

Notes appear on page 6 of 6

TABLE 1 (Page 6 of 6)

Notes:

[1]Approximate sample locations are shown in Figure 4.

[2]Field screening methods are described in Appendix A. NS = no sheen; SS = slight sheen

[3]B = benzene, E = ethylbenzene, T = toluene, X = xylenes. Analyzed by EPA Method 8021B.

[4]Analyzed by Ecology Method NWTPH-Gx.

[5]Analyzed by Ecology Method NWTPH-Dx.

[6]Analyzed by EPA 6000 and 7000 series methods. Only those metals detected are listed. A complete list of metals and their detection limits are provided in the laboratory reports.

[7]PAHs = polynuclear aromatic hydrocarbons. cPAHs = carcinogenic PAHs. Analyzed by EPA Method 8270. Only those compounds detected are listed. A complete list of PAHs and their detection limits are provided in the laboratory reports.

[8]Analyzed by EPA Method 8081. A complete list of pesticides and their detection limits are provided in the laboratory report.

[9]Sample was overexcavated and area resampled. EX-B4-1.0 was resampled by EX-B8-2 and EX-B7-2. EX-F6-10 was resampled by EX-F13-12. EX-F16-12 was resampled by EX-F18-12. EX-F17-12 was resampled by EX-F19-18.

[10]The concentration should be considered estimated. See Appendix B for an explanation.

ppm = parts per million

mg/kg = milligrams per kilogram

NA = not applicable

Shading indicates a concentration exceeding the site-specific remediation level.

Chemical analyses conducted by MultiChem Analytical Services of Renton, Washington or North Creek Analytical of Bothell, Washington.

TABLE 2 (Page 1 of 4)
SUMMARY OF SOIL FIELD SCREENING AND CHEMICAL ANALYTICAL RESULTS
EXCAVATED SOIL
FAMILY FUN CENTER
TUKWILA, WASHINGTON

Sample Number	Date Sampled	Source of Soil	Field Screening Results[1]		BETX[2] (mg/kg)				Gasoline-range Hydrocarbons[3] (mg/kg)	Diesel-range Hydrocarbons[4] (mg/kg)	Heavy Oil-range Hydrocarbons[4] (mg/kg)	Priority Pollutant Metals and Barium[5]	PAHs[6] (mg/kg)	Pesticides[7] (mg/kg)	Soil Disposition
			Headspace Vapors (ppm)	Sheen	B	E	T	X							
Soil Stockpiles															
DSP-1	05/05/98	Hot Spot Excavation D	<100	SS	--	--	--	--	--	--	--	--	--	--	Approximately 10 cubic yards placed under cap in Parcel 3.
DSP-2	05/05/98		<100	SS	--	--	--	--	--	290	590	--	--	--	
DSP-3	05/05/98		<100	SS	--	--	--	--	--	--	--	--	--	--	
GSP-1	09/08/98	Aerated Soil from Hot Spot Excavation G	<100	SS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	--	--	--	--	--	Approximately 15 cubic yards used as fill on site.
GSP-2	09/08/99		<100	SS	<0.0500	<0.0500	<0.0500	<0.100	<5.00	--	--	--	--	--	
SPA-1	08/25/98	Hot Spot Excavations H, F and slag, and soil with odor from existing soil stockpile	<100	SS	--	--	--	--	--	308	717	--	--	--	Placed under cap in Parcel 3.
SPA-2	08/25/98		<100	SS	--	--	--	--	--	63.8	315	--	--	--	
SPA-3	08/25/98		<100	SS	--	--	--	--	--	2,450	2,210	--	--	--	
SPA-4	08/25/98		<100	NS	--	--	--	--	--	332	623	--	--	--	
SPA-5	08/25/98		<100	NS	--	--	--	--	--	62.9	312	--	--	--	
Soil Hauled to TPS															
HS-1	05/06/98	Hot Spot Excavations A, B and C	<100	SS	<0.029	<0.029	<0.029	<0.029	<5.9	130	140	Arsenic 4.0 Barium 48 Chromium 11 Copper 25 Lead 22 Nickel 13 Zinc 180	ND	Chlordane 0.0072	Approximately 100 cubic yards hauled to TPS for recycling.
HS-2	05/06/98	Hot Spot Excavations A, B and C	<100	SS	<0.028	<0.028	<0.028	<0.028	<5.6	220	740	Arsenic 13 Barium 87 Cadmium 0.70 Chromium 37 Copper 130 Lead 330 Nickel 440 Zinc 170	ND	P,P'-DDD 0.0068 P,P'-DDE 0.0064 P,P'-DDT 0.018 Endrin Aldehyde 0.0067 Endrin Ketone 0.012	(see HS-1)

Notes appear on page 4 of 4

TABLE 2 (Page 2 of 4)

Sample Number	Date Sampled	Source of Soil	Field Screening Results[1]		BETX[2] (mg/kg)				Gasoline-range Hydrocarbons[3] (mg/kg)	Diesel-range Hydrocarbons[4] (mg/kg)	Heavy Oil-range Hydrocarbons[4] (mg/kg)	Priority Pollutant Metals and Barium[5]		PAHs[6] (mg/kg)		Pesticides[7] (mg/kg)		Soil Disposition
			Headspace Vapors (ppm)	Sheen	B	E	T	X										
HS-3	05/06/98	Hot Spot Excavations A and B	<100	NS	<0.029	<0.029	<0.029	0.046	<5.7	150	550	Arsenic	6.5	Carcinogenic PAHs		P,P'-DDD	0.0087	(see HS-1)
												Barium	100	Benzo(a)anthracene	0.30	P,P'-DDE	0.012	
												Cadmium	0.79	Benzo(b)fluoranthene	0.32	P,P'-DDT	0.031	
												Chromium	23	Benzo(k)fluoranthene	0.37			
												Copper	82	Benzo(a)pyrene	0.44			
												Lead	310	Chrysene	0.40			
												Mercury	0.14	Dibenz(a)anthracene	0.12[8]			
												Nickel	95	Indeno(123-cd)pyrene	0.30			
												Zinc	190	Noncarcinogenic PAHs				
														Acenaphthylene	0.14[8]			
														Anthracene	0.11[8]			
														Fluoranthene	0.64			
														Fluorene[8]	0.052[8]			
														Phenanthrene	0.56			
														Fluoranthene	0.64			
														Pyrene	0.92			
														Benzo(g,h,i)perylene	0.36			
DPSP-1	08/12/98	Hot Spot Excavation F Creosote-impacted soil	300	MS	--	--	--	--	--	4,710	2,950	Arsenic	9.95	Carcinogenic PAHs		--		Approximately 40 cubic yards hauled to TPS for recycling.
												Chromium	12.9	Benzo(a)anthracene	60.5			
												Copper	18.9	Benzo(b)fluoranthene	90.6			
												Lead	51.8	Benzo(k)fluoranthene	28.9			
												Nickel	22.5	Benzo(a)pyrene	97.3			
												Zinc	26.4	Chrysene	67.4			
												Mercury	0.140	Dibenz(a,h)anthracene	14.0			
														Indeno(123-cd)pyrene	87.3			
														Noncarcinogenic PAHs				
														Acenaphthene	28.3			
														Acenaphthylene	18.3			
														Anthracene	29.9			
														Benzo(g,h,i)perylene	106			
														Dibenzofuran	6.43			
														Fluoranthene	132			
														Fluorene	24.3			
														2-methylnaphthalene	40.7			
														Naphthalene	97.8			
														Phenanthrene	125			
														Pyrene	213			

Notes appear on page 4 of 4

TABLE 2 (Page 3 of 4)

Sample Number	Date Sampled	Source of Soil	Field Screening Results[1]		BETX[2] (mg/kg)				Gasoline-range Hydrocarbons[3] (mg/kg)	Diesel-range Hydrocarbons[4] (mg/kg)	Heavy Oil-range Hydrocarbons[4] (mg/kg)	Priority Pollutant Metals and Barium[5]	PAHs[6] (mg/kg)	Pesticides[7] (mg/kg)	Soil Disposition
			Headspace Vapors (ppm)	Sheen	B	E	T	X							
DPSP-2	10/22/98	Hot Spot F, Creosote-impacted soil	--	--	--	--	--	--	--	185	157	Arsenic 5.59 Chromium 25.7 Copper 51.3 Lead 56.9 Nickel 27.0 Zinc 74.0 Mercury 0.103	Carcinogenic PAHs Benzo(a)anthracene 3.93 Benzo(b)fluoranthene 6.60[8] Benzo(k)fluoranthene 2.05[8] Benzo(a)pyrene 6.53[8] Chrysene 4.50 Dibenz(a,h)anthracene 0.495[8] Indeno(123-cd)pyrene 3.10[8] Noncarcinogenic PAHs Acenaphthene 1.02 Acenaphthylene 1.45 Anthracene 1.65[8] Benzo(ghi)perylene 3.48[8] Fluoranthene 7.72[8] Fluorene 0.825 Naphthalene 1.50 Phenanthrene 7.05[8] Pyrene 17.1	--	(see DPSP-1)
DPSP-3	10/22/98	Hot Spot F, Creosote-impacted soil	--	--	--	--	--	--	--	29.7	139	Arsenic 5.58 Cadmium 0.624 Chromium 23.0 Copper 28.1 Lead 58.3 Nickel 24.2 Zinc 68.3	Carcinogenic PAHs Chrysene 0.104[8] Noncarcinogenic PAHs Fluoranthene 0.120 Phenanthrene 0.192 Pyrene 0.385[8]	--	(see DPSP-1)
CRSP-1	10/12/98	Hot Spot Excavation E	--	--	--	--	--	--	--	--	--	Chromium 131	--	--	Approximately 20 cubic yards hauled to TPS for recycling.
CRSP-2	10/12/98		--	--	--	--	--	--	--	--	--	Chromium 127	--	--	
CRSP-3	10/12/98		--	--	--	--	--	--	--	--	--	Chromium 28.0	--	--	
Soil Placed Off Site in City of Tukwila Property															
GWS-1	09/23/98	Graded Existing Soil Stockpile	--	--	--	--	--	--	--	53.2	254	--	--	--	Approximately 1,000 cubic yards.
FFC-1	12/21/98	Graded Existing Soil Stockpile	<100	NS	--	--	--	--	--	48.2	176	--	--	--	Approximately 4,100 cubic yards.
FFC-2	12/21/98		<100	NS	41.7	247	--	--	--	41.7	247	--	--	--	
FFC-3	12/21/98		<100	NS	35.0	149	--	--	--	35.0	149	--	--	--	
FFC-4	12/21/98		<100	NS	82.2	361	--	--	--	82.2	361	--	--	--	
FFC-5	12/21/98		<100	NS	<10.0	46.2	--	--	--	<10.0	46.2	--	--	--	
FFC-6	12/21/98		<100	NS	55.9	256	--	--	--	55.9	256	--	--	--	

Notes appear on page 4 of 4

TABLE 2 (Page 4 of 4)

Notes:

[1]Field screening methods are described in Appendix A. NS = no sheen; SS = slight sheen; MS = moderate sheen

[2]B = benzene; E= ethylbenzene; T = toluene; X = xylenes. BETX analyzed by EPA Method 8021B.

[3]Analyzed by Ecology Method NWTPH-Gx.

[4]Analyzed by Ecology Method NWTPH-Dx.

[5]Analyzed by EPA 6000 and 7000 series methods.

[6]PAHs = polynuclear aromatic hydrocarbons. Analyzed by EPA Method 8270. A complete list of PAHs and their detection limits are provided in the laboratory report.

[7]Analyzed by EPA Method 8081. A complete list of pesticides and their detection limits are provided in the laboratory report.

[8]The concentration should be considered estimated. See Appendix B for an explanation.

ppm = parts per million

mg/kg = milligrams per kilogram

Chemical analyses conducted by MultiChem Analytical Services of Renton, Washington.

06/24/99

5925-003-04

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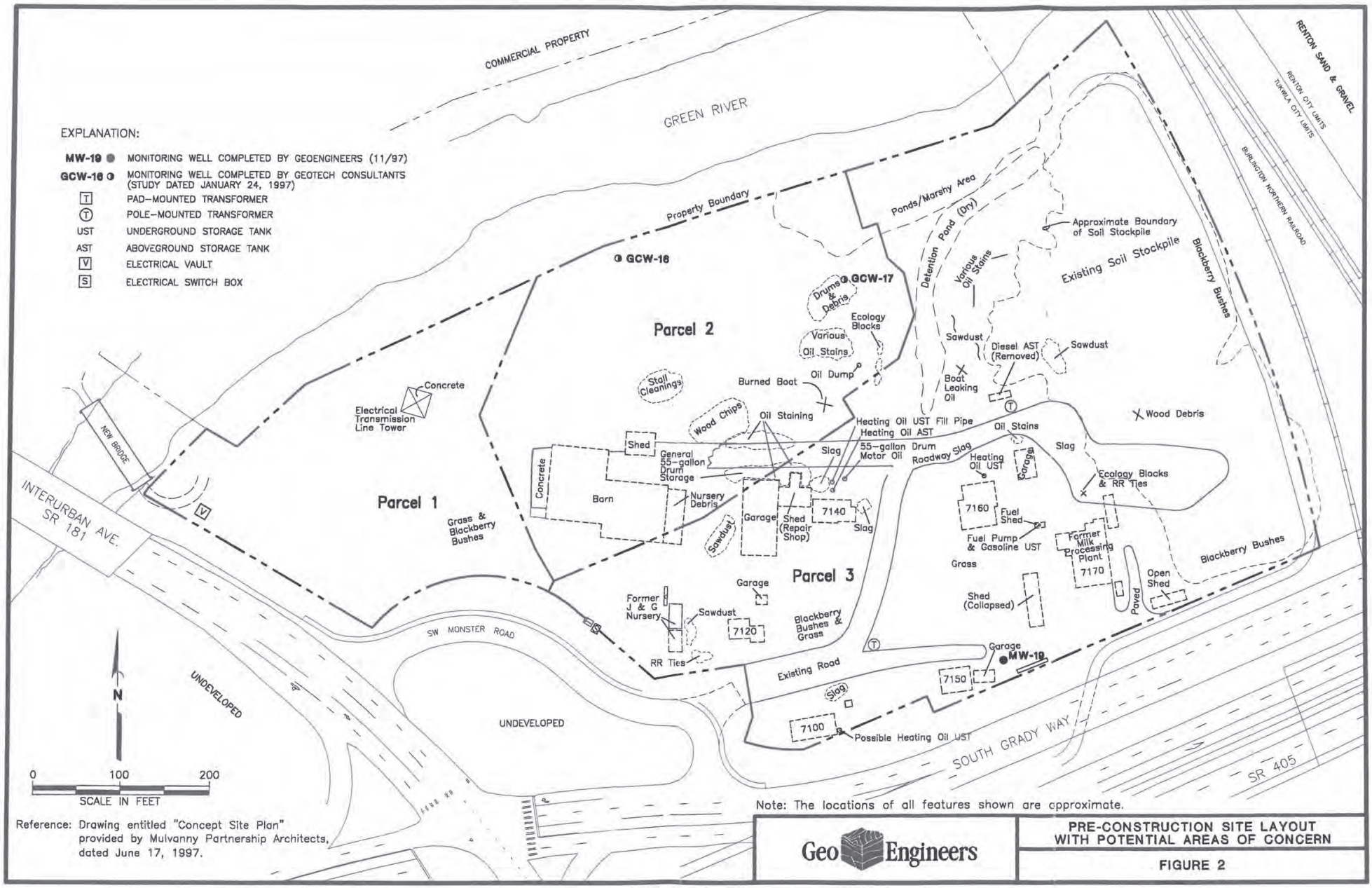
LJB:HLA

Geo Engineers

VICINITY MAP

FIGURE 1



Note: The locations of all features shown are approximate.

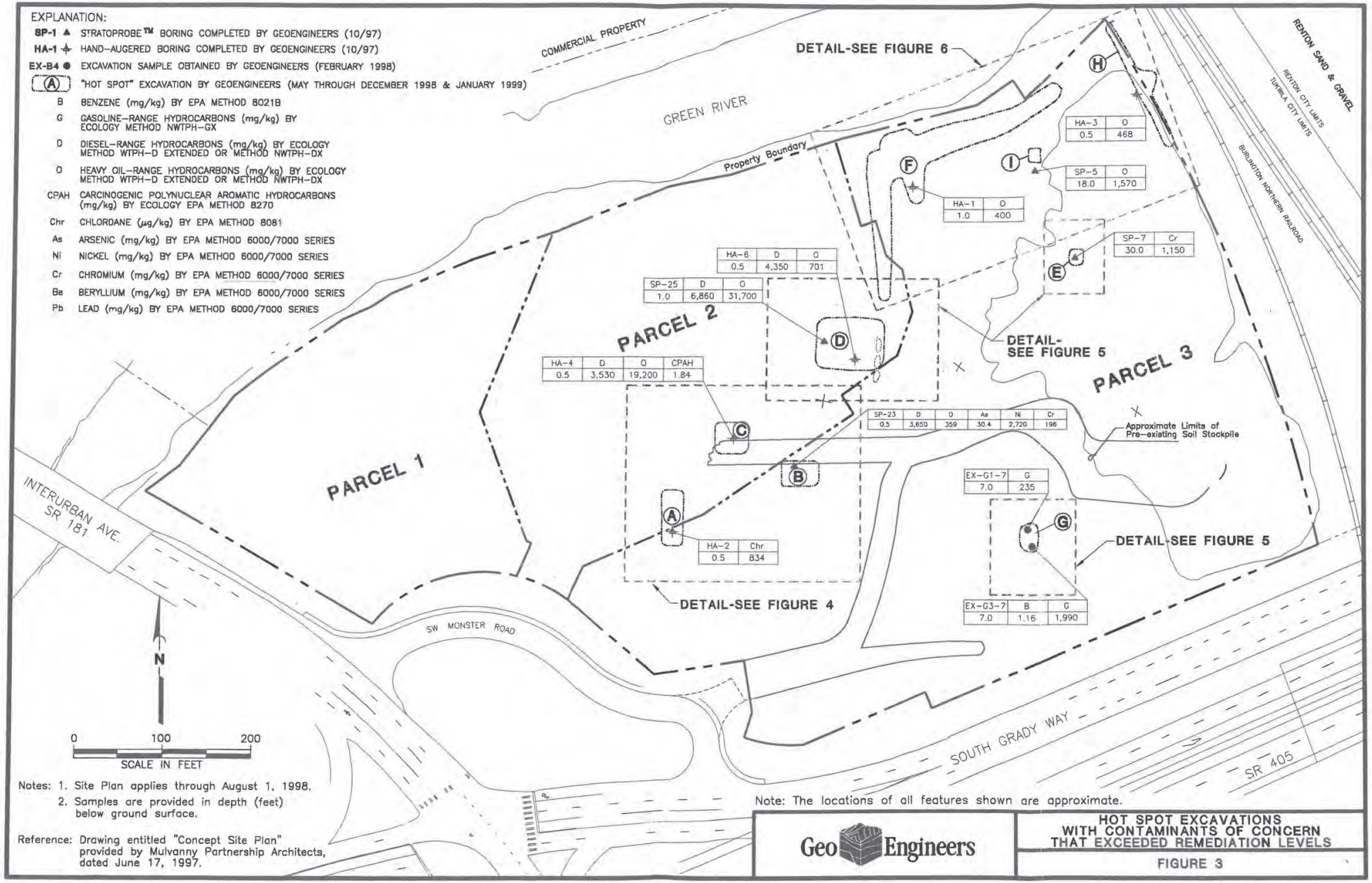
Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

Geo Engineers

PRE-CONSTRUCTION SITE LAYOUT WITH POTENTIAL AREAS OF CONCERN

FIGURE 2

LJB:KKT P:\5925003\CAD\04\5925003A.DWG 09/09/99



Notes: 1. Site Plan applies through August 1, 1998.
2. Samples are provided in depth (feet) below ground surface.

Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

Note: The locations of all features shown are approximate.

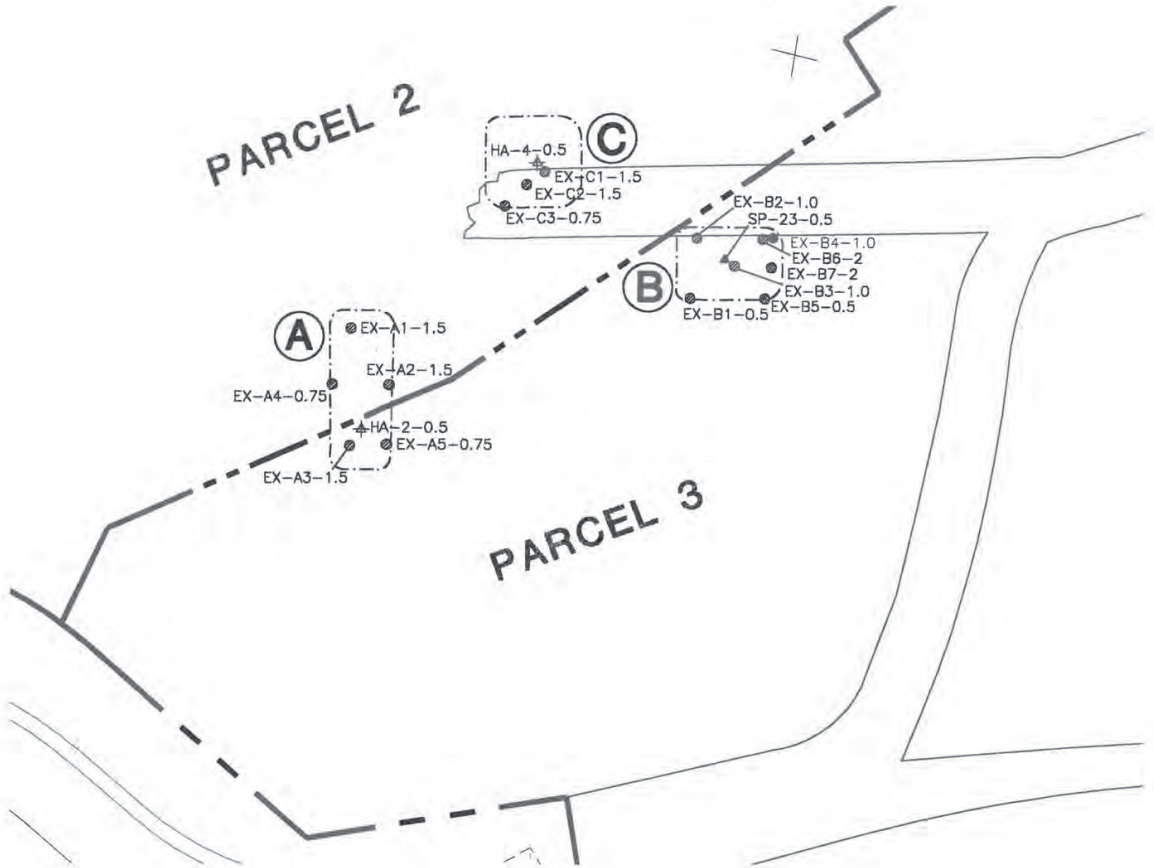
Geo Engineers

HOT SPOT EXCAVATIONS WITH CONTAMINANTS OF CONCERN THAT EXCEEDED REMEDIATION LEVELS

FIGURE 3

LJB:KKT P:\5925003\CAD\04\5925003B.DWG 09/09/99

2/11/02



EXPLANATION:

- SP-1 ▲ DIRECT-PUSH BORING COMPLETED BY GEOENGINEERS (10/97)
- HA-1 ⏚ HAND-AUGERED BORING COMPLETED BY GEOENGINEERS (10/97)
- EX-B4 ● EXCAVATION SAMPLE OBTAINED BY GEOENGINEERS (FEBRUARY THROUGH DECEMBER 1998), REMOVED BY OVEREXCAVATION
- EX-C2-1.5 ⊘ EXCAVATION SAMPLE OBTAINED BY GEOENGINEERS (FEBRUARY THROUGH DECEMBER 1998), EXCAVATION LIMITS
- (A) "HOT SPOT" EXCAVATION BY GEOENGINEERS

N

0 50 100

SCALE IN FEET

Note: The locations of all features shown are approximate.

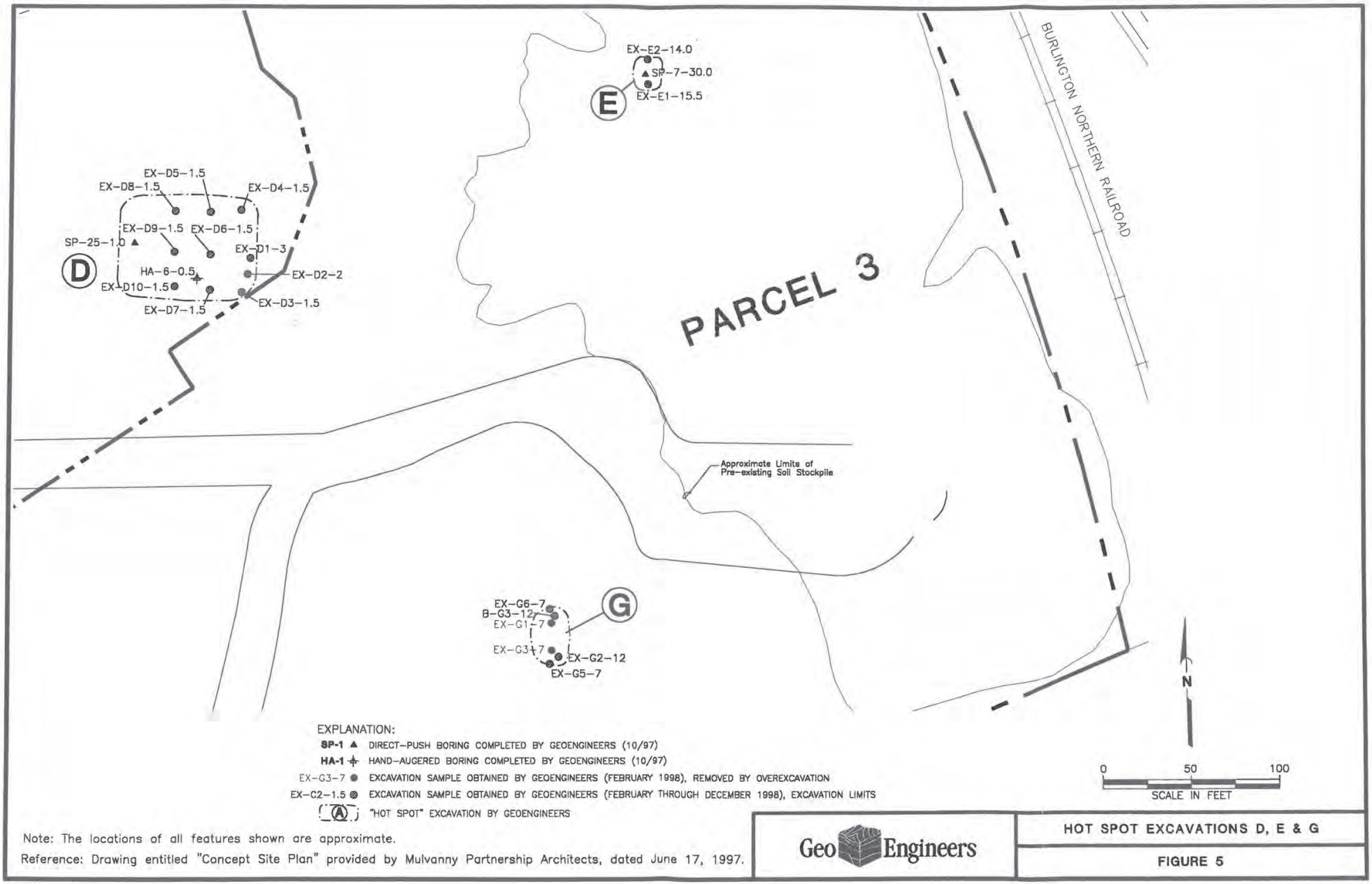
Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

GeoEngineers

HOT SPOT EXCAVATIONS A, B & C

FIGURE 4

LJB:KKT P:\5925003\CAD\04\5925003C.DWG 09/09/99



EXPLANATION:

- **SP-1** ▲ DIRECT-PUSH BORING COMPLETED BY GEOENGINEERS (10/97)
- **HA-1** ⊹ HAND-AUGERED BORING COMPLETED BY GEOENGINEERS (10/97)
- EX-G3-7 ● EXCAVATION SAMPLE OBTAINED BY GEOENGINEERS (FEBRUARY 1998), REMOVED BY OVEREXCAVATION
- EX-C2-1.5 ⊘ EXCAVATION SAMPLE OBTAINED BY GEOENGINEERS (FEBRUARY THROUGH DECEMBER 1998), EXCAVATION LIMITS
- (A) "HOT SPOT" EXCAVATION BY GEOENGINEERS

Note: The locations of all features shown are approximate.

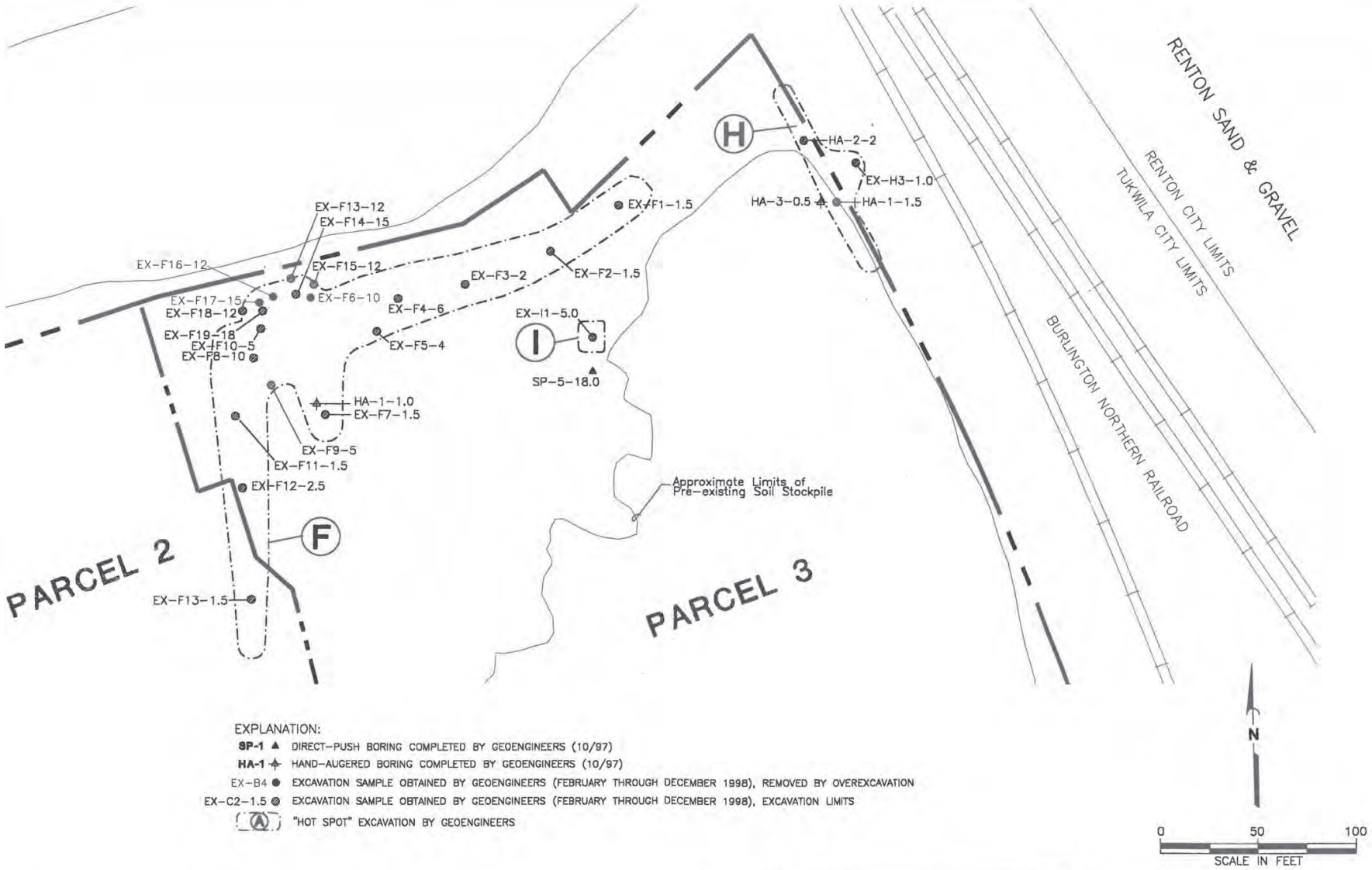
Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

LJB:KKT P:\5925003\CAD\04\5925003D.DWG 09/10/99

Geo Engineers

HOT SPOT EXCAVATIONS D, E & G

FIGURE 5



Note: The locations of all features shown are approximate.

Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

Geo Engineers

HOT SPOT EXCAVATIONS F, H & I

FIGURE 6

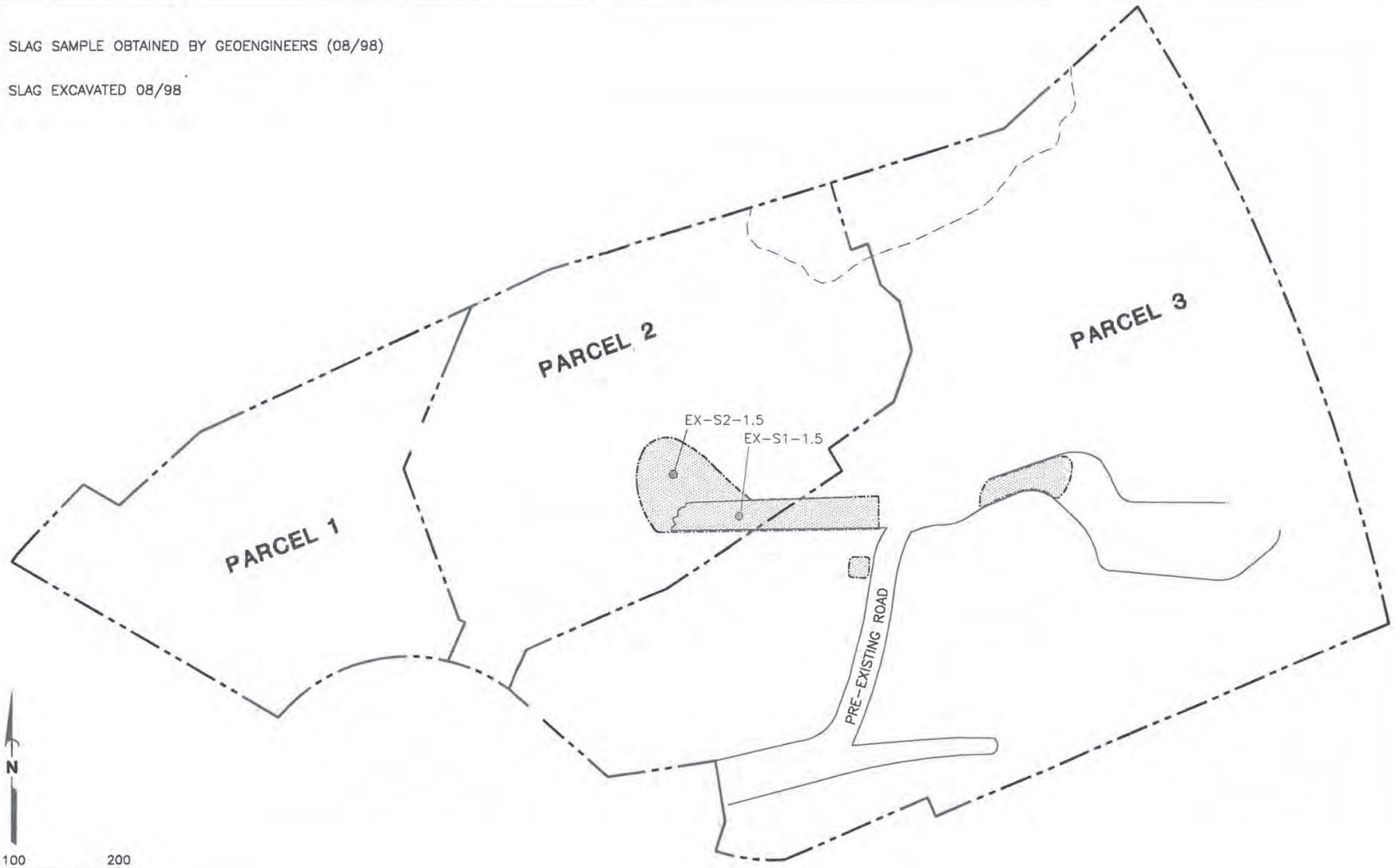
LJB:KKT P:\5925003\CAD\04\5925003E.DWG 09/10/99

2/1/2

EXPLANATION:

EX-S2-1.5 ⊘ SLAG SAMPLE OBTAINED BY GEOENGINEERS (08/98)

SLAG EXCAVATED 08/98



Note:. Depths of soil samples are provided in feet.

Reference: Drawing entitled "Concept Site Plan" provided by Mulvanny Partnership Architects, dated June 17, 1997.

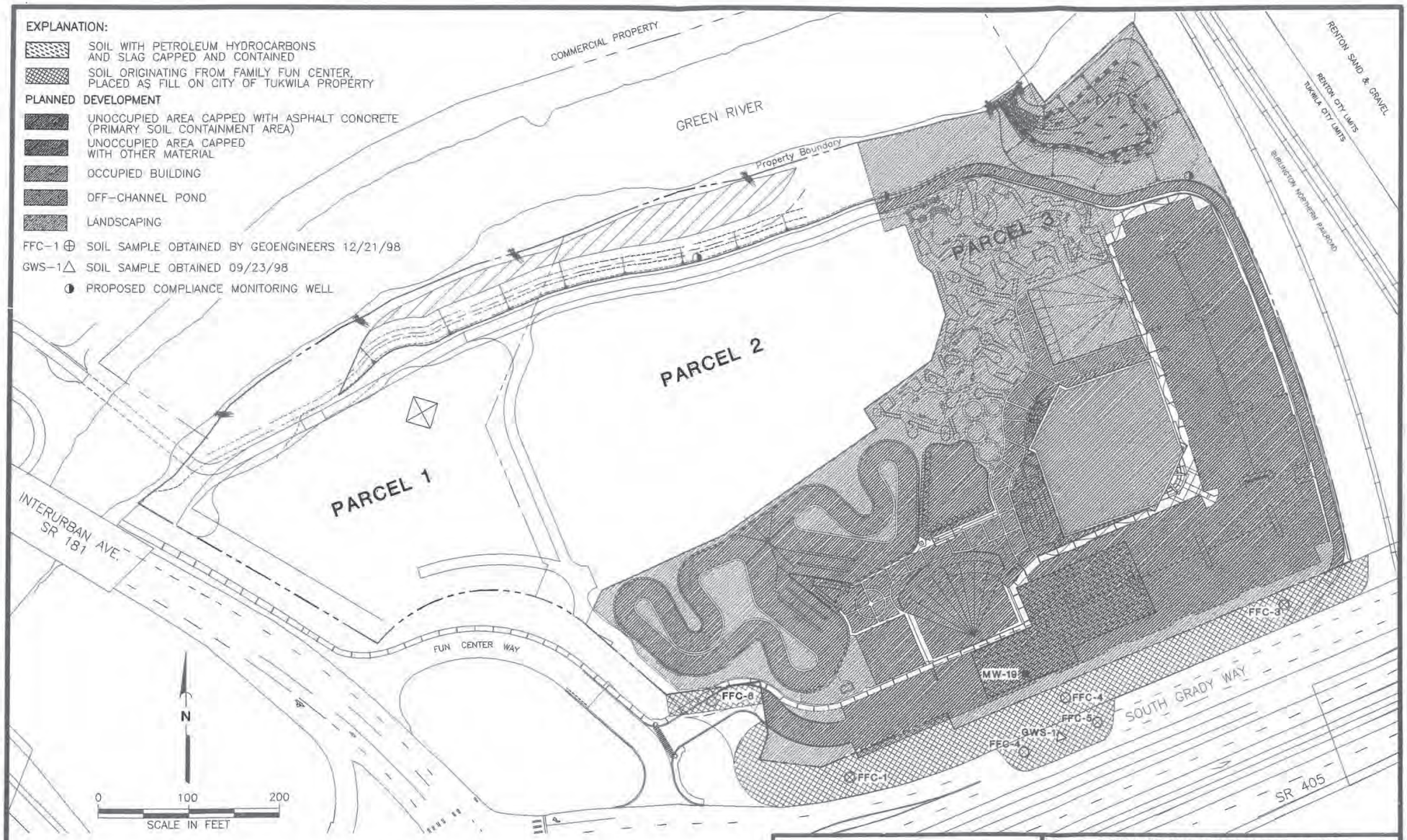
Note: The locations of all features shown are approximate.

Geo Engineers

SLAG EXCAVATION

FIGURE 7

LJB:KKT E:\5925003\CAD\04\5925003F.DWG 09/09/99



Note: The locations of all features shown are approximate.

Reference: Drawing entitled "Overall Site Plan, Family Fun Center" by Mulvanny Partnership Architects, 01/27/99.

Geo Engineers

FAMILY FUN CENTER FACILITIES AND LOCATION OF CAPPED AREA

FIGURE 8

LJB:SYF P:\5925003\CAD\04\5925003G.DWG 12/14/00

APPENDIX A

FIELD PROCEDURES

APPENDIX A

FIELD PROCEDURES

SOIL SAMPLING PROCEDURES

A GeoEngineers representative monitored and sampled the excavation of soil and sampled stockpiles during the 1998/1999 remedial activities. A trackhoe operated either by Olympus Environmental, Inc. or Shear Transport was used to excavate soil.

Soil samples obtained for field screening and chemical analysis were obtained with a decontaminated stainless steel spoon from the center of the excavator bucket or directly from the excavation or stockpile after digging at least 6 inches below the surface of the sampling area. The spoon was decontaminated between sampling attempts with a Liqui-Nox® soap solution and a distilled water rinse. Nitrile or vinyl gloves were worn by the sampler when collecting samples. The gloves either were decontaminated before each sample was collected, or new disposable gloves were used to collect each sample.

A portion of each sample was retained for field screening and chemical analysis. A second portion of each sample was selected for chemical analysis and placed in a laboratory-prepared sample container and the container was filled to minimize headspace. The samples were kept cool and standard chain-of-custody procedures were followed during transport to the testing laboratory.

SAMPLE IDENTIFICATION

Hot spot excavation samples generally were designated as "EX" followed by the letter designating the hot spot and sample number (e.g. EX-F1 for hot spot "F", sample 1). The depth from which the sample was obtained was added to the end of the sample designation (e.g. EX-F1-8 for sample 1 obtained from hot spot "F" at a depth of 8 feet). Multiple samples were numbered sequentially as indicated by the number following the hotspot letter designation.

Soil stockpile sample designations gave distinct qualifiers to each stockpile (e.g. DSP, GSP, DPSP, etc.) followed by the sequential sample numbers from each stockpile.

FIELD SCREENING OF SOIL SAMPLES

A GeoEngineers representative field screened soil samples obtained from the remedial excavations and soil stockpiles. The uses of field screening were as follows:

- Screening results were considered to evaluate, in conjunction with previously documented information, whether additional excavation might be necessary.
- To assist in the initial segregation of soil stockpiles.

Field screening was not used to document cleanup confirmation. All cleanup confirmation samples were tested by chemical analysis.

The screening methods used include (1) visual screening, (2) water sheen screening, and (3) headspace vapor screening using a combustible gas indicator (CGI) or photoionization detector (PID).

Field screening results are site-specific. The effectiveness of field screening results varies with temperature, moisture content, organic content, soil type and type and age of contaminant.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil, or when hydrocarbon concentrations are high. Water sheen screening and headspace vapor screening are more sensitive methods. The presence or absence of a sheen or headspace vapors does not necessarily indicate the presence or absence of petroleum hydrocarbons.

Water sheen screening involves placing soil in water and observing the water surface for signs of sheen. Sheen screening may detect both volatile and nonvolatile petroleum hydrocarbons. 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. Naturally-occurring organic matter in the soil may produce a slight sheen.
Moderate Sheen (MS)	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; 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 the CGI or PID is inserted in the bag and the instrument measures the concentration of combustible or photoionizable vapors present within the sample bag headspace. Headspace vapor screening targets volatile petroleum hydrocarbon compounds.

The CGI measures combustible vapor concentrations in ppm (parts per million) and is calibrated to hexane. A Bacharach TLV Sniffer® was the CGI instrument used on this project. The TLV Sniffer® has a lower threshold of significance of 100 ppm in this application. The TLV Sniffer® does not quantify combustible vapor concentrations above 10,000 ppm.

The PID measures photoionizable vapor concentrations in ppm and is calibrated to isobutylene. A Photovac MicroTIP® was the PID instrument used on this project. The MicroTIP® has a lower threshold of significance of 100 ppm in this application. The MicroTIP® does not quantify combustible vapor concentrations above 2,000 ppm.

EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration was calibrated by GeoEngineers field representative in general accordance with manufacturers' recommended schedules and procedures. Calibration checks of the CGI were conducted daily. The PID was calibrated daily during use.

HEALTH AND SAFETY AIR MONITORING

A GeoEngineers' representative monitored the worker breathing zone during excavation activities in accordance with the *Site Safety Plan* (GeoEngineers, September 14, 1998c). Work practices and respiratory personal protective equipment (PPE) were modified as needed based on the breathing zone air monitoring. Additionally, the site perimeter was monitored for dust, volatile hydrocarbons and nuisance odors to document conditions at the property line during excavation activities. The intent was that work practices would be modified as needed, based on the perimeter air monitoring. No adverse conditions were documented during perimeter air monitoring; therefore, no work practices were modified during remedial activities. Health and safety air monitoring and perimeter air monitoring data are included in the daily field reports on file at GeoEngineers.

MONITORING WELL DECOMMISSIONING

A representative of GeoEngineers monitored the removal of two monitoring wells at the site (GCW-16 and GCW-17). The wells were removed in their entirety during remedial activities by extracting the well monument and all PVC parts of the well including the bottom cap.

APPENDIX B

CHEMICAL ANALYTICAL PROGRAM

APPENDIX B

CHEMICAL ANALYTICAL PROGRAM

ANALYTICAL METHODS

Chain-of-custody procedures were followed during the transport of the field samples to the analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference and laboratory quality control (QC) records are included in this appendix. The analytical results are also summarized in the text and tables 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 laboratory QC and data quality exceptions documented by the laboratory were reviewed by GeoEngineers using the applicable data validation guidelines from the following documents: "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated 1994 and "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" dated 1988.

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, with the following qualifications:

- Multichem Analytical Services reported that some of the PAH concentrations reported for sample HS-3 by EPA Method 8270 were estimated. The estimated concentrations are footnoted on Table 2. In our opinion, the data are acceptable for use because the soil sampled was recycled at TPS.
- North Creek Analytical reported that some PAH concentrations reported for samples DPSP-2, DPSP-3 and EX-F15-12 by EPA Method 8270 (with SIM) should be considered estimated because of matrix interference in an internal standard. The estimated concentrations are footnoted on Tables 1 and 2. The soil sampled by DPSP-3 was recycled at TPS. The sum of cPAH concentrations detected in sample EX-F15-12, from the limit of hot spot "F", was approximately 0.07 mg/kg. This concentration is two orders of magnitude less than the cleanup level of 1 mg/kg; therefore, we consider the data acceptable for use in characterizing soil at the limit of excavation.

- North Creek Analytical reported that arsenic was detected in the laboratory blank at a concentration of 0.517 mg/kg in the analysis of priority pollutant metals by EPA Methods 6000 and 7000 series methods. This concentration is more than is acceptable to the method criteria (5 percent), compared to the sample data for EX-F6-10 and DPSP-1. The soil sampled by DPSP-1 was recycled at TPS. The area sampled by EX-F6-10 was removed by overexcavation and resampled. Therefore, the data for these samples is acceptable for use.

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 805013

June 1, 1998

GeoEngineers, Inc.
8410 154th Avenue N.E.
Redmond WA 98052

GeoEngineers
JUN 02 1998
Routing

Attention : Lisa Bona

Project Number : 5925-003-01

Project Name : Family Fun Center

Dear Ms. Bona:

On May 5, 1998, MultiChem Analytical Services received 26 samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Sincerely,

Elaine M. Walker

Elaine M. Walker
Project Manager

EMW/hal/trm

Enclosure

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MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

MAS #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
805013-1	EX-A1-1.5	05/05/98	SOIL
805013-2	EX-A2-1.5	05/05/98	SOIL
805013-3	EX-A3-1.5	05/05/98	SOIL
805013-4	EX-A4-0.75	05/05/98	SOIL
805013-5	EX-A5-0.75	05/05/98	SOIL
805013-6	EX-B1-0.5	05/05/98	SOIL
805013-7	EX-B2-1.0	05/05/98	SOIL
805013-8	EX-B3-1.0	05/05/98	SOIL
805013-9	EX-B4-1.0	05/05/98	SOIL
805013-10	EX-B5-0.5	05/05/98	SOIL
805013-11	EX-C1-1.5	05/05/98	SOIL
805013-12	EX-C2-1.5	05/05/98	SOIL
805013-13	EX-C3-0.75	05/05/98	SOIL
805013-14	EX-D1-3	05/05/98	SOIL
805013-15	EX-D2-2	05/05/98	SOIL
805013-16	EX-D3-1.5	05/05/98	SOIL
805013-17	EX-D4-1.5	05/05/98	SOIL
805013-18	EX-D5-1.5	05/05/98	SOIL
805013-19	EX-D6-1.5	05/05/98	SOIL
805013-20	EX-D7-1.5	05/05/98	SOIL
805013-21	EX-D8-1.5	05/05/98	SOIL
805013-22	EX-D9-1.5	05/05/98	SOIL
805013-23	EX-D10-1.5	05/05/98	SOIL
805013-24	DSP-1	05/05/98	SOIL
805013-25	DSP-2	05/05/98	SOIL
805013-26	DSP-3	05/05/98	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	26

MAS STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

ANALYSIS	TECHNIQUE	REFERENCE	LAB
SEMIVOLATILE ORGANICS ANALYSIS	GCMS	EPA 8270	R
ORGANOCHLORINE PESTICIDES	GC/ECD	EPA 8081A	R
BETX	GC/PID	EPA 8020	R
TOTAL PETROLEUM HYDROCARBONS: GAS	GC/FID	NWTPH-G	R
TOTAL PETROLEUM HYDROCARBONS: DIESEL	GC/FID	NWTPH-Dx	R
ANTIMONY	ICAP	EPA 6010	R
ARSENIC	AA/GF	EPA 7060	R
BARIUM	ICAP	EPA 6010	R
BERYLLIUM	ICAP	EPA 6010	R
CADMIUM	ICAP	EPA 6010	R
CHROMIUM	ICAP	EPA 6010	R
COPPER	ICAP	EPA 6010	R
LEAD	ICAP	EPA 6010	R
MERCURY	AA/COLD VAPOR	EPA 7471A	R
NICKEL	ICAP	EPA 6010	R
SELENIUM	AA/GF	EPA 7740	R
SILVER	ICAP	EPA 6010	R
THALLIUM	AA/GF	EPA 7841	R
ZINC	ICAP	EPA 6010	R
MOISTURE	GRAVIMETRIC	CLP ILM04.0	R

R = MAS - Renton
ANC = MAS - Anchorage
SUB = Subcontract

AMENDED

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
REVISED : 12/11/98

CASE NARRATIVE: SEMIVOLATILE ORGANICS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the sample in this accession:

Due to an equipment error during the gel permeation chromatography (GPC) cleanup of the blank spike (BS) associated with the sample in this accession, percent recoveries of surrogate and spike compounds were lower than expected. Percent recovery of pyrene fell below MultiChem established control limits. As the error was noticed prior to the cleanup of the method blank and sample in this accession, percent recoveries of surrogate and spike compounds in the associated method blank and matrix spike/matrix spike duplicate (MS/MSD) samples were within control limits. Pyrene recovery in the BS was flagged "H" and no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
NAPHTHALENE	<0.17
ACENAPHTHYLENE	<0.17
ACENAPHTHENE	<0.17
FLUORENE	<0.17
PHENANTHRENE	<0.17
ANTHRACENE	<0.17
FLUORANTHENE	<0.17
PYRENE	<0.17
BENZO(A)ANTHRACENE	<0.17
CHRYSENE	<0.17
BENZO(B)FLUORANTHENE	<0.17
BENZO(K)FLUORANTHENE	<0.17
BENZO(A)PYRENE	<0.17
INDENO(1,2,3-CD)PYRENE	<0.17
DIBENZO(A,H)ANTHRACENE	<0.17
BENZO(G,H,I)PERYLENE	<0.17

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	65	38 - 146
2-FLUOROBIPHENYL	71	36 - 128

MAS I.D. # 805013-12

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-C2-1.5	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
NAPHTHALENE	<0.20
ACENAPHTHYLENE	<0.20
ACENAPHTHENE	<0.20
FLUORENE	<0.20
PHENANTHRENE	<0.20
ANTHRACENE	<0.20
FLUORANTHENE	<0.20
PYRENE	<0.20
BENZO(A)ANTHRACENE	<0.20
CHRYSENE	<0.20
BENZO(B)FLUORANTHENE	<0.20
BENZO(K)FLUORANTHENE	<0.20
BENZO(A)PYRENE	<0.20
INDENO(1,2,3-CD)PYRENE	<0.20
DIBENZO(A,H)ANTHRACENE	<0.20
BENZO(G,H,I)PERYLENE	<0.20

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	68	38 - 146
2-FLUOROBIPHENYL	73	36 - 128

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ACENAPHTHENE	<0.167	1.67	0.957	57	N/A	N/A	N/A
PYRENE	<0.167	1.67	0.802	48H	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
ACENAPHTHENE	48 - 102	20
PYRENE	52 - 102	29

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
2-FLUOROBIPHENYL	58	N/A	36 - 128
TERPHENYL-D14	53	N/A	38 - 146

H = Out of limits.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 821377-4
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/18/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ACENAPHTHENE	<0.198	1.98	1.65	83	1.85	93	11
PYRENE	<0.198	1.98	1.28	65	1.37	69	7

CONTROL LIMITS	% REC.	RPD
ACENAPHTHENE	30 - 134	20
PYRENE	21 - 151	29

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
2-FLUOROBIPHENYL	75	81	36 - 128
TERPHENYL-D14	67	71	38 - 146

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: ORGANOCHLORINE PESTICIDES ANALYSIS

There were no anomalies associated with the preparation and/or analysis of the samples in this accession.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0017
ALPHA-BHC	<0.0017
BETA-BHC	<0.0017
GAMMA-BHC (LINDANE)	<0.0017
DELTA-BHC	<0.0017
CHLORDANE (TOTAL)	<0.0033
P,P'-DDD	<0.0033
P,P'-DDE	<0.0033
P,P'-DDT	<0.0033
DIELDRIN	<0.0033
ENDOSULFAN I	<0.0017
ENDOSULFAN II	<0.0033
ENDOSULFAN SULFATE	<0.0033
ENDRIN	<0.0033
ENDRIN ALDEHYDE	<0.0033
ENDRIN KETONE	<0.0033
HEPTACHLOR	<0.0017
HEPTACHLOR EPOXIDE	<0.0017
METHOXYCHLOR	<0.017
TOXAPHENE	<0.033

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	94	28 - 138
TETRACHLORO-M-XYLENE	78	43 - 119

MAS I.D. # 805013-1

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: EX-A1-1.5	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0020
ALPHA-BHC	<0.0020
BETA-BHC	<0.0020
GAMMA-BHC (LINDANE)	<0.0020
DELTA-BHC	<0.0020
CHLORDANE (TOTAL)	<0.0039
P,P'-DDD	<0.0039
P,P'-DDE	<0.0039
P,P'-DDT	<0.0039
DIELDRIN	<0.0039
ENDOSULFAN I	<0.0020
ENDOSULFAN II	<0.0039
ENDOSULFAN SULFATE	<0.0039
ENDRIN	<0.0039
ENDRIN ALDEHYDE	<0.0039
ENDRIN KETONE	<0.0039
HEPTACHLOR	<0.0020
HEPTACHLOR EPOXIDE	<0.0020
METHOXYCHLOR	<0.020
TOXAPHENE	<0.039

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	101	28 - 138
TETRACHLORO-M-XYLENE	77	43 - 119

MAS I.D. # 805013-2

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: EX-A2-1.5	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0019
ALPHA-BHC	<0.0019
BETA-BHC	<0.0019
GAMMA-BHC (LINDANE)	<0.0019
DELTA-BHC	<0.0019
CHLORDANE (TOTAL)	<0.0038
P,P'-DDD	<0.0038
P,P'-DDE	<0.0038
P,P'-DDT	<0.0038
DIELDRIN	<0.0038
ENDOSULFAN I	<0.0019
ENDOSULFAN II	<0.0038
ENDOSULFAN SULFATE	<0.0038
ENDRIN	<0.0038
ENDRIN ALDEHYDE	<0.0038
ENDRIN KETONE	<0.0038
HEPTACHLOR	<0.0019
HEPTACHLOR EPOXIDE	<0.0019
METHOXYCHLOR	<0.019
TOXAPHENE	<0.038

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	104	28 - 138
TETRACHLORO-M-XYLENE	82	43 - 119

MAS I.D. # 805013-3

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: EX-A3-1.5	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0018
ALPHA-BHC	<0.0018
BETA-BHC	<0.0018
GAMMA-BHC (LINDANE)	<0.0018
DELTA-BHC	<0.0018
CHLORDANE (TOTAL)	<0.0036
P,P'-DDD	<0.0036
P,P'-DDE	<0.0036
P,P'-DDT	<0.0036
DIELDRIN	<0.0036
ENDOSULFAN I	<0.0018
ENDOSULFAN II	<0.0036
ENDOSULFAN SULFATE	<0.0036
ENDRIN	<0.0036
ENDRIN ALDEHYDE	<0.0036
ENDRIN KETONE	<0.0036
HEPTACHLOR	<0.0018
HEPTACHLOR EPOXIDE	<0.0018
METHOXYCHLOR	<0.018
TOXAPHENE	<0.036

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	99	28 - 138
TETRACHLORO-M-XYLENE	80	43 - 119

MAS I.D. # 805013-4

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: EX-A4-0.75	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0020
ALPHA-BHC	<0.0020
BETA-BHC	<0.0020
GAMMA-BHC (LINDANE)	<0.0020
DELTA-BHC	<0.0020
CHLORDANE (TOTAL)	<0.0040
P,P'-DDD	<0.0040
P,P'-DDE	<0.0040
P,P'-DDT	<0.0040
DIELDRIN	<0.0040
ENDOSULFAN I	<0.0020
ENDOSULFAN II	<0.0040
ENDOSULFAN SULFATE	<0.0040
ENDRIN	<0.0040
ENDRIN ALDEHYDE	<0.0040
ENDRIN KETONE	<0.0040
HEPTACHLOR	<0.0020
HEPTACHLOR EPOXIDE	<0.0020
METHOXYCHLOR	<0.020
TOXAPHENE	<0.040

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	98	28 - 138
TETRACHLORO-M-XYLENE	75	43 - 119

MAS I.D. # 805013-5

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: EX-A5-0.75	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0019
ALPHA-BHC	<0.0019
BETA-BHC	<0.0019
GAMMA-BHC (LINDANE)	<0.0019
DELTA-BHC	<0.0019
CHLORDANE (TOTAL)	<0.0037
P,P'-DDD	<0.0037
P,P'-DDE	<0.0037
P,P'-DDT	<0.0037
DIELDRIN	<0.0037
ENDOSULFAN I	<0.0019
ENDOSULFAN II	<0.0037
ENDOSULFAN SULFATE	<0.0037
ENDRIN	<0.0037
ENDRIN ALDEHYDE	<0.0037
ENDRIN KETONE	<0.0037
HEPTACHLOR	<0.0019
HEPTACHLOR EPOXIDE	<0.0019
METHOXYCHLOR	<0.019
TOXAPHENE	<0.037

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	93	28 - 138
TETRACHLORO-M-XYLENE	74	43 - 119

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/11/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ALDRIN	<0.00167	0.0167	0.0120	72	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	<0.00167	0.0167	0.0124	74	N/A	N/A	N/A
P,P'-DDT	<0.00333	0.0333	0.0276	83	N/A	N/A	N/A
DIELDRIN	<0.00333	0.0333	0.0285	86	N/A	N/A	N/A
ENDRIN	<0.00333	0.0333	0.0298	89	N/A	N/A	N/A
HEPTACHLOR	<0.00167	0.0167	0.0136	81	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
ALDRIN	58 - 117	21
GAMMA-BHC (LINDANE)	58 - 109	25
P,P'-DDT	55 - 130	27
DIELDRIN	67 - 122	26
ENDRIN	70 - 138	40
HEPTACHLOR	57 - 127	24

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
DECACHLOROBIPHENYL	97	N/A	28 - 138
TETRACHLORO-M-XYLENE	75	N/A	43 - 119

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-5
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/11/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ALDRIN	<0.00185	0.0185	0.0145	78	0.0162	88	11
GAMMA-BHC (LINDANE)	<0.00185	0.0185	0.0154	83	0.0170	92	10
P,P'-DDT	<0.00370	0.0370	0.0337	91	0.0368	99	9
DIELDRIN	<0.00370	0.0370	0.0344	93	0.0374	101	8
ENDRIN	<0.00370	0.0370	0.0372	101	0.0405	109	8
HEPTACHLOR	<0.00185	0.0185	0.0161	87	0.0178	96	10

CONTROL LIMITS	% REC.	RPD
ALDRIN	52 - 117	21
GAMMA-BHC (LINDANE)	40 - 115	25
P,P'-DDT	46 - 147	27
DIELDRIN	46 - 132	26
ENDRIN	40 - 165	40
HEPTACHLOR	48 - 128	24

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
DECACHLOROBIPHENYL	100	109	28 - 138
TETRACHLORO-M-XYLENE	75	86	43 - 119

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: BETX - GASOLINE ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The continuing calibration verification (CCV) standards analyzed following the samples in this accession exceeded the upper recovery limit of 115% for both toluene and mp-xylenes. The high recovery of those compounds indicated a potential high bias. Since no target analytes were detected in the associated samples, no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
TOTAL XYLENES	<0.025
FUEL HYDROCARBONS	<5.0
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	106	62 - 128
TRIFLUOROTOLUENE	80	54 - 119

MAS I.D. # 805013-6

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: EX-B1-0.5	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.028
ETHYLBENZENE	<0.028
TOLUENE	<0.028
TOTAL XYLENES	<0.028
FUEL HYDROCARBONS	<5.6
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	97	62 - 128
TRIFLUOROTOLUENE	75	54 - 119

MAS I.D. # 805013-7

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: EX-B2-1.0	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.032
ETHYLBENZENE	<0.032
TOLUENE	<0.032
TOTAL XYLENES	<0.032
FUEL HYDROCARBONS	<6.3
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	94	62 - 128
TRIFLUOROTOLUENE	68	54 - 119

MAS I.D. # 805013-8

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: EX-B3-1.0	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.029
ETHYLBENZENE	<0.029
TOLUENE	<0.029
TOTAL XYLENES	<0.029
FUEL HYDROCARBONS	<5.9
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	95	62 - 128
TRIFLUOROTOLUENE	71	54 - 119

MAS I.D. # 805013-9

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: EX-B4-1.0	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.032
ETHYLBENZENE	<0.032
TOLUENE	<0.032
TOTAL XYLENES	<0.032
FUEL HYDROCARBONS	<6.5
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	95	62 - 128
TRIFLUOROTOLUENE	73	54 - 119

MAS I.D. # 805013-10

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: EX-B5-0.5	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.031
ETHYLBENZENE	<0.031
TOLUENE	<0.031
TOTAL XYLENES	<0.031
FUEL HYDROCARBONS	<6.3
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	92	62 - 128
TRIFLUOROTOLUENE	69	54 - 119

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/18/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: NW TPH-G/8020(BETX)		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	<0.0250	1.00	0.968	97	N/A	N/A	N/A
TOLUENE	<0.0250	1.00	0.987	99	N/A	N/A	N/A
TOTAL XYLENES	<0.0250	3.00	2.96	99	N/A	N/A	N/A
GASOLINE	<5.00	50.0	50.3	101	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
BENZENE	74 - 110	20
TOLUENE	79 - 112	20
TOTAL XYLENES	81 - 119	20
GASOLINE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	108	N/A	62 - 128
TRIFLUOROTOLUENE	83	N/A	54 - 119

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-6
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/18/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: NW TPH-G/8020(BETX)		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
BENZENE	<0.0281	N/A	N/A	1.12	1.02	91	1.00	89	2
TOLUENE	<0.0281	N/A	N/A	1.12	1.03	92	1.05	94	2
TOTAL XYLENES	<0.0281	N/A	N/A	3.38	3.09	91	3.10	92	0
GASOLINE	<5.62	<5.62	NC	56.2	49.5	88	51.1	91	3

CONTROL LIMITS	% REC.	RPD
BENZENE	51 - 114	20
TOLUENE	63 - 116	20
TOTAL XYLENES	61 - 126	20
GASOLINE	55 - 122	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	100	99	62 - 128
TRIFLUOROTOLUENE	76	76	54 - 119

NC = Not calculable.

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: TOTAL PETROLEUM HYDROCARBONS ANALYSIS - DIESEL

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The method blank had a recovery for o-terphenyl that was below the lower analytical limit of 66%. The rest of the recoveries of o-terphenyl for the related samples were within limits. No further corrective action was performed.

The opening motor oil continuing calibration verification (CCV) fell below the lower analytical limit of 85% for motor oil. The affected samples were reanalyzed to verify nondetects and detections in the motor oil range. No further corrective action was performed.

The closing motor oil CCV had an o-terphenyl recovery that was below the lower analytical limit of 85%. The bracketed samples and the related CCVs had recoveries that were within limits, so no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<10
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<40
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY			LIMITS
O-TERPHENYL	59	H	66 - 138

H = Out of limits.

Silica gel cleanup procedure performed.

MAS I.D. # 805013-6

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-B1-0.5	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<11
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<45
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	104	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-7

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-B2-1.0	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	22
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	58
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	112	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-8

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-B3-1.0	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<12
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<47
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	109	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-9

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-B4-1.0	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	19
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	120
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	114	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-10

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-B5-0.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	25
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	70
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	112	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-12

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-C2-1.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<12
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<47
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	106	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-14

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-D1-3	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	24
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	88
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	109	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-16

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-D3-1.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	80
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	250
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	108	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-18

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-D5-1.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 2

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	450
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	830
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	121	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-20

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-D7-1.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	41
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	190
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	106	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-22

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: EX-D9-1.5	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 2

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	270
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	710
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	119	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013-25

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: DSP-2	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	290
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	590
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	115	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<10.0	200	211	106	N/A	N/A	N/A
CONTROL LIMITS				% REC.			RPD
DIESEL				80 - 120			20
SURROGATE RECOVERIES		SPIKE		DUP. SPIKE		LIMITS	
O-TERPHENYL		116		N/A		66 - 138	

Silica gel cleanup procedure performed.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-8
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	<11.8	<11.8	NC	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	45

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	109	108	66 - 138

NC = Not calculable.

Silica gel cleanup procedure performed.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805019-1
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	131	86.8	41	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	45

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	112	105	66 - 138

Silica gel cleanup procedure performed.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-6
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<11.2	225	244	108	226	100	8
CONTROL LIMITS				% REC.			RPD
DIESEL				69 - 124			32
SURROGATE RECOVERIES		SPIKE		DUP. SPIKE		LIMITS	
O-TERPHENYL		120		112		66 - 138	

Silica gel cleanup procedure performed.

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: METALS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The reporting limits for selenium were raised by a factor of 2 for samples 805013-6 (EX-B1-0.5) through 805013-8 (EX-B3-1.0) and 805013-10 (EX-B5-0.5), and by a factor 5 for 805013-9 (EX-B4-1.0) due to matrix interference. The corresponding dilutions were performed to yield post-digestion spike recoveries that were within the required control limits . The reporting limits for the samples were raised accordingly.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : METHOD BLANK
SAMPLE MATRIX : SOIL
DATE SAMPLED : N/A
DATE RECEIVED : N/A
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<2.5	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	<0.25	1.0	RS8552F
BARIUM	05/13/98	05/18/98	<0.50	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.25	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	<0.25	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	<0.50	1.0	RS8553I
COPPER	05/13/98	05/18/98	<0.50	1.0	RS8553I
LEAD	05/13/98	05/18/98	<1.5	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.10	1.0	HG8070S
NICKEL	05/13/98	05/18/98	<0.50	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.25	1.0	RS8552F
SILVER	05/13/98	05/18/98	<0.50	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.25	1.0	RS8552F
ZINC	05/13/98	05/18/98	<0.50	1.0	RS8553I

MAS I.D. # 805013-6

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : EX-B1-0.5
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/05/98
DATE RECEIVED : 05/05/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.0	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	4.2	5.0	RS8552F
BARIUM	05/13/98	05/18/98	52	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.30	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	<0.30	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	8.6	1.0	RS8553I
COPPER	05/13/98	05/18/98	16	1.0	RS8553I
LEAD	05/13/98	05/18/98	15	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.11	1.0	HG8070S
NICKEL	05/13/98	05/18/98	8.7	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.60	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.61	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.30	1.0	RS8552F
ZINC	05/13/98	05/18/98	84	1.0	RS8553I

MAS I.D. # 805013-7

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : EX-B2-1.0
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/05/98
DATE RECEIVED : 05/05/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.4	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	11	10	RS8552F
BARIUM	05/13/98	05/18/98	96	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.34	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	0.40	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	13	1.0	RS8553I
COPPER	05/13/98	05/18/98	28	1.0	RS8553I
LEAD	05/13/98	05/18/98	110	1.0	RS8553I
MERCURY	05/18/98	05/19/98	0.27	1.0	HG8070S
NICKEL	05/13/98	05/18/98	11	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.69	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.69	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.35	1.0	RS8552F
ZINC	05/13/98	05/18/98	110	1.0	RS8553I

MAS I.D. # 805013-8

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : EX-B3-1.0
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/05/98
DATE RECEIVED : 05/05/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.2	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	3.8	5.0	RS8552F
BARIUM	05/13/98	05/18/98	58	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.32	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	<0.32	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	11	1.0	RS8553I
COPPER	05/13/98	05/18/98	20	1.0	RS8553I
LEAD	05/13/98	05/18/98	25	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.11	1.0	HG8070S
NICKEL	05/13/98	05/18/98	9.5	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.64	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.63	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.32	1.0	RS8552F
ZINC	05/13/98	05/18/98	55	1.0	RS8553I

MAS I.D. # 805013-9

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/05/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/05/98
PROJECT NAME	: FAMILY FUN CENTER	UNITS	: mg/Kg
CLIENT I.D.	: EX-B4-1.0		
SAMPLE MATRIX	: SOIL		

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.5	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	13	10	RS8552F
BARIUM	05/13/98	05/18/98	400	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	0.59	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	1.00	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	30	1.0	RS8553I
COPPER	05/13/98	05/18/98	51	1.0	RS8553I
LEAD	05/13/98	05/18/98	570	1.0	RS8553I
MERCURY	05/18/98	05/19/98	0.15	1.0	HG8070S
NICKEL	05/13/98	05/18/98	16	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<1.8	5.0	RS8552F
SILVER	05/13/98	05/18/98	<0.71	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.35	1.0	RS8552F
ZINC	05/13/98	05/18/98	180	1.0	RS8553I

MAS I.D. # 805013-10

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : EX-B5-0.5
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/05/98
DATE RECEIVED : 05/05/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.3	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	10	10	RS8552F
BARIUM	05/13/98	05/18/98	300	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	0.33	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	0.87	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	15	1.0	RS8553I
COPPER	05/13/98	05/18/98	47	1.0	RS8553I
LEAD	05/13/98	05/18/98	210	1.0	RS8553I
MERCURY	05/18/98	05/19/98	0.13	1.0	HG8070S
NICKEL	05/13/98	05/18/98	21	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.64	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.67	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.32	1.0	RS8552F
ZINC	05/13/98	05/18/98	290	1.0	RS8553I

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC. UNITS : mg/Kg
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

ELEMENT	MAS I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC	BATCH NUMBER
ANTIMONY	BLANK	<2.50	N/A	N/A	43.3	50.0	87	RS8553I
ANTIMONY	805013-6	<3.03	<3.04	NC	14.4	57.7	25	RS8553I
ARSENIC	BLANK	<0.250	N/A	N/A	1.13	1.25	90	RS8552F
ARSENIC	805013-6	4.24	4.03	5	7.40	4.50	70	RS8552F
BARIUM	BLANK	<0.500	N/A	N/A	46.5	50.0	93	RS8553I
BARIUM	805013-6	52.1	55.1	6	108	57.7	97	RS8553I
BERYLLIUM	BLANK	<0.250	N/A	N/A	41.2	50.0	82	RS8553I
BERYLLIUM	805013-6	<0.303	<0.304	NC	49.3	57.7	85	RS8553I
CADMIUM	BLANK	<0.250	N/A	N/A	43.1	50.0	86	RS8553I
CADMIUM	805013-6	<0.303	<0.304	NC	48.5	57.7	84	RS8553I
CHROMIUM	BLANK	<0.500	N/A	N/A	45.9	50.0	92	RS8553I
CHROMIUM	805013-6	8.61	9.65	11	60.8	57.7	90	RS8553I
COPPER	BLANK	<0.500	N/A	N/A	45.5	50.0	91	RS8553I
COPPER	805013-6	16.1	17.0	5	68.5	57.7	91	RS8553I
LEAD	BLANK	<1.50	N/A	N/A	44.6	50.0	89	RS8553I
LEAD	805013-6	15.1	16.2	7	72.8	57.7	100	RS8553I
MERCURY	BLANK	<0.100	N/A	N/A	1.08	1.00	108	HG8070S
MERCURY	805013-6	<0.112	<0.112	NC	1.26	1.12	113	HG8070S
NICKEL	BLANK	<0.500	N/A	N/A	42.4	50.0	85	RS8553I
NICKEL	805013-6	8.73	9.02	3	56.3	57.7	82	RS8553I
SELENIUM	BLANK	<0.250	N/A	N/A	1.15	1.25	92	RS8552F
SELENIUM	805013-6	<0.600	<0.606	NC	0.457	1.50	30	RS8552F
SILVER	BLANK	<0.500	N/A	N/A	45.3	50.0	91	RS8553I
SILVER	805013-6	<0.607	<0.608	NC	51.6	57.7	89	RS8553I
THALLIUM	BLANK	<0.250	N/A	N/A	1.20	1.25	96	RS8552F
THALLIUM	805013-6	<0.300	<0.303	NC	1.45	1.50	97	RS8552F
ZINC	BLANK	<0.500	N/A	N/A	41.0	50.0	82	RS8553I
ZINC	805013-6	83.6	84.6	1	131	57.7	82	RS8553I

NC = Not Calculable.

CONTINUED ON NEXT PAGE

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
QUALITY CONTROL DATA
CONTINUED

CLIENT : GEOENGINEERS, INC. UNITS : mg/Kg
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CONTROL LIMITS

ELEMENT	BLANK SPIKE %RECOVERY	BLANK SPIKE RPD	MATRIX SPIKE %RECOVERY	MATRIX SPIKE RPD	MATRIX DUPLICATE RPD
ANTIMONY	80-120	N/A	20-108	N/A	35
ARSENIC	86-117	N/A	35-147	N/A	35
BARIUM	80-120	N/A	37-152	N/A	35
BERYLLIUM	80-120	N/A	77-117	N/A	35
CADMIUM	80-120	N/A	67-110	N/A	35
CHROMIUM	80-120	N/A	62-120	N/A	35
COPPER	80-120	N/A	69-120	N/A	35
LEAD	80-120	N/A	58-123	N/A	35
MERCURY	80-120	N/A	51-149	N/A	35
NICKEL	80-120	N/A	63-110	N/A	35
SELENIUM	77-115	N/A	20-100	N/A	35
SILVER	80-120	N/A	78-109	N/A	35
THALLIUM	80-120	N/A	21-130	N/A	35
ZINC	80-120	N/A	47-136	N/A	35

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: GENERAL CHEMISTRY ANALYSIS

There were no anomalies associated with the preparation and/or analysis of the samples in this accession.

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS

CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

PARAMETER	DATE ANALYZED
MOISTURE (SAMPLES -1 THRU -12,-14, -18,-20,-22)	05/12/98
MOISTURE (SAMPLES -16,-25)	05/13/98

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER UNITS : %

MAS I.D. #	CLIENT I.D.	MOISTURE
805013-1	EX-A1-1.5	15
805013-2	EX-A2-1.5	12
805013-3	EX-A3-1.5	6.4
805013-4	EX-A4-0.75	16
805013-5	EX-A5-0.75	10
805013-6	EX-B1-0.5	11
805013-7	EX-B2-1.0	21
805013-8	EX-B3-1.0	15
805013-9	EX-B4-1.0	23
805013-10	EX-B5-0.5	20
805013-12	EX-C2-1.5	15
805013-14	EX-D1-3	22
805013-16	EX-D3-1.5	15
805013-18	EX-D5-1.5	11
805013-20	EX-D7-1.5	23
805013-22	EX-D9-1.5	8.6
805013-25	DSP-2	15

MAS I.D. # 805013

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER UNITS : %

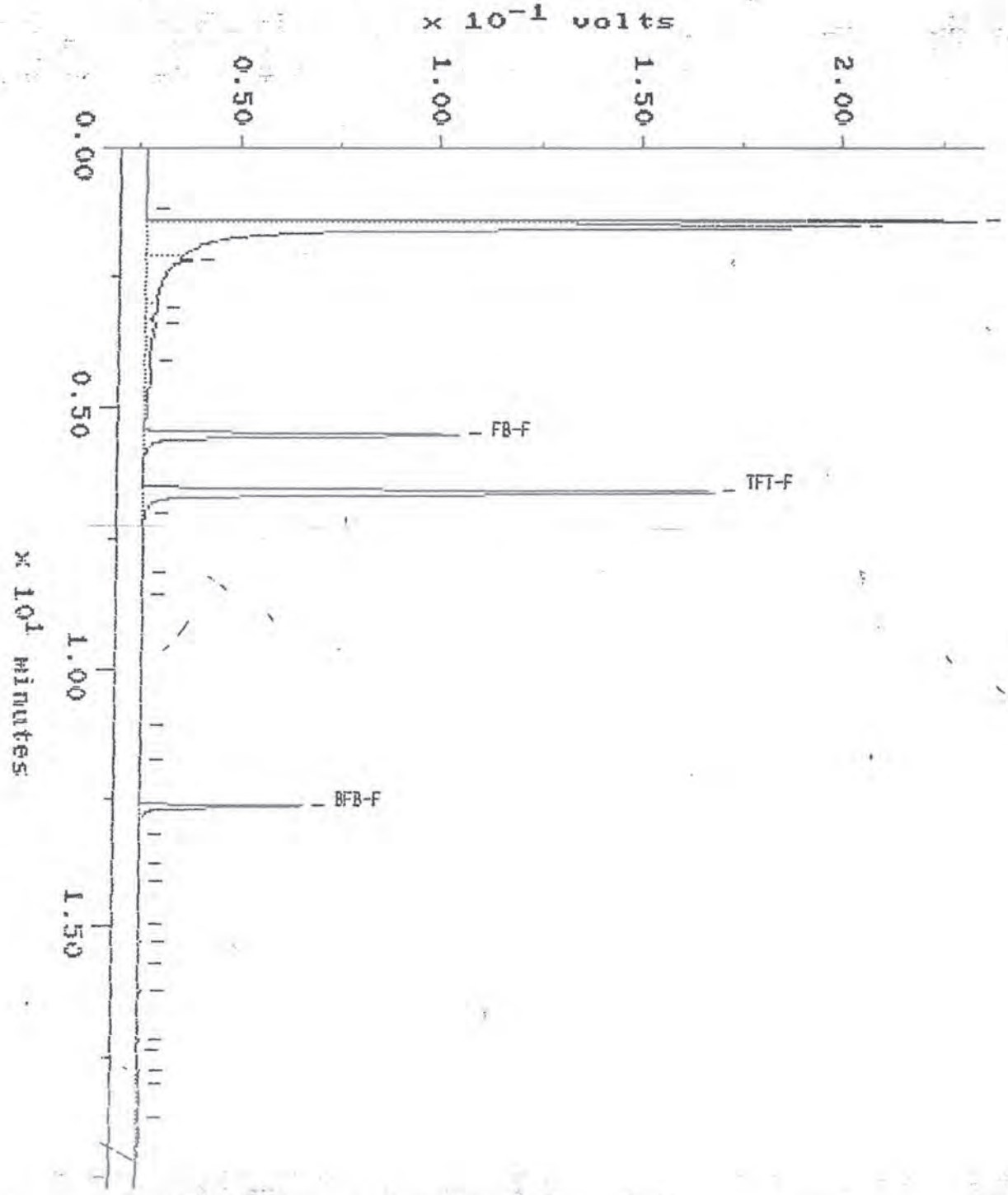
PARAMETER	MAS I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	805013-1	15	16	6	N/A	N/A	N/A
MOISTURE	805013-12	15	15	0	N/A	N/A	N/A
MOISTURE	805042-2	19	20	5	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{|(\text{Sample Result} - \text{Duplicate Result})|}{\text{Average Result}} \times 100$$

Blank

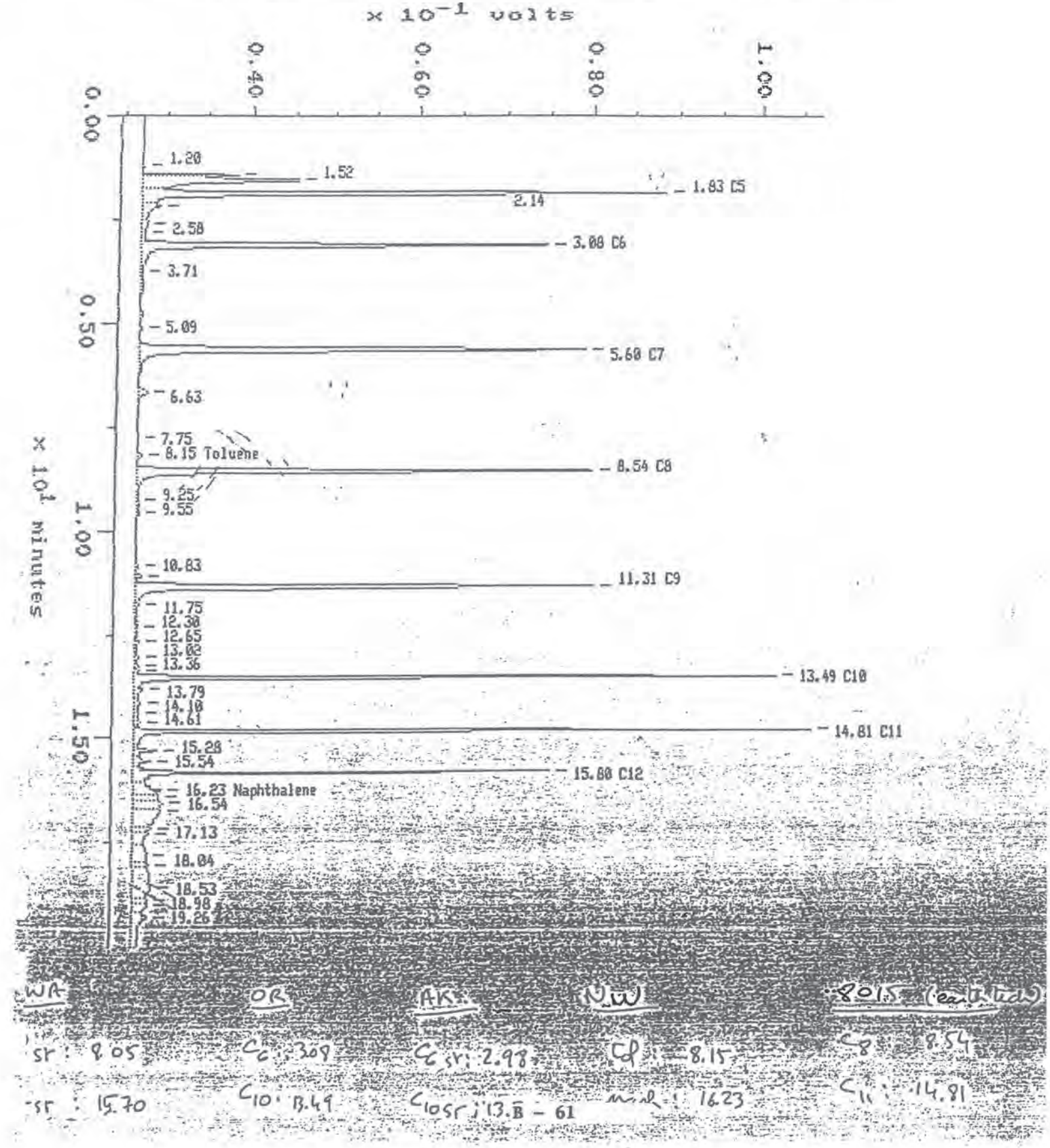
Sample: A0518-SRB Channel: FID Filename: R5199P03
Acquired: 19-MAY-98 10:46 Method: X:\MAXDATA\PICARD\051998PC Operator: MAS
Comments: MAS FUELS: TPHG / 8020 (BETX)



Alkane

Sample: PICARD ALKANE Channel: FID
Acquired: 18-MAY-98 8:44 Method: X:\MAXDATA\PICARD\051898PC
Comments: MAS FUELS: TPHG / 8020 (BETX)

Filename: R5189P01
Operator: MAS

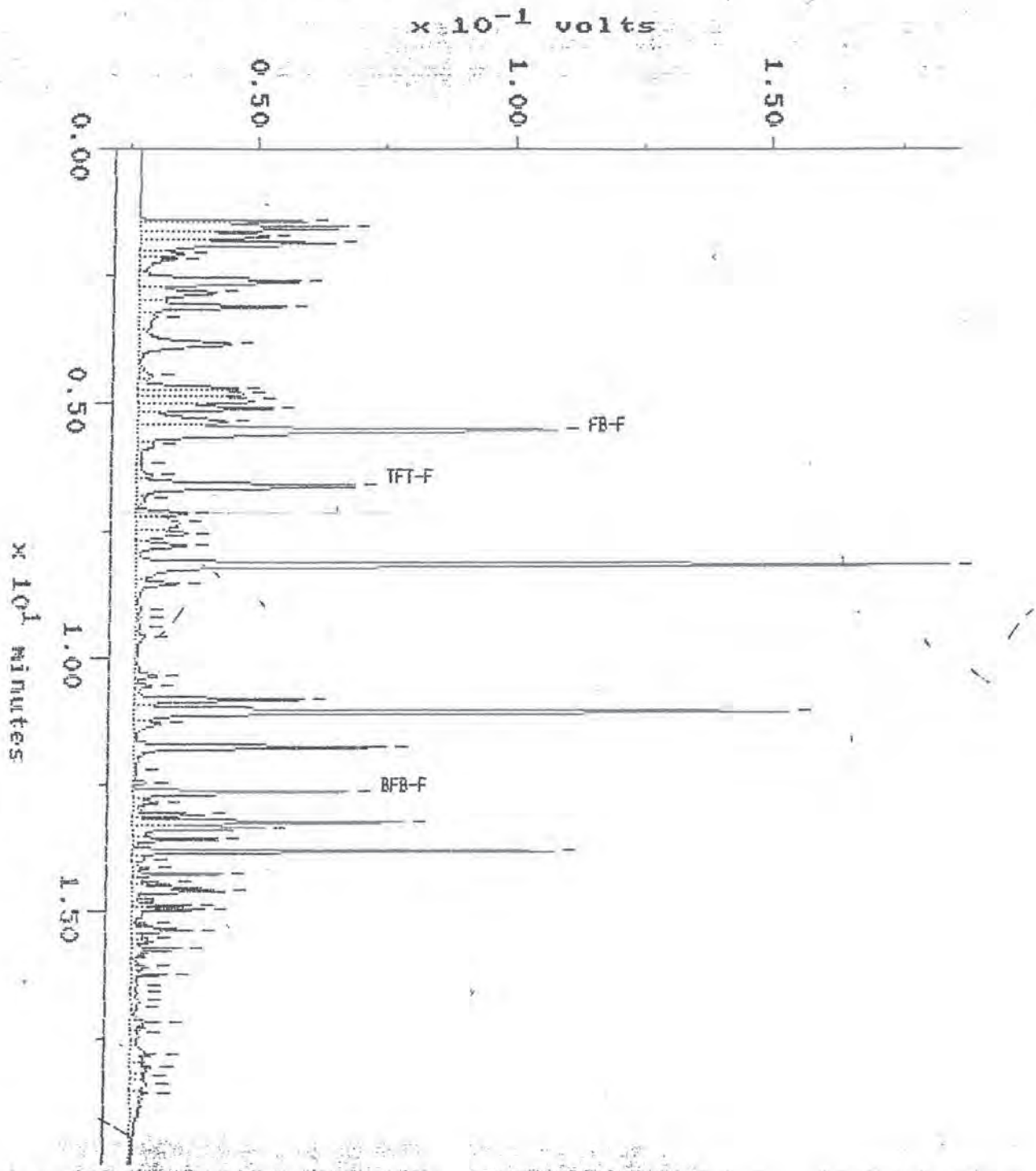


WA OR AK NW 8015 (extracted)

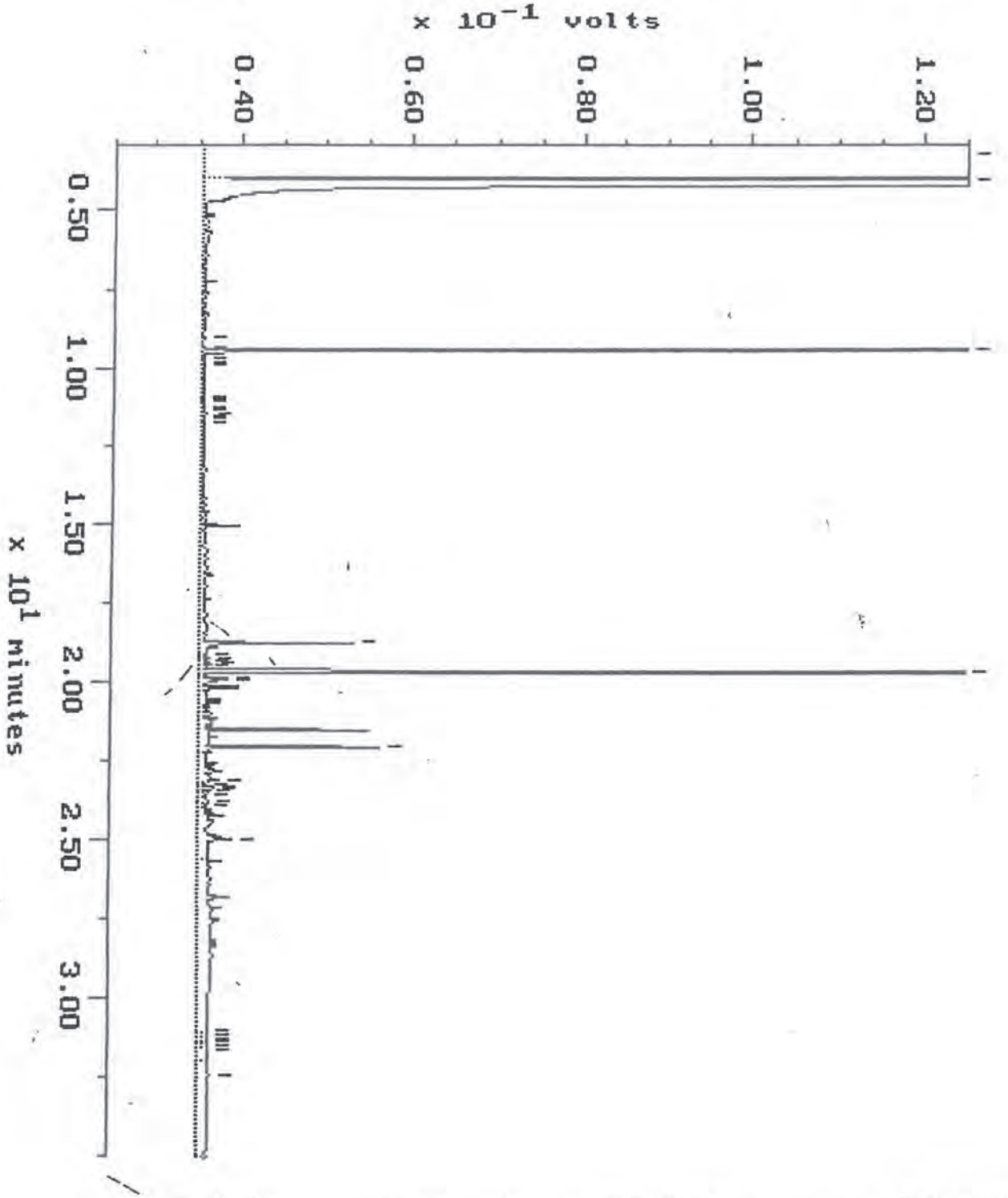
St: 8.05 C6: 3.09 C6 St: 2.98 C8: 8.15 C8: 8.54

St: 15.70 C10: 13.49 C10 St: 13.83 mid: 16.23 C11: 14.81

Sample: GAS 1000 CCV Channel: FID Filename: R5199P01
Acquired: 19-MAY-98 8:36 Method: X:\MAXDATA\PICARD\051998PC Operator: MAS
Comments: MAS FUELS: TPHG / 8020 (BETX)



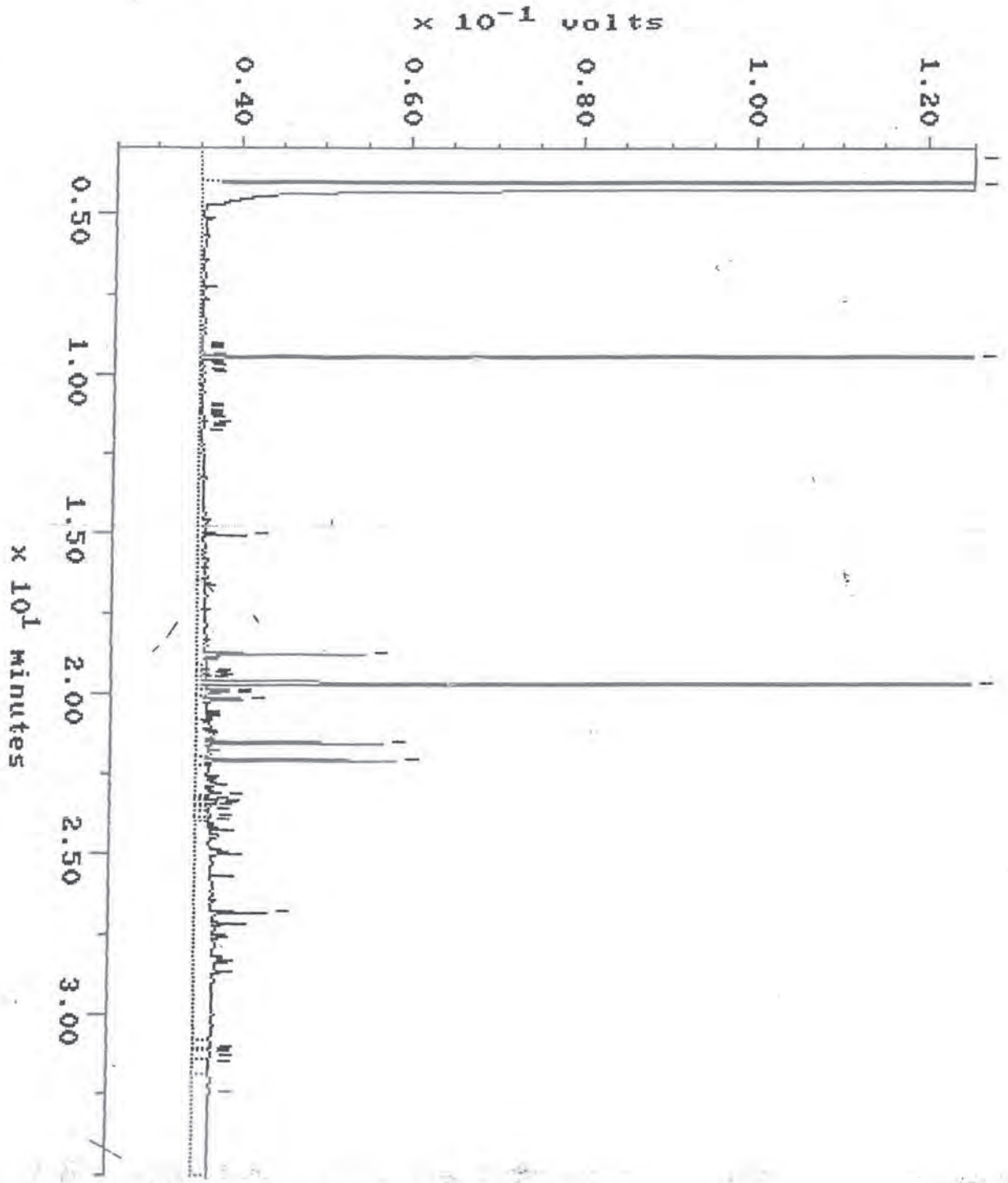
Sample: 805013-7 Channel: WILMA Filename: R5218W11
Acquired: 21-MAY-98 18:19 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



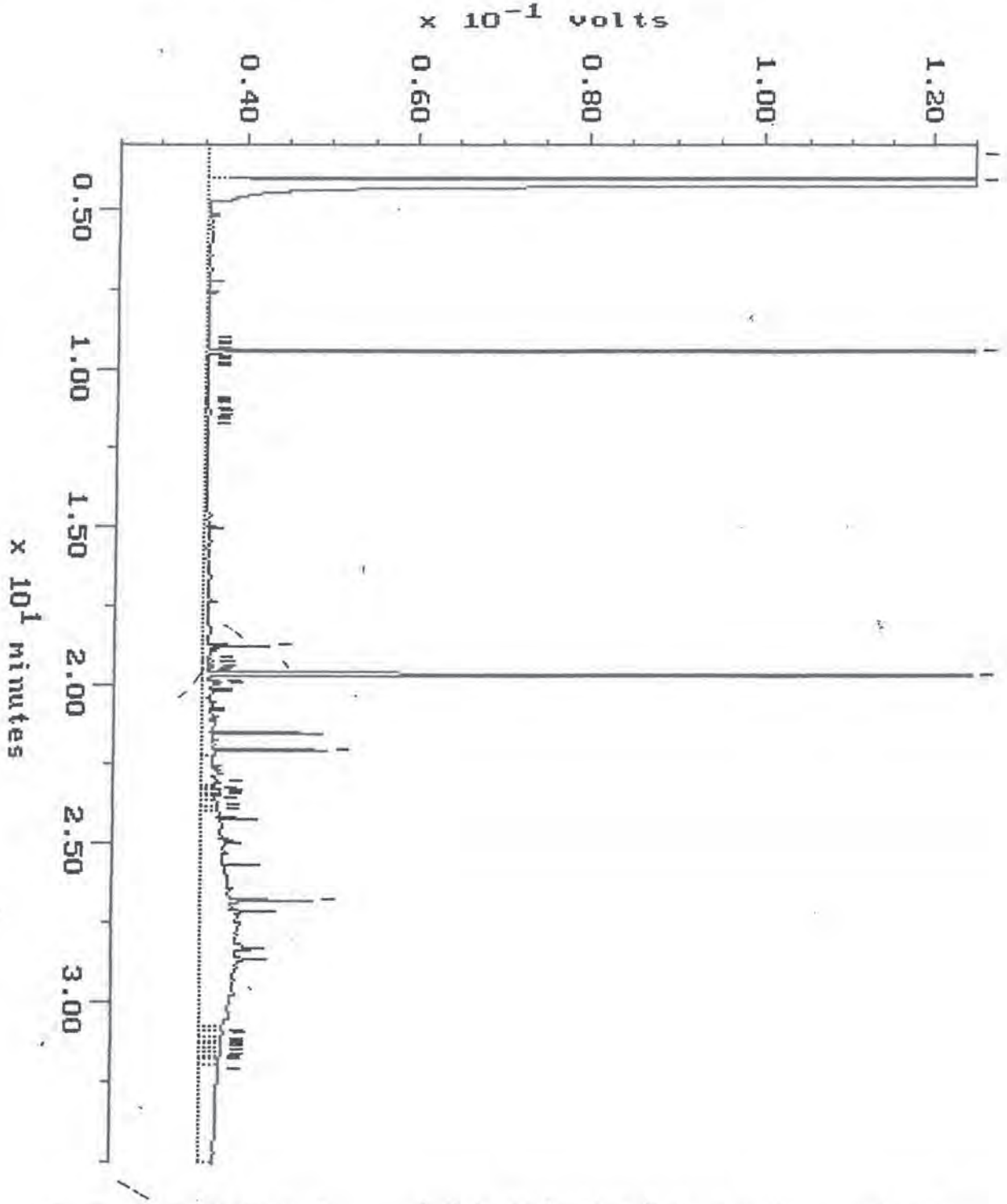
Sample: 805013-7
Acquired: 26-MAY-98 12:24
Comments:

Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL0526
WA DOE TPH D

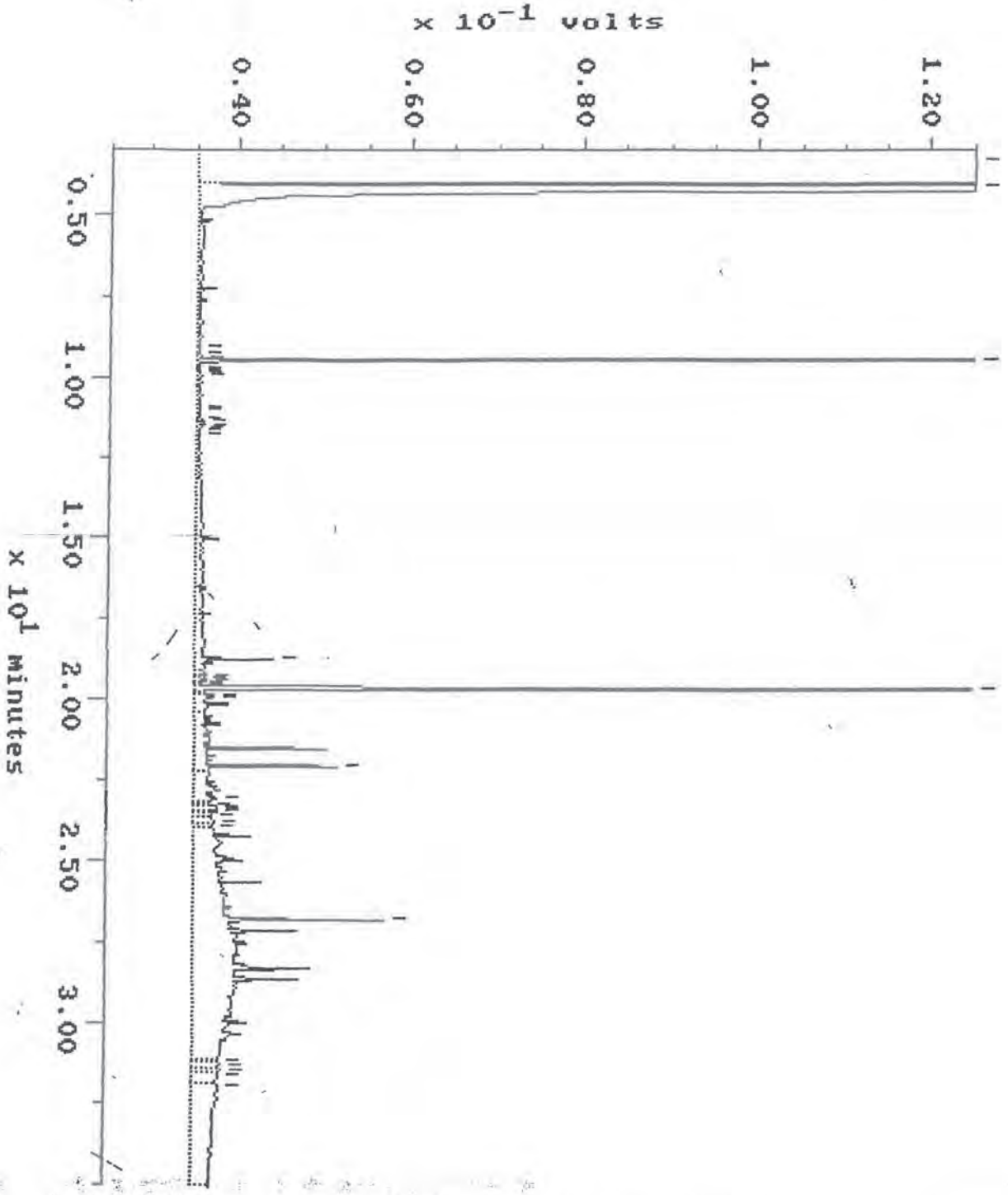
Filename: R5268W05
Operator: MAX



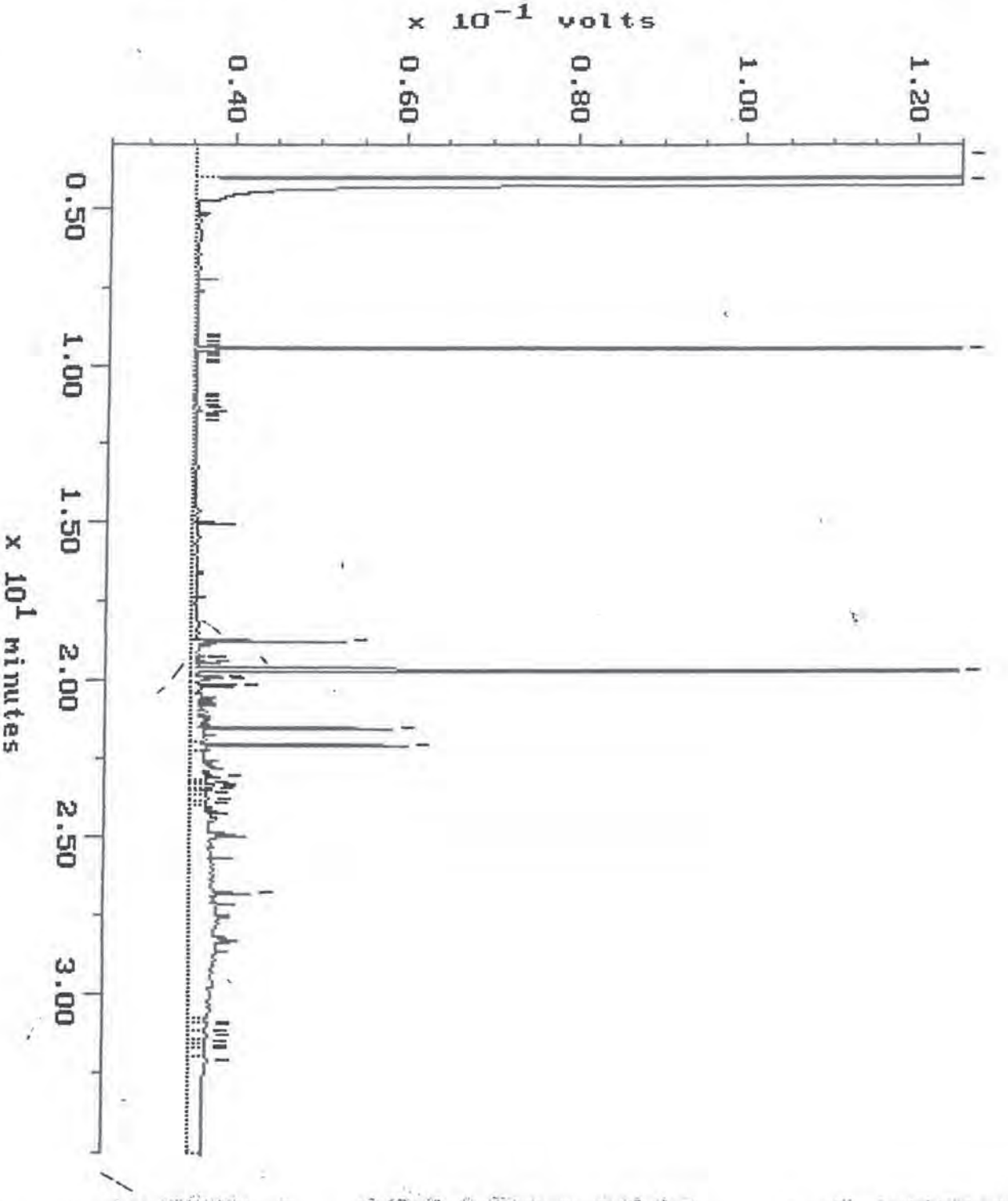
Sample: 805013-9 Channel: WILMA Filename: R5218W14
Acquired: 21-MAY-98 20:34 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



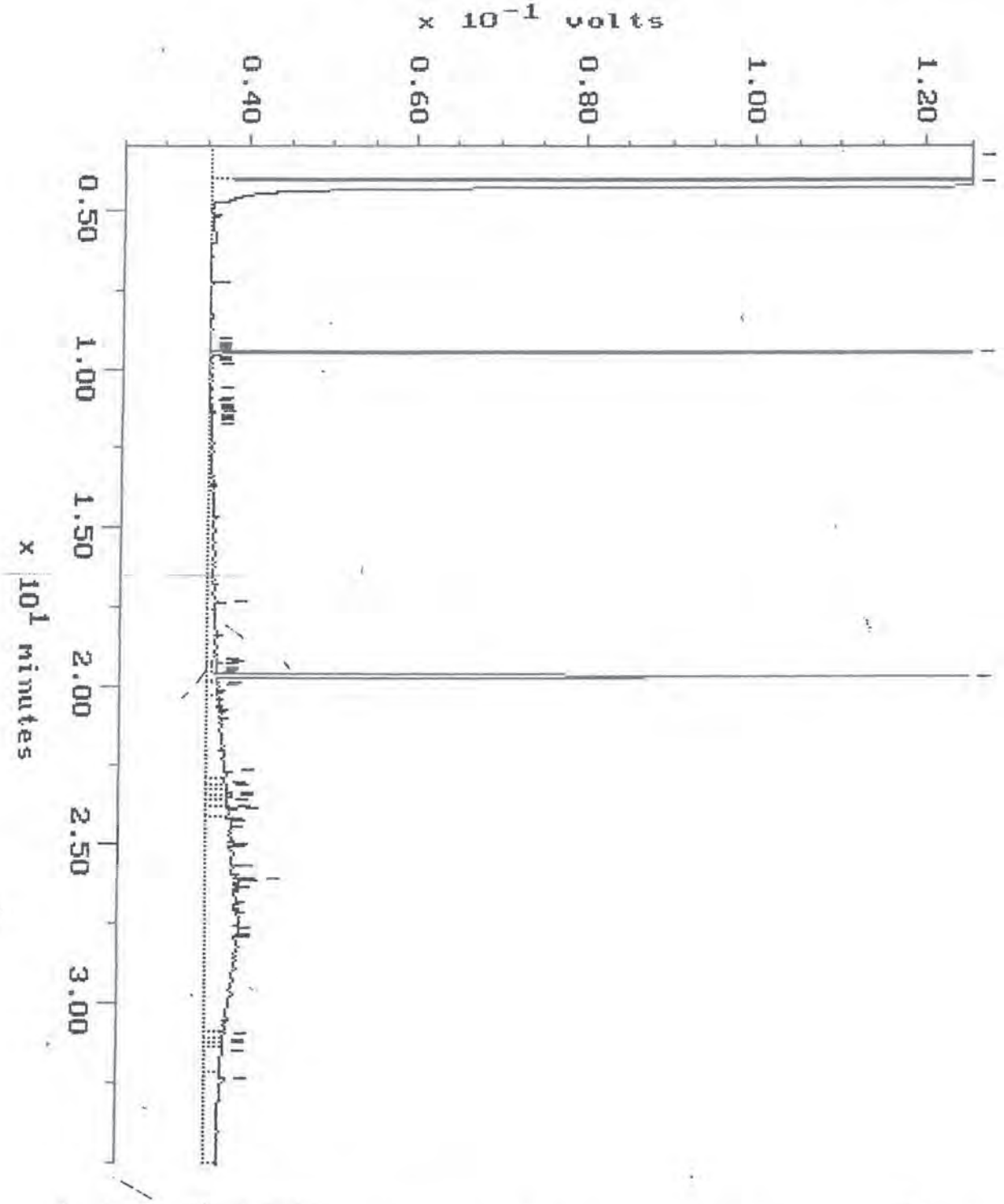
Sample: 805013-9 Channel: WILMA Filename: R5268W07
Acquired: 26-MAY-98 13:55 Method: X:\MAXDATA\WILMA\FUEL0526 Operator: MAX
Comments: WA DOE TPH D



Sample: 805013-10 Channel: WILMA Filename: R5218W19
Acquired: 22-MAY-98 0:18 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



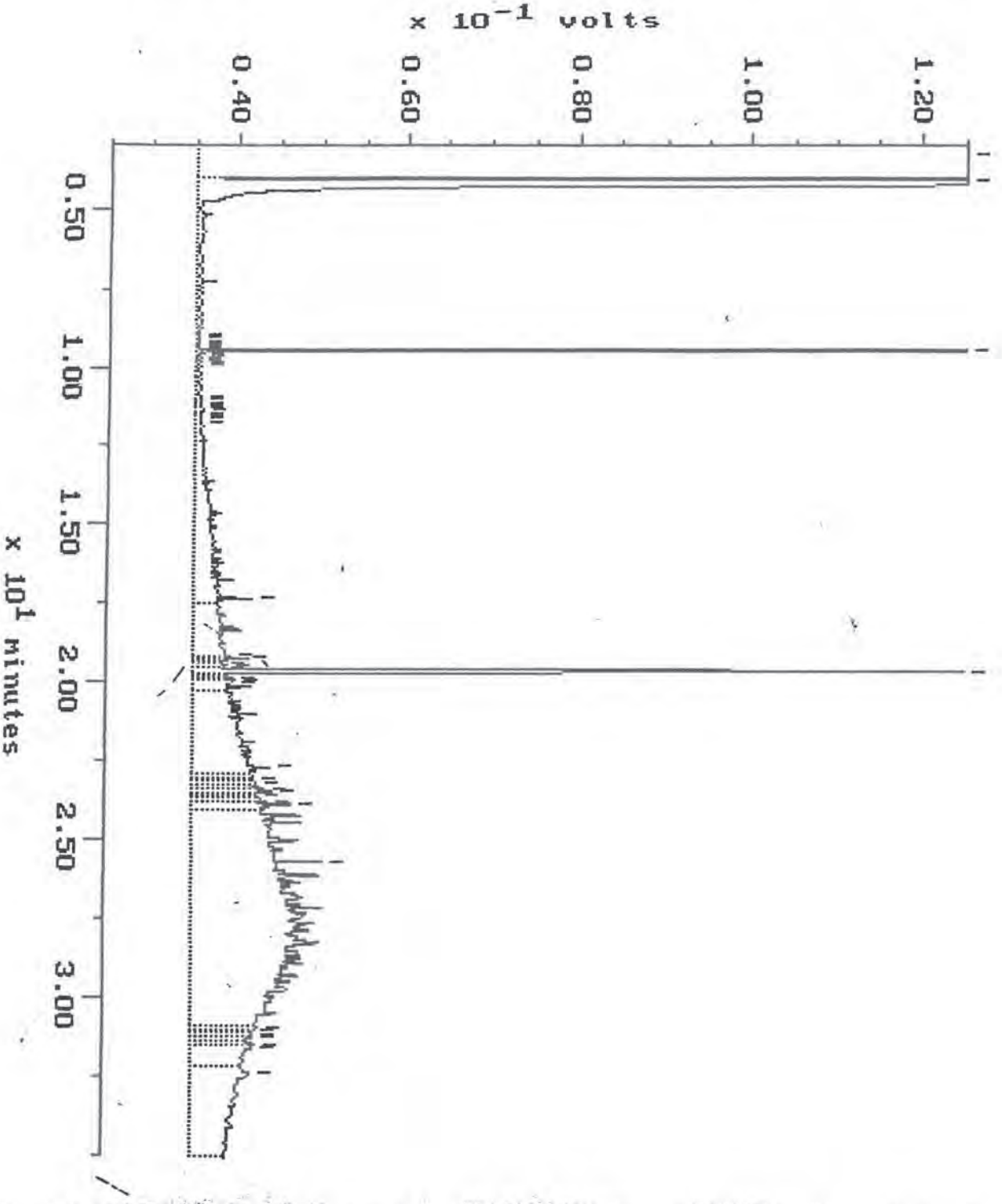
Sample: 805013-14 Channel: WILMA Filename: R5218W21
Acquired: 22-MAY-98 1:47 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



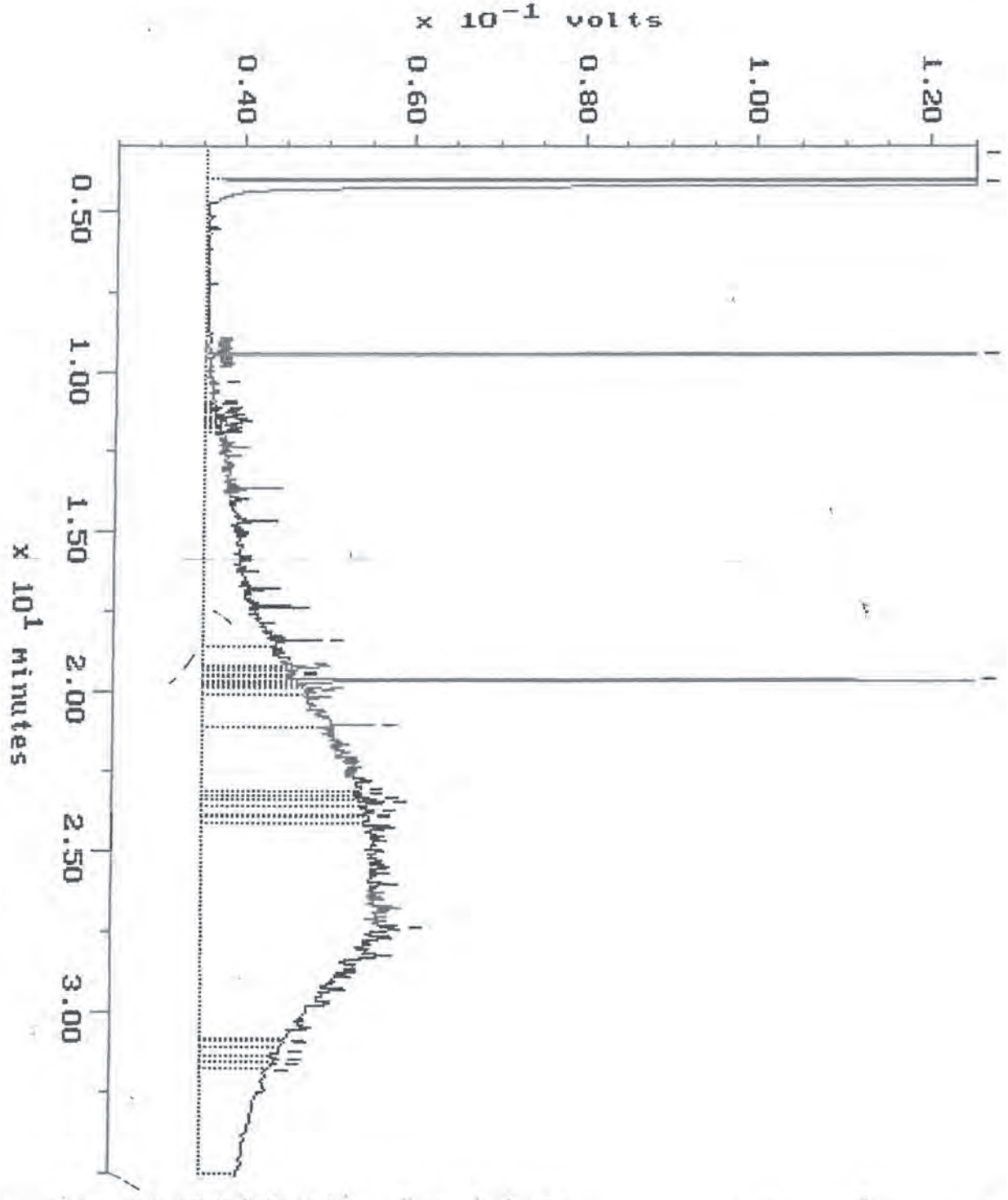
Sample: 805013-16
Acquired: 22-MAY-98 2:33
Comments:

Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL521
WA DOE TPH D

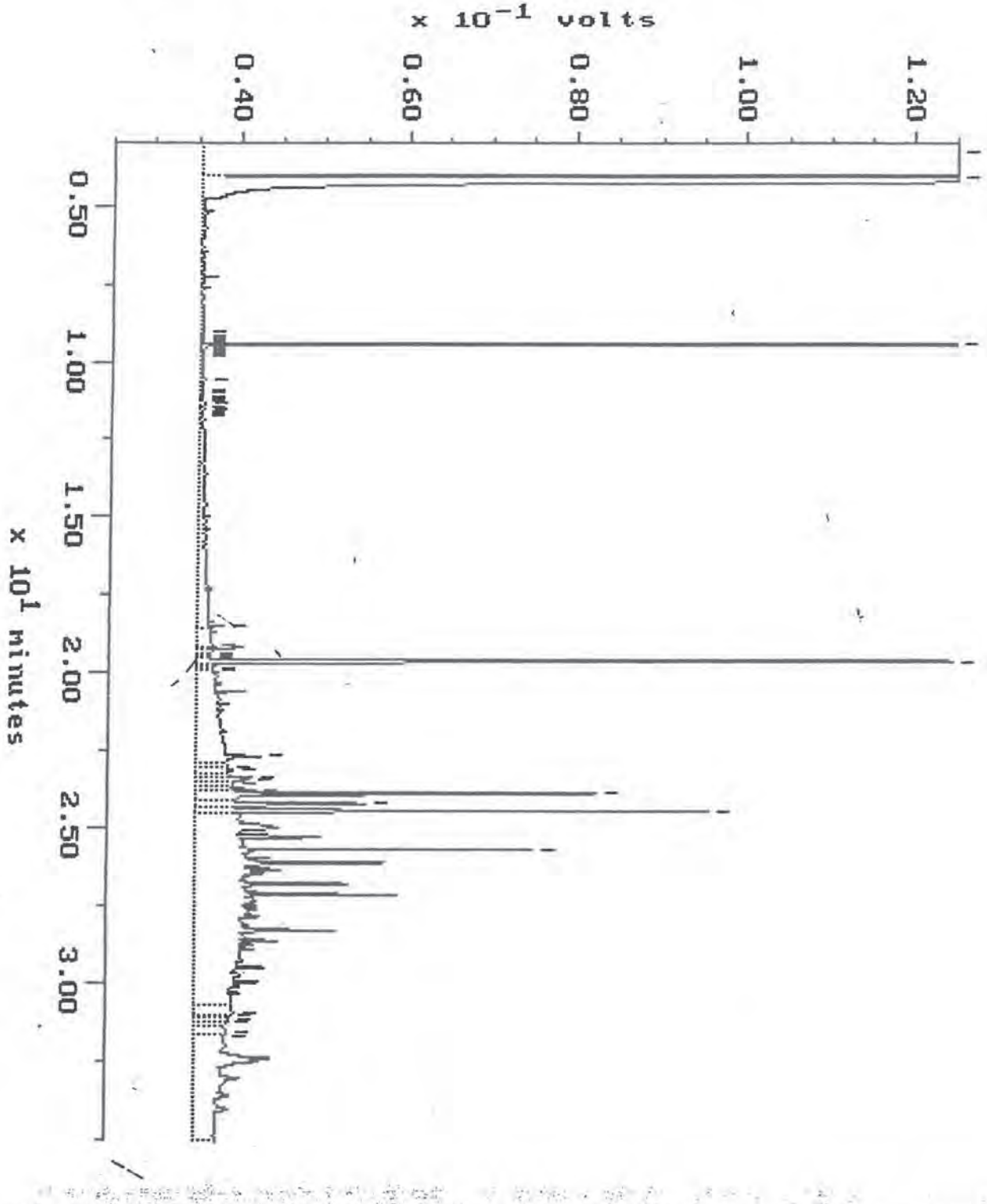
Filename: R5218W22
Operator: MAX



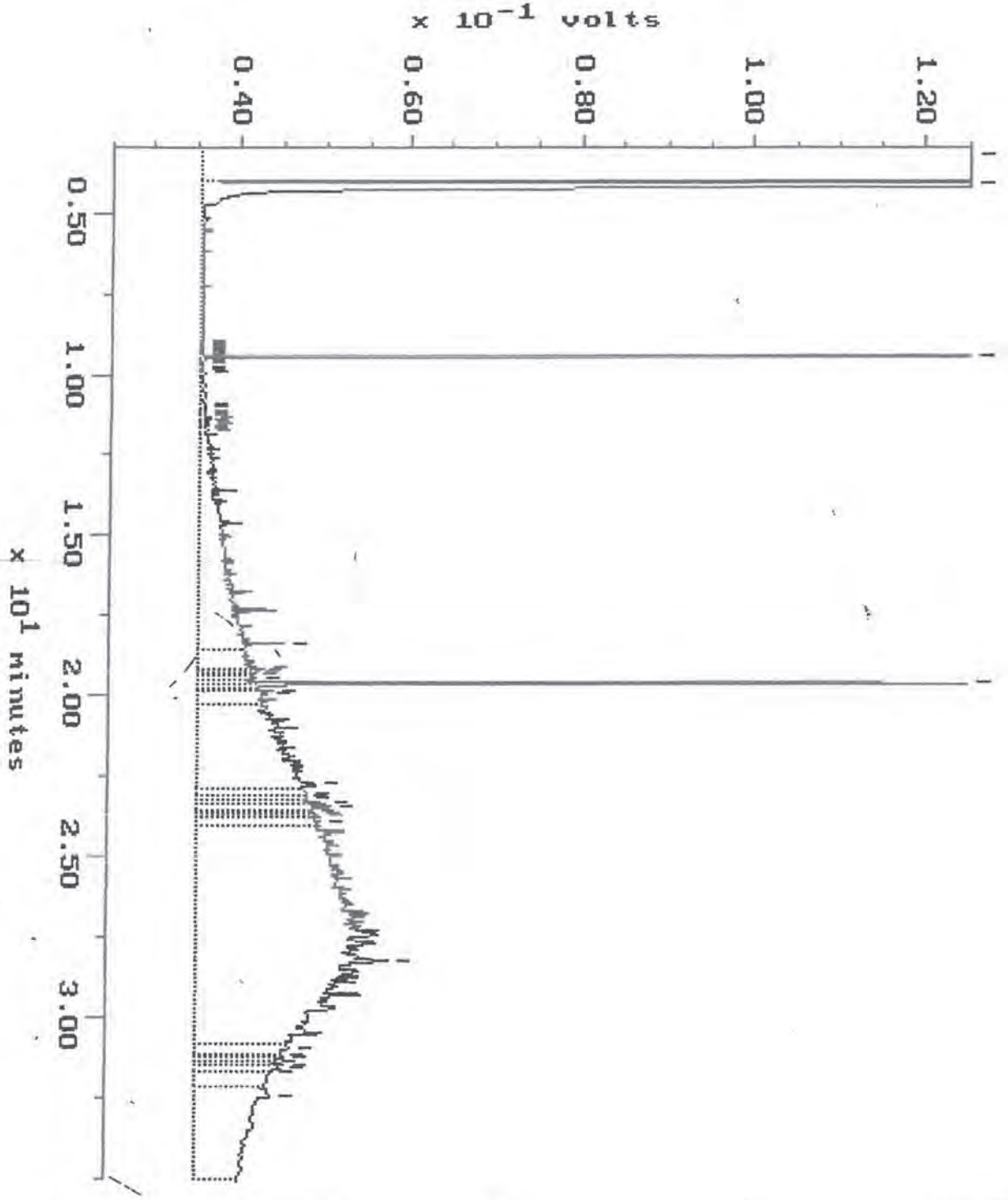
Sample: 805013-18 Channel: WILMA Filename: R5218W23
Acquired: 22-MAY-98 3:18 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Dilution: 1 : 2.000
Comments: WA DOE TPH D



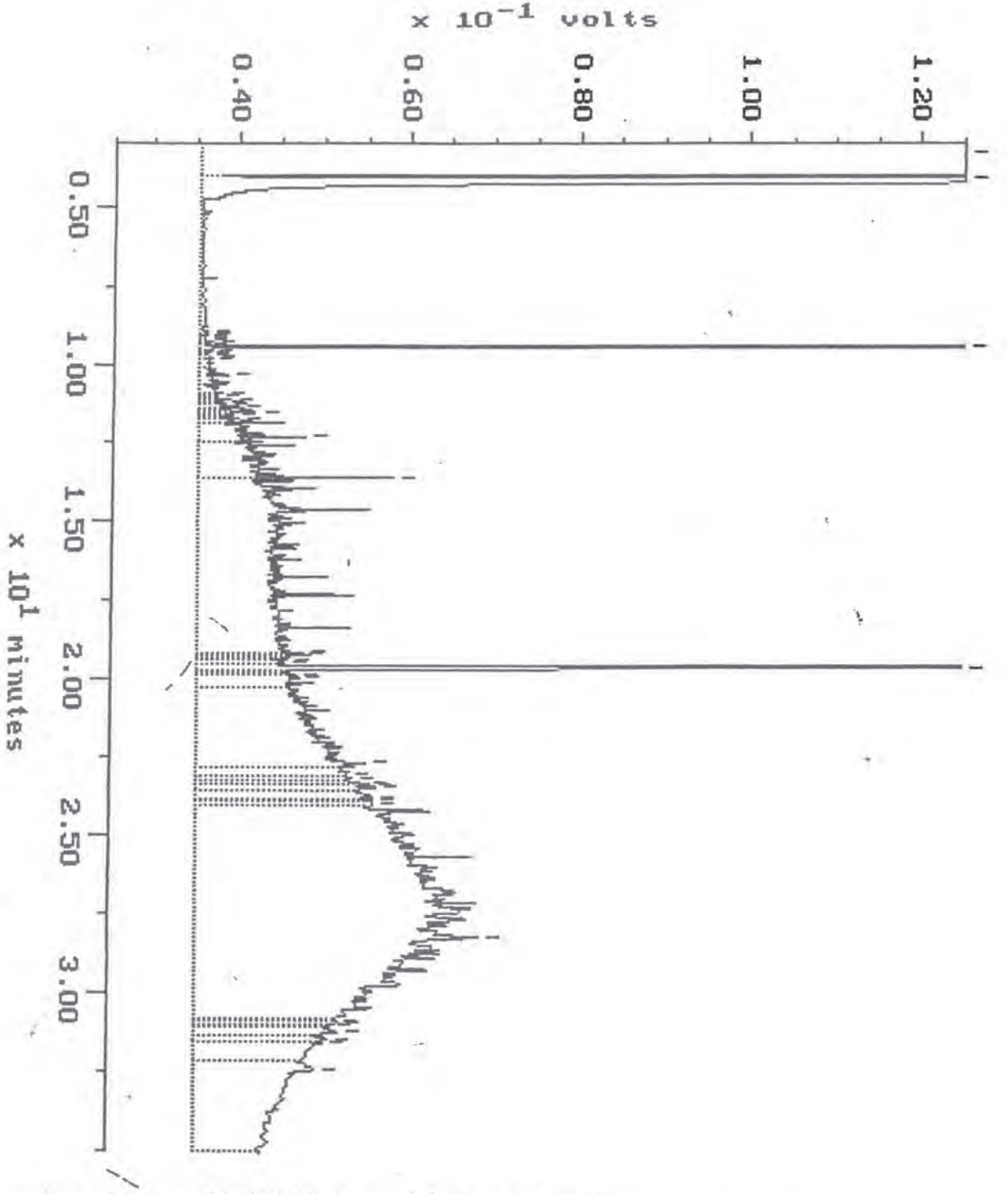
Sample: 805013-20 Channel: WILMA Filename: R5218W24
Acquired: 22-MAY-98 4:03 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



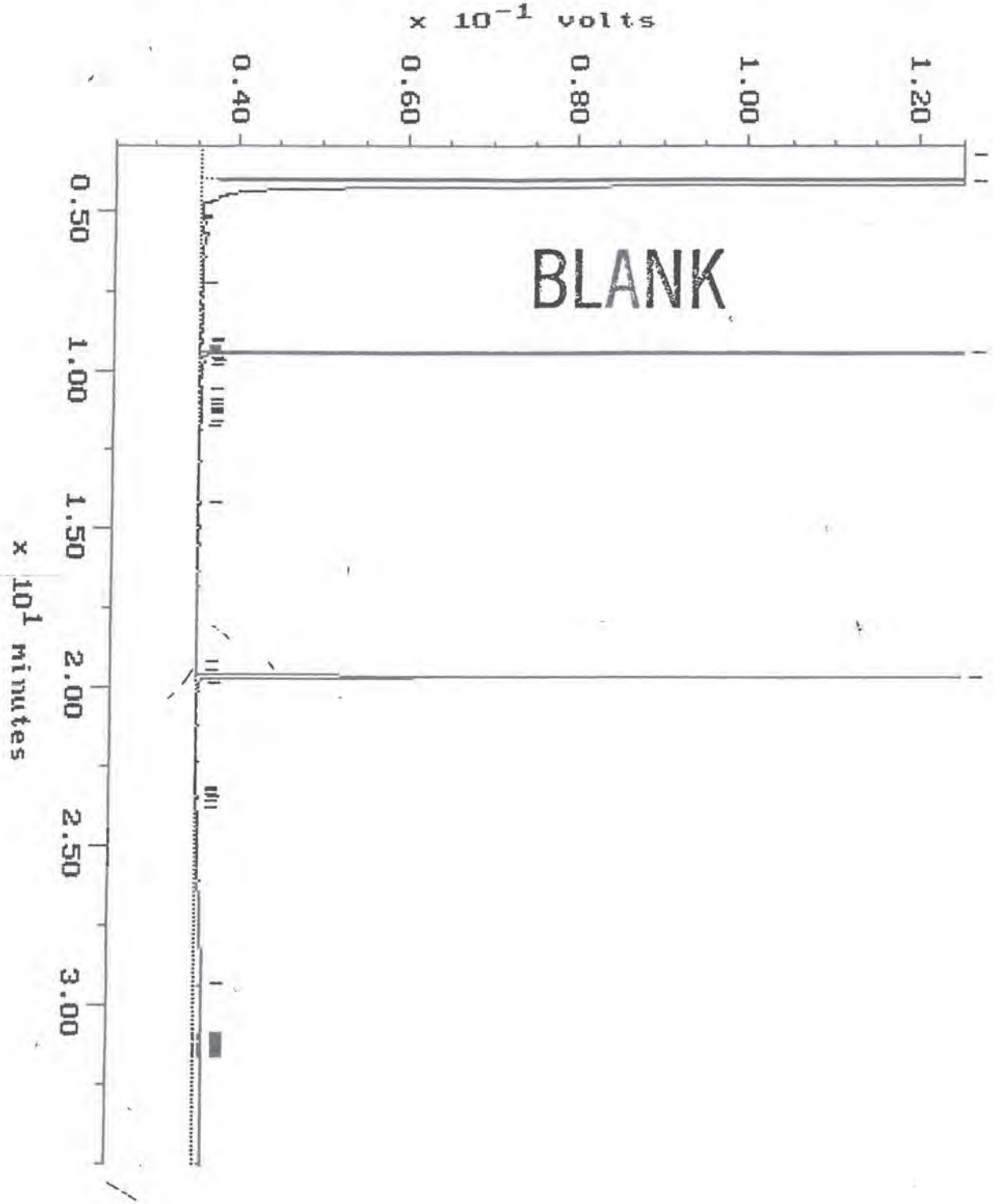
Sample: 805013-22 Channel: WILMA Filename: R5218W25
Acquired: 22-MAY-98 4:49 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Dilution: 1 : 2.000
Comments: WA DOE TPH D



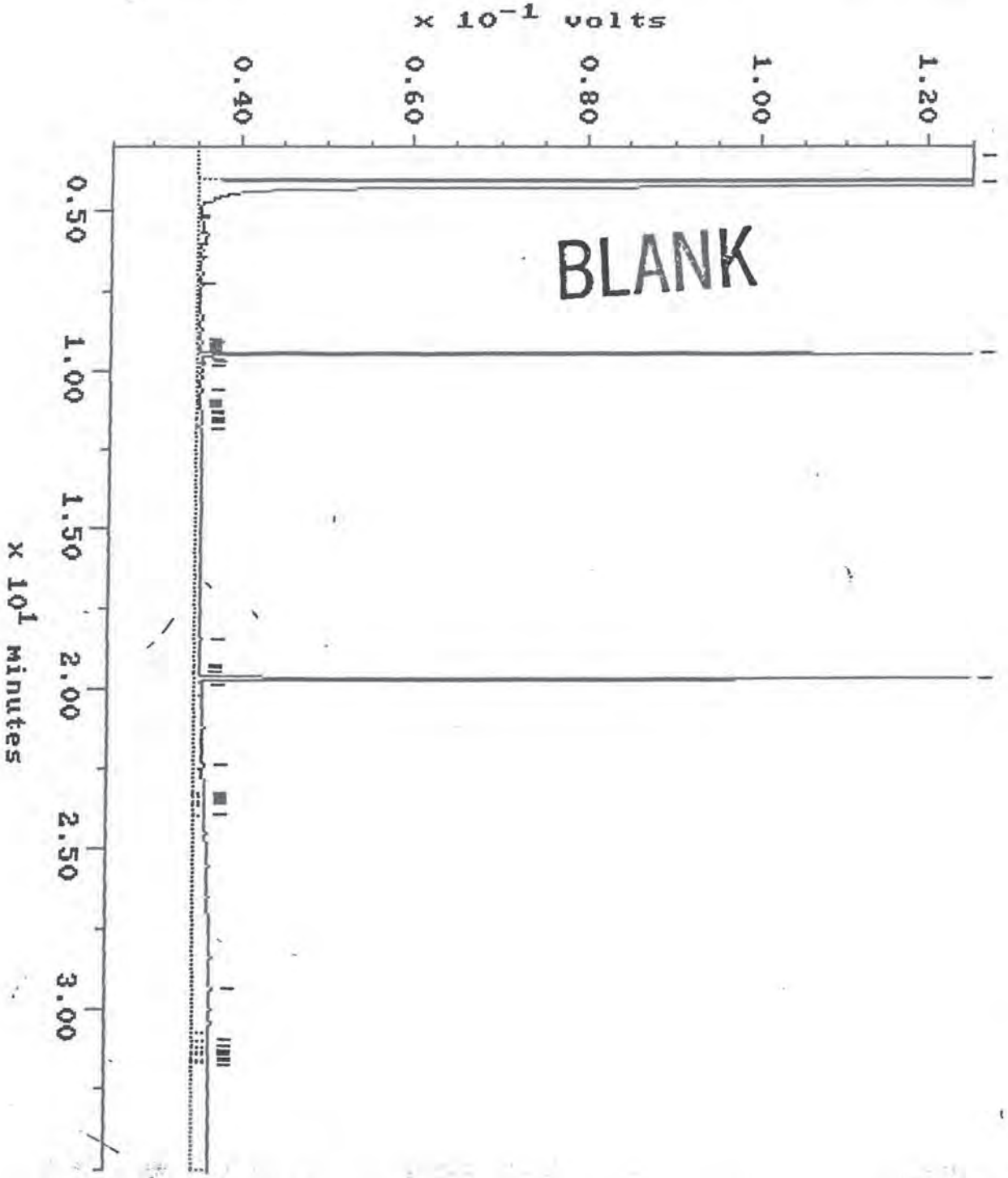
Sample: 805013-25 Channel: WILMA Filename: R5218W26
Acquired: 22-MAY-98 5:35 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



Sample: A0507 NTPHD BLK Channel: WILMA Filename: R5218W06
Acquired: 21-MAY-98 14:33 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



Sample: A0507 NTPHD BLK Channel: WILMA Filename: R5268W03
Acquired: 26-MAY-98 10:54 Method: X:\MAXDATA\WILMA\FUEL0526 Operator: MAX
Comments: WA DOE TPH D

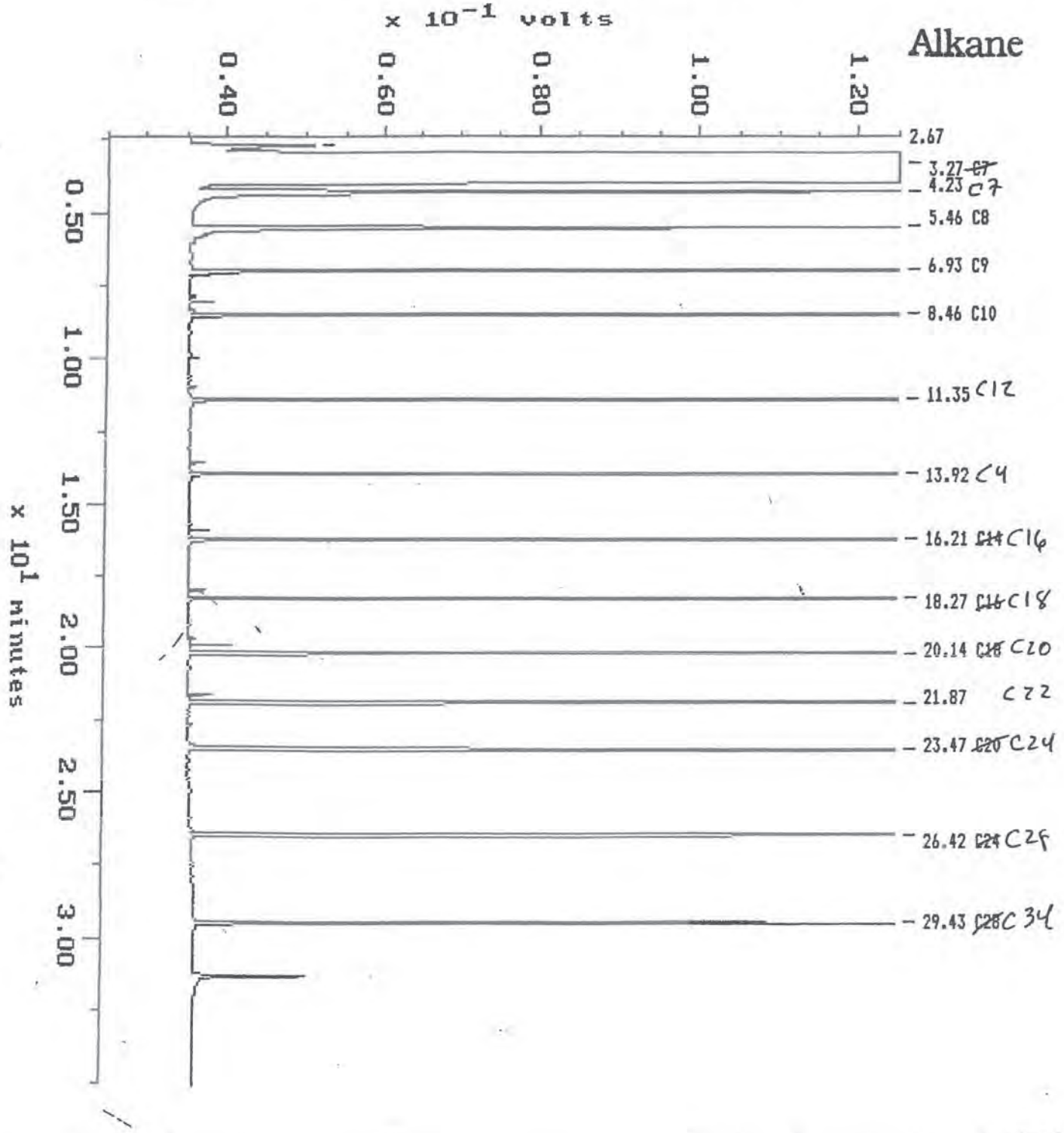


Sample: ALKANE WILMA
Acquired: 19-MAY-98 17:39
Inj Vol: 1.00
Comments:

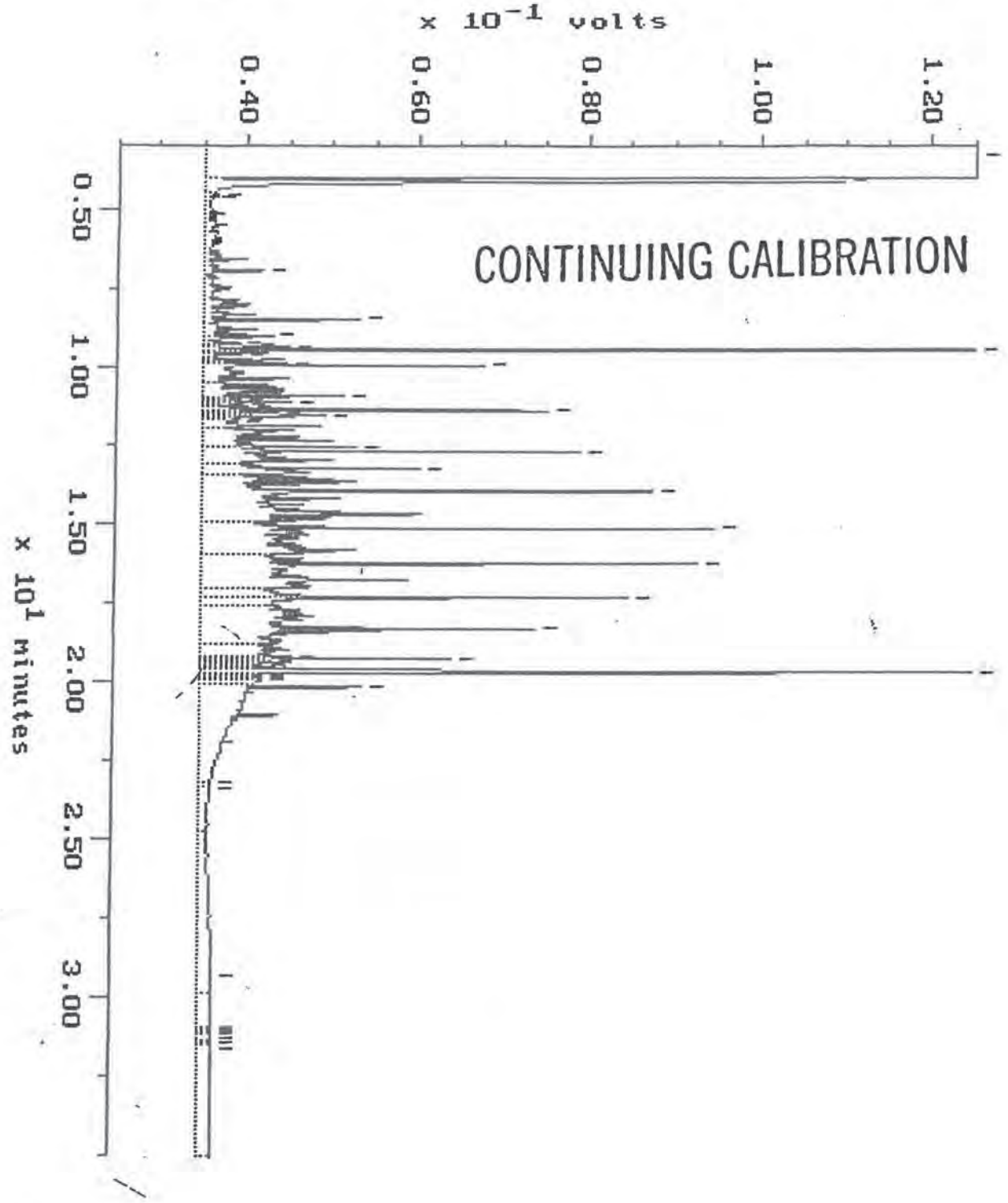
Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL0519

Filename: R5198W02
Operator: MAX

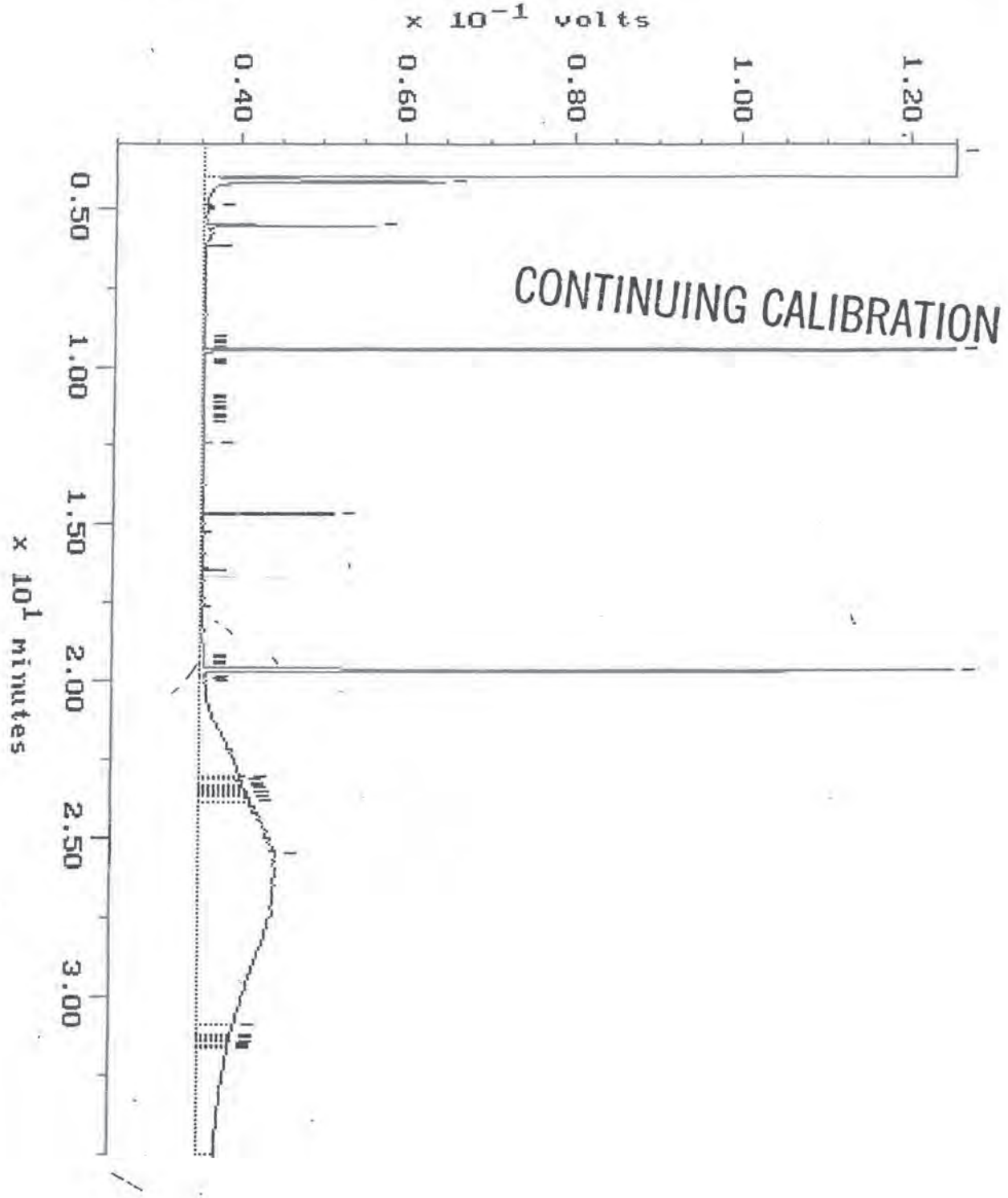
NORMAL ALKANE STANDARD C7-C34



Sample: D CCV 500 Channel: WILMA Filename: R5218W02
Acquired: 21-MAY-98 11:33 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



Sample: MO CCV 500 Channel: WILMA Filename: R5218W03
Acquired: 21-MAY-98 12:18 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



MultiChem ANALYTICAL SERVICES

560 Naches Ave. SW Suite 101 Renton, WA 98055
(800) 609-0580 • (425) 228-8335 • FAX (425) 228-8336

LAB NUMBER: 30501

DATE: 5/5/98
PAGE: 1 of 2

COMPANY: GEOENGINEERS
ADDRESS: 8410 154th Ave NE
REDMOND WA 98052
PHONE: (425) 861-6000 FAX (425) 861-6050
PROJ. MGR / CONTACT: LISA BONA
PROJECT NUMBER: 5925-003-01
PROJECT NAME: FAMILY FUN CENTER
DISPOSAL: ☒ MAS ☐ HOLD ☐ RETURN

					FUELS										ORGANIC COMPOUNDS											METALS					TCLP					OTHER					
	SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TPH-HCID	BETX / TPH-G	BETX / AK101	BETX (by 8021)	TPH-G	TPH-D	TPHD-extended	8015 modified	418.1	413.2	AK-GRO AK101	AK-DRO AK102 / 103	8240 / 8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 Pesticides + PCBs	PCB only (by 8081) STD / LL	8021 Halogenated VOCs	8021 Aromatic VOCs	8310 HPLC PAHs	8041 Phenols	8151 OC Herbicides	Metals indicate below	Total / Dissolved Lead	RCRA Metals (8)	PP Metals (13) + Ba	TAL Metals (23)	TCLP 8240 (VOA)	TCLP 8270 Semivolatiles	TCLP 8081 Pesticides	TCLP 8151 Herbicides	TCLP Metals	(8260 + VOA)					Total # of Containers
	EX-A1-1.5	5/5/98	945	S	1															X																					1
	EX-A2-1.5		950	S	2															X																					1
	EX-A3-1.5		955	S	3															X																					1
	EX-A4-0.75		1000	S	4															X																					1
	EX-A5-0.75		1005	S	5															X																					1
B1	EX-B1-0.5		1010	S	6		X				X																			X											2
B2	EX-B2-1.0		1015	S	7		X				X																			X											2
B3	EX-B3-1.0		1020	S	8		X				X																			X											2
	EX-B4-1.0		1025	S	9		X				X																			X											2
	EX-B5-0.5		1030	S	10		X				X																			X											2
	EX-C1-1.5		1145	S	11																																			1
	EX-C2-1.5		1146	S	12						X																														1

SAMPLE RECEIPT:
TOTAL # OF CONTAINERS: ☐ YES ☐ NO
COC SEALS PRESENT: ☐ YES ☐ NO
COC SEALS INTACT: ☐ YES ☐ NO
RECEIVED ON ICE: ☐ YES ☐ NO
PRESERVED IN LAB: ☐ YES ☐ NO
RECEIVED IN GOOD CONDITION:

TAT:
☐ 24 HOURS
☐ 48 HOURS
☐ 72 HOURS
☐ 7 DAYS
☐ SP
☒ STANDARD

SPECIAL INSTRUCTIONS/COMMENTS:
HOLD ALL SAMPLES
LISA BONA TO CALL
5/6/98 AM
THANKS

*METALS NEEDED:

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: DAVID BAUMGARTEN	PRINT NAME:	PRINT NAME:
DATE: 5/5/98 TIME: 508	DATE: TIME:	DATE: TIME:
COMPANY: GEOENGINEERS	COMPANY:	COMPANY:
RECEIVED BY:	**RECEIVED BY:**	**RECEIVED BY:**
SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: J. VAN DYCK	PRINT NAME:	PRINT NAME:
DATE: 5/5/98 TIME: 1710	DATE: TIME:	DATE: TIME:
COMPANY: MAS-R	COMPANY:	COMPANY:

MultiChem ANALYTICAL SERVICES

560 Naches Ave. SW Suite 101 Renton, WA 98055
(800) 609-0580 • (425) 228-8335 • FAX (425) 228-8336

DATE: 5/5/98
PAGE: 2 of 2

COMPANY: GEOENGINEERS
ADDRESS: 8410 154th AVE NE
REDMOND WA 98052
PHONE: (425) 861 - 6000 FAX (425) 861-6050
PROJ. MGR / CONTACT: LISA BOWMAN
PROJECT NUMBER: 5925-003-01
PROJECT NAME: FAMILY FUN CENTER
DISPOSAL: ☒ MAS ☐ HOLD ☐ RETURN

					FUELS										ORGANIC COMPOUNDS										METALS					TCLP					OTHER					
SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TPH-HCID	BETX / TPH-G BETX / AK101	BETX (by 8021)	TPH-G	TPH-D (NWTPH-D extended)	8015 modified	418.1	413.2	AK-GRO AK101	AK-DRO AK102 / 103	8240 / 8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 Pesticides / PCBs	PCB only (by 8081) STD / LI	8021 Halogenated VOCs	8021 Aromatic VOCs	8310 HPLC PAHs	8041 Phenols	8151 OC Herbicides	Metals indicate below	Total / Dissolved Lead	RCRA Metals (8)	PP Metals (13)	TAL Metals (23)	TCLP 8240 (VHE)	TCLP 8270 Semivolatiles	TCLP 8081 Pesticides	TCLP 8151 Herbicides	TCLP Metals						Total # of Containers
EX-C3-0.75	5/5/98	1150	S						X																													1
EX-01-3		1310	S						X																														1
EX-02-2		1315	S						X																														1
EX-03-1.5		1320	S						X																														1
EX-04-1.5		1325	S						X																														1
EX-05-1.5		228	S						X																														1
EX-06-1.5		230	S						X																														1
EX-07-1.5		231	S						X																														1
EX-08-1.5		235	S						X																														1
EX-09-1.5		238	S						X																														1
EX-010-1.5		2110	S						X																														1

TAT:
☐ 24 HOURS
☐ 48 HOURS
☐ 72 HOURS
☐ 7 DAYS
☐ SP
☐ STANDARD

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
SIGNATURE:	SIGNATURE:	SIGNATURE:	SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: DAVID BAUMGARTEN	PRINT NAME: J. VAN DICK	PRINT NAME:	PRINT NAME:	PRINT NAME:	PRINT NAME:
DATE: 5/5/98 TIME: 508	DATE: 5/5/98 TIME: 1710	DATE: TIME:	DATE: TIME:	DATE: TIME:	DATE: TIME:
COMPANY: CET	COMPANY: MAS-R	COMPANY:	COMPANY:	COMPANY:	COMPANY:

SPECIAL INSTRUCTIONS/COMMENTS:

SEE PAGE 1 of 2

*METALS NEEDED: _____

LAB USE ONLY | DISCONTINUED

MultiChem ANALYTICAL SERVICES

560 Naches Ave. SW Suite 101 Renton, WA 98055
(800) 609-0580 • (425) 228-8335 • FAX (425) 228-8336

LAB NUMBER: 80501

DATE: 5/5/98
PAGE: 3 of 3

COMPANY: GEOENGINEERS
ADDRESS: 8410 154TH AVENE
REDMOND WA 98052
PHONE: (425) 861-6000 FAX (425) 861-6250
PROJ. MGR / CONTACT: CLIFF BUMP
PROJECT NUMBER: 5425-003-01
PROJECT NAME: FAMILY FUN CENTER
DISPOSAL: ☑ MAS ☐ HOLD ☐ RETURN

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	FUELS: TPH-HCID	BETX / TPH-G BETX / AK101	BETX (by 8021)	TPH-G	TPH-D	TPHD-extended	8015 modified	418.1	413.2	AK-GRO AK101	AK-DRO AK102 / 103	ORGANIC COMPOUNDS: 8240 / 8260 GCMS Volatiles	8270 GCMS Semivolatiles	8081 Pesticides / PCBs	PCB only (by 8081) STD / 1:1	8021 Halogenated VOCs	8021 Aromatic VOCs	8310 HPLC PAHs	8041 Phenols	8151 GC Herbicides	METALS: Metals indicate below*	Total / Dissolved Lead	RCRA Metals (8)	PP Metals (13)	TAL Metals (23)	TCLP: TCLP 8240 (VHL)	TCLP 8270 Semivolatiles	TCLP 8081 Pesticides	TCLP 8151 Herbicides	TCLP Metals	OTHER	Total # of Containers
DSP-1	5/5/98	410	S	24					X																										1
DSP-2	5/5/98	415	S	25																															1
DSP-3	5/5/98	420	S	26																															1

B-81

DSP

SAMPLE RECEIPT	TAT:
TOTAL # OF CONTAINERS ☐ YES ☐ NO	☐ 24 HOURS
CHAIN OF CUSTODY SEALED ☐ YES ☐ NO	☐ 48 HOURS
SAMPLES INTACT ☐ YES ☐ NO	☐ 72 HOURS
PROPERLY PRESERVED ☐ YES ☐ NO	☐ 7 DAYS
PROPER CONTAINERS ☐ YES ☐ NO	☐ SP
RECEIVED VIA	☐ STANDARD

SPECIAL INSTRUCTIONS/COMMENTS:

SEE PAGE 1 OF 3

*METALS NEEDED:

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: DAVID BAUMGARTNER	PRINT NAME:	PRINT NAME:
DATE: 5/5/98 TIME: 1710	DATE: TIME:	DATE: TIME:
COMPANY: GET	COMPANY:	COMPANY:
RECEIVED BY:	**RECEIVED BY:**	**RECEIVED BY:**
SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: J. VAN DYK	PRINT NAME:	PRINT NAME:
DATE: 5/5/98 TIME: 1710	DATE: TIME:	DATE: TIME:
COMPANY: MASE	COMPANY:	COMPANY:
MASE USE ONLY	SUBCONTRACT LAB	

NON-CONFORMANCES?
(Y) N #1
(if Y see other side)

MultiChem Analytical Services

SAMPLE LOG-IN CHECKLIST

DATE: 5/5/98
TIME: 1715
INITIALS: JVD

ACCESSION NO. 805013
CLIENT: GEOENGINEERS
PROJECT: FAMILY FUN CENTER

Shipping:

Type:
- X Cooler
- ____ Box
- ____ Other

COC Seals:
- X Ship. Cont.
- ____ On Bottles
- X None

Intact?
- (Y) N
- Y N

Packing Material:
- ____ Styrofoam
- ____ Bubble Bags
- ____ Foam Vial Packs
- X Other ZIP LOCKS

Refrigerant:
- X Gel Ice Pack
- ____ Loose Ice
- ____ Other
- ____ None

Frozen?
- (Y) N
- Y N
- Y N

Received Via:
- X Hand Delivery
- ____ Federal Express
- ____ Airborne
- ____ Other: ____
- ____ Courier
- ____ UPS
- ____ Taxi
- ____ Goldstreak

Sample Information:

Samp. #	Bottle #
26	31

Type
- Soil
- Water
- Product
- Other

Soil VOAs
Water VOAs

0 headspace Y N N ____
0 headspace Y N N ____
Preserved? Y N ____
Trip blanks? Y N ____

Condition of Samples:
Containers:
Intact? (Bottle/Lid) (Y) N
Correct Type? (Y) N

CA #
____
____

Waters Preserved? (if needed) Y N N ____

ID's Match C.O.C. (Y) N N ____

Temperature: 12.8 C #1 CA NO.
(See corrective action on reverse side for explanation if temperature is outside of the MAS recommended range.)

LAB USE ONLY ☐ NO NOTICE ☐ SENDOUTS NEEDED BY
☐ COC/TAT DOES NOT MATCH NOTICE ☐ NEED TESTS VERIFIED BY CLIENT

COMMENTS: ____

NON-CONFORMANCES?
(Y) N # 1
(if Y see other side)

MultiChem Analytical Services
Corrective Action Sheet

ACCESSION # 805013

CORRECTIVE ACTION AREA

EXPLAIN CORRECTIVE ACTION:

CA NO.	CA NO.	CA NO.
_____Salvaged Sample	_____Replaced Bottle	_____Verified Id w/Client
_____Replaced Lid	_____Notified P.M.	_____Notified Client
_____Preserved Sample w/_____		

Comments:_____

Temperature: 12.8 C #1 CA NO.

____Comments: Samples were received outside of the MAS recommended temperature range (4 C+/- 2 C) Samples were received within 5 hours of collection and may not have had sufficient time to equilibrate with coolant. A temperature range from 2 to 15 degrees Celsius is considered acceptable. The samples will be analyzed as scheduled unless directed otherwise by client.

X Comments: Samples were received outside of the MAS recommended temperature range (4 C+/- 2 C) The samples will be analyzed as scheduled unless directed otherwise by client.

Tech.Signature/Date: [signature] 5/5/98 P.M. Signature/Date: [signature] 5/7/98

CORRECTIVE ACTION TAKEN:

Explain Action Taken:

MultiChem
ANALYTICAL SERVICES

MAS I.D. # 805019

June 1, 1998

GeoEngineers, Inc.
8410 154th Avenue N.E.
Redmond WA 98052

Attention : Lisa Bona

Project Number : 5925-003-01

Project Name : Family Fun Center

Dear Ms. Bona:

On May 6, 1998, MultiChem Analytical Services received three samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Sincerely,

Elaine M. Walker

Elaine M. Walker
Project Manager

EMW/hal/trm

Enclosure

560 Naches Avenue SW, Suite 101, Renton, Washington 98055-2200 • 425-228-8335 • FAX 425-228-8336 • 1-800-609-0580 • info@multichem.com

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

MAS #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
805019-1	HS-1	05/06/98	SOIL
805019-2	HS-2	05/06/98	SOIL
805019-3	HS-3	05/06/98	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	3

MAS STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

MultiChem
ANALYTICAL SERVICES

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

ANALYSIS	TECHNIQUE	REFERENCE	LAB
SEMIVOLATILE ORGANICS ANALYSIS	GCMS	EPA 8270	R
ORGANOCHLORINE PESTICIDES	GC/ECD	EPA 8081A	R
BETX	GC/PID	EPA 8020	R
TOTAL PETROLEUM HYDROCARBONS: GAS	GC/FID	NWTPH-G	R
TOTAL PETROLEUM HYDROCARBONS: DIESEL	GC/FID	NWTPH-Dx	R
ANTIMONY	ICAP	EPA 6010	R
ARSENIC	AA/GF	EPA 7060	R
BARIUM	ICAP	EPA 6010	R
BERYLLIUM	ICAP	EPA 6010	R
CADMIUM	ICAP	EPA 6010	R
CHROMIUM	ICAP	EPA 6010	R
COPPER	ICAP	EPA 6010	R
LEAD	ICAP	EPA 6010	R
MERCURY	AA/COLD VAPOR	EPA 7471A	R
NICKEL	ICAP	EPA 6010	R
SELENIUM	AA/GF	EPA 7740	R
SILVER	ICAP	EPA 6010	R
THALLIUM	AA/GF	EPA 7841	R
ZINC	ICAP	EPA 6010	R
MOISTURE	GRAVIMETRIC	CLP ILM04.0	R

R = MAS - Renton
ANC = MAS - Anchorage
SUB = Subcontract

AMENDED

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
REVISED : 12/11/98

CASE NARRATIVE: SEMIVOLATILE ORGANICS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

Due to an equipment error during the gel permeation chromatography (GPC) cleanup of the blank spike (BS) associated with the samples in this accession, percent recoveries of surrogate and spike compounds were lower than expected. Percent recovery of pyrene fell below MultiChem established control limits. As the error was noticed prior to the cleanup of the method blank and samples in this accession, percent recoveries of surrogate and spike compounds in the associated method blank and matrix spike/matrix spike duplicate (MS/MSD) samples were within control limits. Pyrene recovery in the BS was flagged "H" and no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
NAPHTHALENE	<0.17
ACENAPHTHYLENE	<0.17
ACENAPHTHENE	<0.17
FLUORENE	<0.17
PHENANTHRENE	<0.17
ANTHRACENE	<0.17
FLUORANTHENE	<0.17
PYRENE	<0.17
BENZO(A)ANTHRACENE	<0.17
CHRYSENE	<0.17
BENZO(B)FLUORANTHENE	<0.17
BENZO(K)FLUORANTHENE	<0.17
BENZO(A)PYRENE	<0.17
INDENO(1,2,3-CD)PYRENE	<0.17
DIBENZO(A,H)ANTHRACENE	<0.17
BENZO(G,H,I)PERYLENE	<0.17

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	65	38 - 146
2-FLUOROBIPHENYL	71	36 - 128

MAS I.D. # 805019-1

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-1	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
NAPHTHALENE	<0.20
ACENAPHTHYLENE	<0.20
ACENAPHTHENE	<0.20
FLUORENE	<0.20
PHENANTHRENE	<0.20
ANTHRACENE	<0.20
FLUORANTHENE	<0.20
PYRENE	<0.20
BENZO(A)ANTHRACENE	<0.20
CHRYSENE	<0.20
BENZO(B)FLUORANTHENE	<0.20
BENZO(K)FLUORANTHENE	<0.20
BENZO(A)PYRENE	<0.20
INDENO(1,2,3-CD)PYRENE	<0.20
DIBENZO(A,H)ANTHRACENE	<0.20
BENZO(G,H,I)PERYLENE	<0.20

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	61	38 - 146
2-FLUOROBIPHENYL	68	36 - 128

MAS I.D. # 805019-2

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-2	DATE ANALYZED	: 05/15/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
NAPHTHALENE	<0.19
ACENAPHTHYLENE	<0.19
ACENAPHTHENE	<0.19
FLUORENE	<0.19
PHENANTHRENE	<0.19
ANTHRACENE	<0.19
FLUORANTHENE	<0.19
PYRENE	<0.19
BENZO(A)ANTHRACENE	<0.19
CHRYSENE	<0.19
BENZO(B)FLUORANTHENE	<0.19
BENZO(K)FLUORANTHENE	<0.19
BENZO(A)PYRENE	<0.19
INDENO(1,2,3-CD)PYRENE	<0.19
DIBENZO(A,H)ANTHRACENE	<0.19
BENZO(G,H,I)PERYLENE	<0.19

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	63	38 - 146
2-FLUOROBIPHENYL	68	36 - 128

MAS I.D. # 805019-3

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-3	DATE ANALYZED	: 05/20/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS	
NAPHTHALENE	<0.19	
ACENAPHTHYLENE	0.14	J
ACENAPHTHENE	<0.19	
FLUORENE	0.052	J
PHENANTHRENE	0.56	
ANTHRACENE	0.11	J
FLUORANTHENE	0.64	
PYRENE	0.92	
BENZO(A)ANTHRACENE	0.30	
CHRYSENE	0.40	
BENZO(B)FLUORANTHENE	0.32	D1
BENZO(K)FLUORANTHENE	0.37	D1
BENZO(A)PYRENE	0.44	D1
INDENO(1,2,3-CD)PYRENE	0.30	D1
DIBENZO(A,H)ANTHRACENE	0.12	JD1
BENZO(G,H,I)PERYLENE	0.36	D1

SURROGATE PERCENT RECOVERY		LIMITS
TERPHENYL-D14	90	38 - 146
2-FLUOROBIPHENYL	87	36 - 128

D1 = Value from a two fold diluted analysis.
J = Estimated value.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/18/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ACENAPHTHENE	<0.167	1.67	0.957	57	N/A	N/A	N/A
PYRENE	<0.167	1.67	0.802	48H	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
ACENAPHTHENE	48 - 102	20
PYRENE	52 - 102	29

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
2-FLUOROBIPHENYL	58	N/A	36 - 128
TERPHENYL-D14	53	N/A	38 - 146

H = Out of limits.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

SEMIVOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 821377-4
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/18/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8270		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPI
ACENAPHTHENE	<0.198	1.98	1.65	83	1.85	93	11
PYRENE	<0.198	1.98	1.28	65	1.37	69	7

CONTROL LIMITS	% REC.	RPI
ACENAPHTHENE	30 - 134	20
PYRENE	21 - 151	29

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
2-FLUOROBIPHENYL	75	81	36 - 128
TERPHENYL-D14	67	71	38 - 146

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: ORGANOCHLORINE PESTICIDES ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The continuing calibration verification (CCV) standard analyzed following th samples in this accession exceeded the upper recovery limit of 115% for 4,4'-DDD and methoxychlor on the secondary column. All positive results for these analytes were reported from the primary column which exhibited recoveries within established limits for the affected analytes. No further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0017
ALPHA-BHC	<0.0017
BETA-BHC	<0.0017
GAMMA-BHC (LINDANE)	<0.0017
DELTA-BHC	<0.0017
CHLORDANE (TOTAL)	<0.0033
P,P'-DDD	<0.0033
P,P'-DDE	<0.0033
P,P'-DDT	<0.0033
DIELDRIN	<0.0033
ENDOSULFAN I	<0.0017
ENDOSULFAN II	<0.0033
ENDOSULFAN SULFATE	<0.0033
ENDRIN	<0.0033
ENDRIN ALDEHYDE	<0.0033
ENDRIN KETONE	<0.0033
HEPTACHLOR	<0.0017
HEPTACHLOR EPOXIDE	<0.0017
METHOXYCHLOR	<0.017
TOXAPHENE	<0.033

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	94	28 - 138
TETRACHLORO-M-XYLENE	78	43 - 119

MAS I.D. # 805019-1

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: HS-1	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0020
ALPHA-BHC	<0.0020
BETA-BHC	<0.0020
GAMMA-BHC (LINDANE)	<0.0020
DELTA-BHC	<0.0020
CHLORDANE (TOTAL)	0.0072
P,P'-DDD	<0.0039
P,P'-DDE	<0.0039
P,P'-DDT	<0.0039
DIELDRIN	<0.0039
ENDOSULFAN I	<0.0020
ENDOSULFAN II	<0.0039
ENDOSULFAN SULFATE	<0.0039
ENDRIN	<0.0039
ENDRIN ALDEHYDE	<0.0039
ENDRIN KETONE	<0.0039
HEPTACHLOR	<0.0020
HEPTACHLOR EPOXIDE	<0.0020
METHOXYCHLOR	<0.020
TOXAPHENE	<0.039

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	95	28 - 138
TETRACHLORO-M-XYLENE	72	43 - 119

MAS I.D. # 805019-2

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: HS-2	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0019
ALPHA-BHC	<0.0019
BETA-BHC	<0.0019
GAMMA-BHC (LINDANE)	<0.0019
DELTA-BHC	<0.0019
CHLORDANE (TOTAL)	<0.0037
P,P'-DDD	0.0068
P,P'-DDE	0.0064
P,P'-DDT	0.018
DIELDRIN	<0.0037
ENDOSULFAN I	<0.0019
ENDOSULFAN II	<0.0037
ENDOSULFAN SULFATE	<0.0037
ENDRIN	<0.0037
ENDRIN ALDEHYDE	0.0067
ENDRIN KETONE	0.012
HEPTACHLOR	<0.0019
HEPTACHLOR EPOXIDE	<0.0019
METHOXYCHLOR	<0.019
TOXAPHENE	<0.037

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	93	28 - 138
TETRACHLORO-M-XYLENE	79	43 - 119

MAS I.D. # 805019-3

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/11/98
CLIENT I.D.	: HS-3	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
ALDRIN	<0.0019
ALPHA-BHC	<0.0019
BETA-BHC	<0.0019
GAMMA-BHC (LINDANE)	<0.0019
DELTA-BHC	<0.0019
CHLORDANE (TOTAL)	<0.0038
P,P'-DDD	0.0087
P,P'-DDE	0.012
P,P'-DDT	0.031
DIELDRIN	<0.0038
ENDOSULFAN I	<0.0019
ENDOSULFAN II	<0.0038
ENDOSULFAN SULFATE	<0.0038
ENDRIN	<0.0038
ENDRIN ALDEHYDE	<0.0038
ENDRIN KETONE	<0.0038
HEPTACHLOR	<0.0019
HEPTACHLOR EPOXIDE	<0.0019
METHOXYCHLOR	<0.019
TOXAPHENE	<0.038

SURROGATE PERCENT RECOVERY		LIMITS
DECACHLOROBIPHENYL	81	28 - 138
TETRACHLORO-M-XYLENE	79	43 - 119

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/11/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8081A		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ALDRIN	<0.00167	0.0167	0.0120	72	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	<0.00167	0.0167	0.0124	74	N/A	N/A	N/A
P,P'-DDT	<0.00333	0.0333	0.0276	83	N/A	N/A	N/A
DIELDRIN	<0.00333	0.0333	0.0285	86	N/A	N/A	N/A
ENDRIN	<0.00333	0.0333	0.0298	89	N/A	N/A	N/A
HEPTACHLOR	<0.00167	0.0167	0.0136	81	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
ALDRIN	58 - 117	21
GAMMA-BHC (LINDANE)	58 - 109	25
P,P'-DDT	55 - 130	27
DIELDRIN	67 - 122	26
ENDRIN	70 - 138	40
HEPTACHLOR	57 - 127	24

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
DECACHLOROBIPHENYL	97	N/A	28 - 138
TETRACHLORO-M-XYLENE	75	N/A	43 - 119

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

ORGANOCHLORINE PESTICIDES ANALYSIS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
SAMPLE MATRIX : SOIL
EPA METHOD : 8081A

SAMPLE I.D. # : 805013-5
DATE EXTRACTED : 05/11/98
DATE ANALYZED : 05/21/98
UNITS : mg/Kg

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ALDRIN	<0.00185	0.0185	0.0145	78	0.0162	88	11
GAMMA-BHC (LINDANE)	<0.00185	0.0185	0.0154	83	0.0170	92	10
P,P'-DDT	<0.00370	0.0370	0.0337	91	0.0368	99	9
DIELDRIN	<0.00370	0.0370	0.0344	93	0.0374	101	8
ENDRIN	<0.00370	0.0370	0.0372	101	0.0405	109	8
HEPTACHLOR	<0.00185	0.0185	0.0161	87	0.0178	96	10

CONTROL LIMITS	% REC.	RPD
ALDRIN	52 - 117	21
GAMMA-BHC (LINDANE)	40 - 115	25
P,P'-DDT	46 - 147	27
DIELDRIN	46 - 132	26
ENDRIN	40 - 165	40
HEPTACHLOR	48 - 128	24

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
DECACHLOROBIPHENYL	100	109	28 - 138
TETRACHLORO-M-XYLENE	75	86	43 - 119

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: BETX - GASOLINE ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The continuing calibration verification (CCV) standards analyzed following the samples in this accession exceeded the upper recovery limit of 115% for both toluene and mp-xylenes. The high recovery of those compounds indicated a potential high bias. Since no target analytes were detected in the associated samples, no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
TOTAL XYLENES	<0.025
FUEL HYDROCARBONS	<5.0
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	106	62 - 128
TRIFLUOROTOLUENE	80	54 - 119

MAS I.D. # 805019-1

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: HS-1	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.029
ETHYLBENZENE	<0.029
TOLUENE	<0.029
TOTAL XYLENES	<0.029
FUEL HYDROCARBONS	<5.9
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	97	62 - 128
TRIFLUOROTOLUENE	72	54 - 119

MAS I.D. # 805019-2

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: HS-2	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.028
ETHYLBENZENE	<0.028
TOLUENE	<0.028
TOTAL XYLENES	<0.028
FUEL HYDROCARBONS	<5.6
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	99	62 - 128
TRIFLUOROTOLUENE	74	54 - 119

MAS I.D. # 805019-3

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/18/98
CLIENT I.D.	: HS-3	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NW TPH-G/8020(BETX)	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
BENZENE	<0.029
ETHYLBENZENE	<0.029
TOLUENE	<0.029
TOTAL XYLENES	0.046
FUEL HYDROCARBONS	<5.7
HYDROCARBON RANGE	TOLUENE THRU NAPHTHALENE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY		LIMITS
BROMOFLUOROBENZENE	93	62 - 128
TRIFLUOROTOLUENE	73	54 - 119

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/18/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: NW TPH-G/8020(BETX)		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	<0.0250	1.00	0.968	97	N/A	N/A	N/A
TOLUENE	<0.0250	1.00	0.987	99	N/A	N/A	N/A
TOTAL XYLENES	<0.0250	3.00	2.96	99	N/A	N/A	N/A
GASOLINE	<5.00	50.0	50.3	101	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
BENZENE	74 - 110	20
TOLUENE	79 - 112	20
TOTAL XYLENES	81 - 119	20
GASOLINE	80 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	108	N/A	62 - 128
TRIFLUOROTOLUENE	83	N/A	54 - 119

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-6
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/18/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/19/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: NW TPH-G/8020(BETX)		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
BENZENE	<0.0281	N/A	N/A	1.12	1.02	91	1.00	89	2
TOLUENE	<0.0281	N/A	N/A	1.12	1.03	92	1.05	94	2
TOTAL XYLENES	<0.0281	N/A	N/A	3.38	3.09	91	3.10	92	0
GASOLINE	<5.62	<5.62	NC	56.2	49.5	88	51.1	91	3

CONTROL LIMITS	% REC.	RPD
BENZENE	51 - 114	20
TOLUENE	63 - 116	20
TOTAL XYLENES	61 - 126	20
GASOLINE	55 - 122	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	100	99	62 - 128
TRIFLUOROTOLUENE	76	76	54 - 119

NC = Not calculable.

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: TOTAL PETROLEUM HYDROCARBONS ANALYSIS - DIESEL

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The method blank had a recovery for o-terphenyl that was below the lower analytical limit of 66%. The rest of the recoveries of o-terphenyl for the related samples were within limits. No further corrective action was performed.

The opening motor oil continuing calibration verification (CCV) fell below the lower analytical limit of 85% for motor oil. The affected samples were reanalyzed to verify nondetects and detections in the motor oil range. No further corrective action was performed.

The closing motor oil CCV had an o-terphenyl recovery that was below the lower analytical limit of 85%. The bracketed samples and the related CCVs had recoveries that were within limits, so no further corrective action was performed.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 5925-003-01	DATE RECEIVED	: N/A
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<10
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<40
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY			LIMITS
O-TERPHENYL	59	H	66 - 138

H = Out of limits.

Silica gel cleanup procedure performed

MAS I.D. # 805019-1

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-1	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	130
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	140
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	112	66 - 138

Silica gel cleanup procedure performed

MAS I.D. # 805019-2

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-2	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 2

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	220
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	740
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	114	66 - 138

Silica gel cleanup procedure performed

MAS I.D. # 805019-3

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 05/06/98
PROJECT #	: 5925-003-01	DATE RECEIVED	: 05/06/98
PROJECT NAME	: FAMILY FUN CENTER	DATE EXTRACTED	: 05/07/98
CLIENT I.D.	: HS-3	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	150
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	550
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	113	66 - 138

Silica gel cleanup procedure performed

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: BLANK
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPI
DIESEL	<10.0	200	211	106	N/A	N/A	N/A
CONTROL LIMITS				% REC.			RPI
DIESEL				80 - 120			20
SURROGATE RECOVERIES		SPIKE		DUP. SPIKE		LIMITS	
O-TERPHENYL		116		N/A		66 - 138	

Silica gel cleanup procedure performed

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-8
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	<11.8	<11.8	NC	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	45

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	109	108	66 - 138

NC = Not calculable.

Silica gel cleanup procedure performed

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805019-1
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/22/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	131	86.8	41	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	45

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	112	105	66 - 138

Silica gel cleanup procedure performed

MultiChem
ANALYTICAL SERVICES

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D. #	: 805013-6
PROJECT #	: 5925-003-01	DATE EXTRACTED	: 05/07/98
PROJECT NAME	: FAMILY FUN CENTER	DATE ANALYZED	: 05/21/98
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: NWTPH-Dx		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<11.2	225	244	108	226	100	8

CONTROL LIMITS	% REC.	RPD
DIESEL	69 - 124	32

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	120	112	66 - 138

Silica gel cleanup procedure performed

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: METALS ANALYSIS

The following anomalies were associated with the preparation and/or analysis of the samples in this accession:

The reporting limit for selenium was raised by a factor of 2 for samples 805019-1 (HS-1) and 805019-3 (HS-3) due to matrix interference. The corresponding dilutions were performed to yield post-digestion spike recoveries that were within the required control limits. The reporting limits for the samples were raised accordingly.

All other associated quality assurance/quality control (QA/QC) parameters were within established MultiChem control limits.

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : METHOD BLANK
SAMPLE MATRIX : SOIL
DATE SAMPLED : N/A
DATE RECEIVED : N/A
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<2.5	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	<0.25	1.0	RS8552F
BARIUM	05/13/98	05/18/98	<0.50	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.25	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	<0.25	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	<0.50	1.0	RS8553I
COPPER	05/13/98	05/18/98	<0.50	1.0	RS8553I
LEAD	05/13/98	05/18/98	<1.5	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.10	1.0	HG8070S
NICKEL	05/13/98	05/18/98	<0.50	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.25	1.0	RS8552F
SILVER	05/13/98	05/18/98	<0.50	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.25	1.0	RS8552F
ZINC	05/13/98	05/18/98	<0.50	1.0	RS8553I

MAS I.D. # 805019-1

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : HS-1
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/06/98
DATE RECEIVED : 05/06/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.2	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	4.0	5.0	RS8552F
BARIUM	05/13/98	05/18/98	48	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.32	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	<0.32	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	11	1.0	RS8553I
COPPER	05/13/98	05/18/98	25	1.0	RS8553I
LEAD	05/13/98	05/18/98	22	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.11	1.0	HG8070S
NICKEL	05/13/98	05/18/98	13	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.63	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.64	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.32	1.0	RS8552F
ZINC	05/13/98	05/18/98	180	1.0	RS8553I

MAS I.D. # 805019-2

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : HS-2
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/06/98
DATE RECEIVED : 05/06/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.0	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	13	20	RS8552F
BARIUM	05/13/98	05/18/98	87	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.30	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	0.70	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	37	1.0	RS8553I
COPPER	05/13/98	05/18/98	130	1.0	RS8553I
LEAD	05/13/98	05/18/98	330	1.0	RS8553I
MERCURY	05/18/98	05/19/98	<0.10	1.0	HG8070S
NICKEL	05/13/98	05/18/98	440	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.30	1.0	RS8552F
SILVER	05/13/98	05/18/98	<0.60	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.30	1.0	RS8552F
ZINC	05/13/98	05/18/98	170	1.0	RS8553I

MAS I.D. # 805019-3

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER
CLIENT I.D. : HS-3
SAMPLE MATRIX : SOIL
DATE SAMPLED : 05/06/98
DATE RECEIVED : 05/06/98
UNITS : mg/Kg
RESULTS ARE CORRECTED FOR MOISTURE CONTENT

ELEMENT	DATE PREPARED	DATE ANALYZED	RESULT	DIL	BATCH
ANTIMONY	05/13/98	05/18/98	<3.1	1.0	RS8553I
ARSENIC	05/12/98	05/19/98	6.5	5.0	RS8552F
BARIUM	05/13/98	05/18/98	100	1.0	RS8553I
BERYLLIUM	05/13/98	05/18/98	<0.31	1.0	RS8553I
CADMIUM	05/13/98	05/18/98	0.79	1.0	RS8553I
CHROMIUM	05/13/98	05/18/98	23	1.0	RS8553I
COPPER	05/13/98	05/18/98	82	1.0	RS8553I
LEAD	05/13/98	05/18/98	310	1.0	RS8553I
MERCURY	05/18/98	05/19/98	0.14	1.0	HG8070S
NICKEL	05/13/98	05/18/98	95	1.0	RS8553I
SELENIUM	05/12/98	05/15/98	<0.62	2.0	RS8552F
SILVER	05/13/98	05/18/98	<0.62	1.0	RS8553I
THALLIUM	05/12/98	05/18/98	<0.31	1.0	RS8552F
ZINC	05/13/98	05/18/98	190	1.0	RS8553I

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

UNITS : mg/Kg

ELEMENT	MAS I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC	BATCH NUMBER
ANTIMONY	BLANK	<2.50	N/A	N/A	43.3	50.0	87	RS8553I
ANTIMONY	805013-6	<3.03	<3.04	NC	14.4	57.7	25	RS8553
ARSENIC	BLANK	<0.250	N/A	N/A	1.13	1.25	90	RS8552F
ARSENIC	805013-6	4.24	4.03	5	7.40	4.50	70	RS8552F
BARIUM	BLANK	<0.500	N/A	N/A	46.5	50.0	93	RS8553
BARIUM	805013-6	52.1	55.1	6	108	57.7	97	RS8553I
BERYLLIUM	BLANK	<0.250	N/A	N/A	41.2	50.0	82	RS8553
BERYLLIUM	805013-6	<0.303	<0.304	NC	49.3	57.7	85	RS8553
CADMIUM	BLANK	<0.250	N/A	N/A	43.1	50.0	86	RS8553
CADMIUM	805013-6	<0.303	<0.304	NC	48.5	57.7	84	RS8553
CHROMIUM	BLANK	<0.500	N/A	N/A	45.9	50.0	92	RS8553
CHROMIUM	805013-6	8.61	9.65	11	60.8	57.7	90	RS8553
COPPER	BLANK	<0.500	N/A	N/A	45.5	50.0	91	RS8553I
COPPER	805013-6	16.1	17.0	5	68.5	57.7	91	RS8553
LEAD	BLANK	<1.50	N/A	N/A	44.6	50.0	89	RS8553I
LEAD	805013-6	15.1	16.2	7	72.8	57.7	100	RS8553
MERCURY	BLANK	<0.100	N/A	N/A	1.08	1.00	108	HG8070S
MERCURY	805013-6	<0.112	<0.112	NC	1.26	1.12	113	HG8070S
NICKEL	BLANK	<0.500	N/A	N/A	42.4	50.0	85	RS8553
NICKEL	805013-6	8.73	9.02	3	56.3	57.7	82	RS8553I
SELENIUM	BLANK	<0.250	N/A	N/A	1.15	1.25	92	RS8552
SELENIUM	805013-6	<0.600	<0.606	NC	0.457	1.50	30	RS8552
SILVER	BLANK	<0.500	N/A	N/A	45.3	50.0	91	RS8553
SILVER	805013-6	<0.607	<0.608	NC	51.6	57.7	89	RS8553
THALLIUM	BLANK	<0.250	N/A	N/A	1.20	1.25	96	RS8552
THALLIUM	805013-6	<0.300	<0.303	NC	1.45	1.50	97	RS8552
ZINC	BLANK	<0.500	N/A	N/A	41.0	50.0	82	RS8553I
ZINC	805013-6	83.6	84.6	1	131	57.7	82	RS8553

NC = Not Calculable.

CONTINUED ON NEXT PAGE

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

METALS ANALYSIS
QUALITY CONTROL DATA
CONTINUED

CLIENT : GEOENGINEERS, INC. UNITS : mg/Kg
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CONTROL LIMITS

ELEMENT	BLANK SPIKE %RECOVERY	BLANK SPIKE RPD	MATRIX SPIKE %RECOVERY	MATRIX SPIKE RPD	MATRIX DUPLICATE RPD
ANTIMONY	80-120	N/A	20-108	N/A	35
ARSENIC	86-117	N/A	35-147	N/A	35
BARIUM	80-120	N/A	37-152	N/A	35
BERYLLIUM	80-120	N/A	77-117	N/A	35
CADMIUM	80-120	N/A	67-110	N/A	35
CHROMIUM	80-120	N/A	62-120	N/A	35
COPPER	80-120	N/A	69-120	N/A	35
LEAD	80-120	N/A	58-123	N/A	35
MERCURY	80-120	N/A	51-149	N/A	35
NICKEL	80-120	N/A	63-110	N/A	35
SELENIUM	77-115	N/A	20-100	N/A	35
SILVER	80-120	N/A	78-109	N/A	35
THALLIUM	80-120	N/A	21-130	N/A	35
ZINC	80-120	N/A	47-136	N/A	35

MultiChem
ANALYTICAL SERVICES

CASE NARRATIVE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

CASE NARRATIVE: GENERAL CHEMISTRY ANALYSIS

There were no anomalies associated with the preparation and/or analysis of the samples in this accession.

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS

CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER

PARAMETER	DATE ANALYZED
MOISTURE	05/07/98

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER UNITS : %

MAS I.D. #	CLIENT I.D.	MOISTURE
805019-1	HS-1	15
805019-2	HS-2	11
805019-3	HS-3	13

MAS I.D. # 805019

MultiChem
ANALYTICAL SERVICES

GENERAL CHEMISTRY ANALYSIS
QUALITY CONTROL DATA

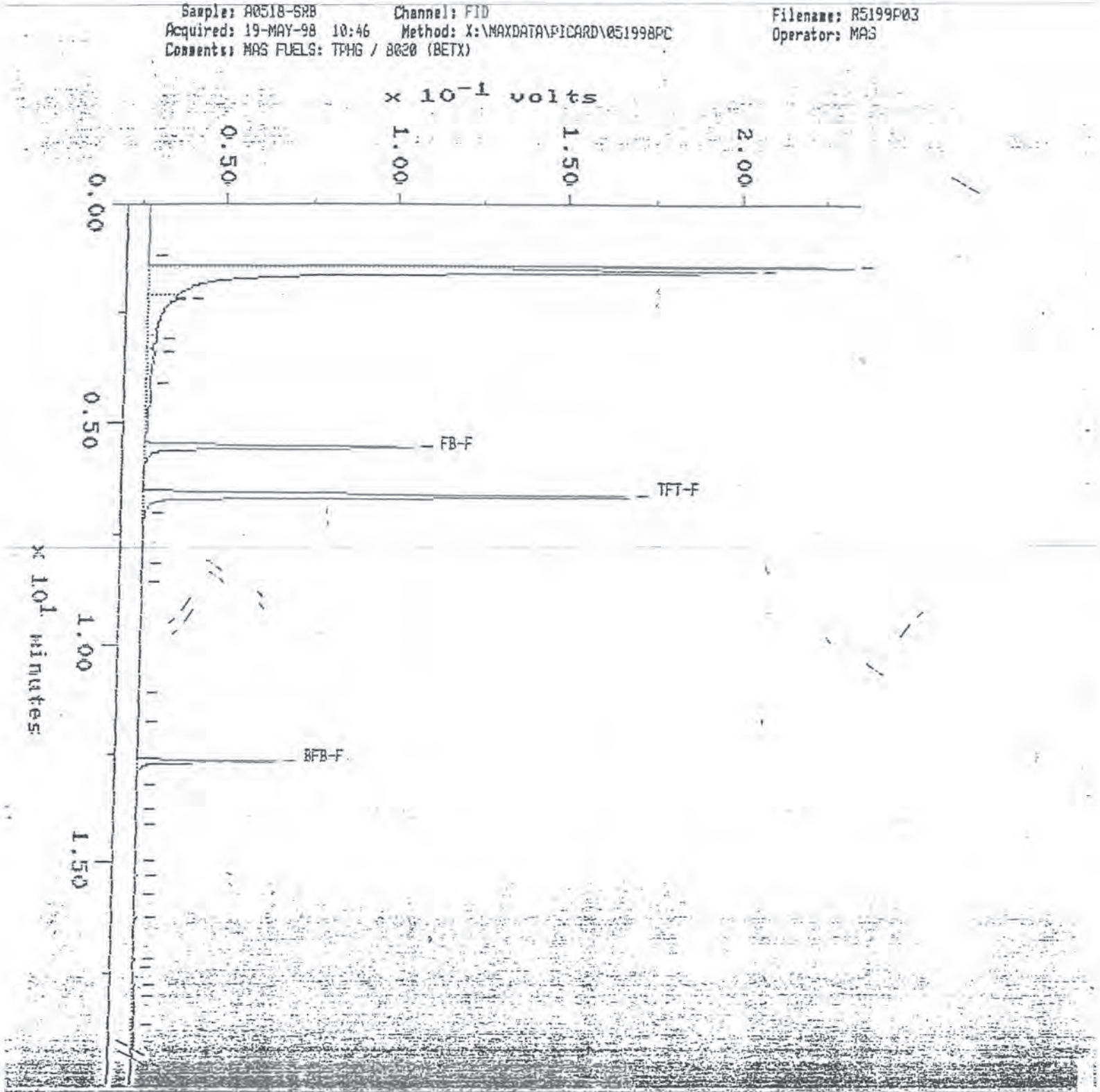
CLIENT : GEOENGINEERS, INC. MATRIX : SOIL
PROJECT # : 5925-003-01
PROJECT NAME : FAMILY FUN CENTER UNITS : %

PARAMETER	MAS I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	805014-1	11	12	9	N/A	N/A	N/A
MOISTURE	805019-3	13	14	7	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

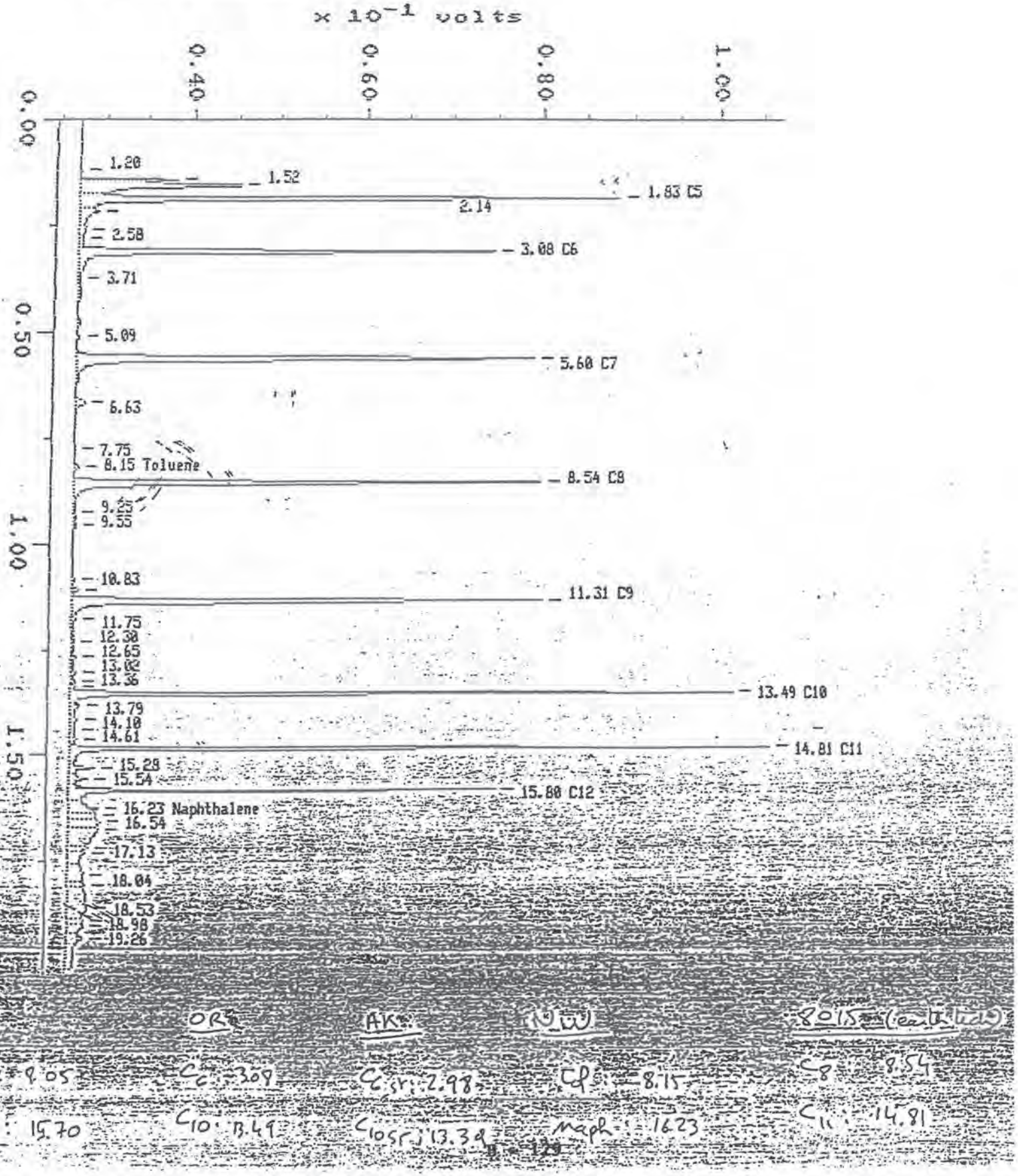
$$\text{RPD (Relative \% Difference)} = \frac{|(\text{Sample Result} - \text{Duplicate Result})|}{\text{Average Result}} \times 100$$

Blank


Sample: A0518-SRB
Channel: FID
Filename: R5199P03
Acquired: 19-MAY-98 10:46
Method: X:\MAXDATA\PICARD\051998PC
Operator: MAS
Comments: MAS FUELS: TPHG / 8020 (BETX)
x 10⁻¹ volts
0.50
1.00
1.50
2.00
0.00
0.50
1.00
1.50
x 10¹ minutes
FB-F
TFT-F
BFB-F

Alkane

Sample: PICARD ALKANE Channel: FID Filename: B5189F01
Acquired: 18-MAY-98 8:44 Method: X:\MAXDATA\PICARD\051898FD Operator: MAS
Comments: MAS FUELS: TPHG / 8020 (BETX)



OR: AK: TPH 8015 (extractable)

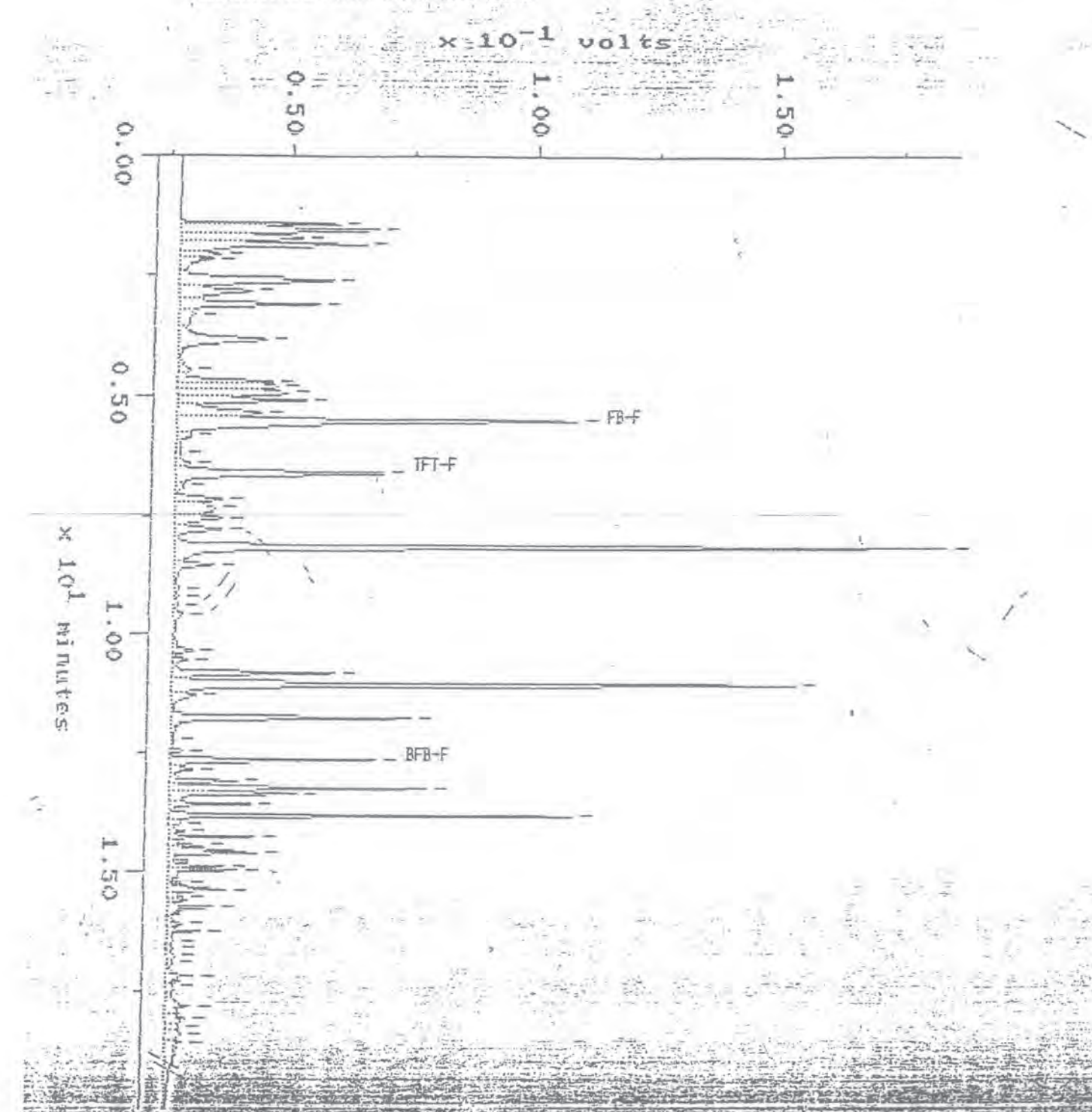
8.05 C6: 3.09 C6 sr: 2.98 C8: 8.15 C8: 8.54

T: 15.70 C10: 13.49 C10 sr: 13.39 naph: 16.23 C11: 14.81

n = 129

CONTINUING CALIBRATIO

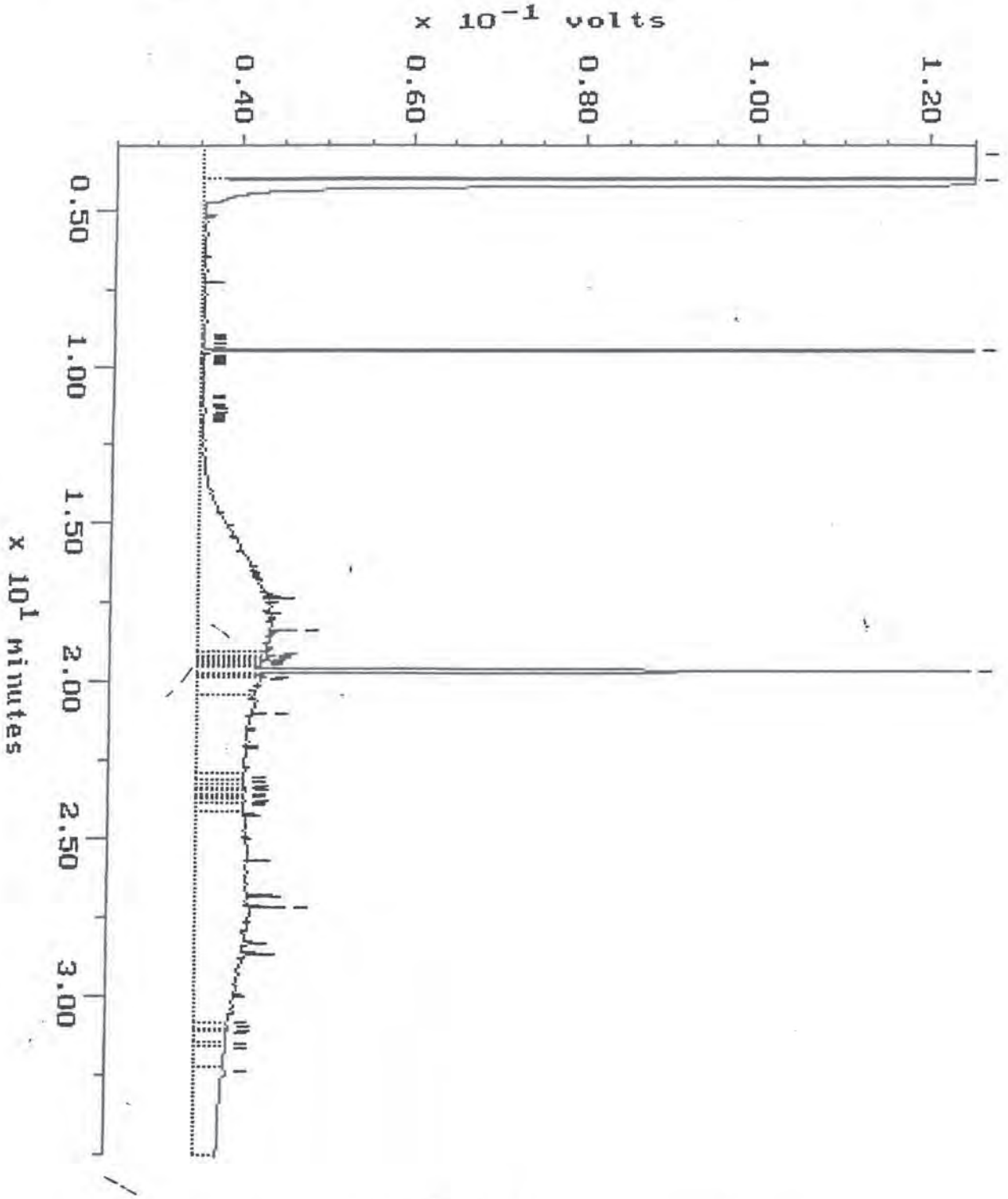
Sample: GAS 1000 CCV Channel: FID Filename: R5199P01
Acquired: 19-MAY-98 8:36 Method: X:\MAXDATA\PICARD\051998PC Operator: MAS
Comments: MAS FUELS: TPHG / 8020 (BETX)



Sample: 805019-1
Acquired: 22-MAY-98 6:20
Comments:

Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL521
WA DOE TPH D

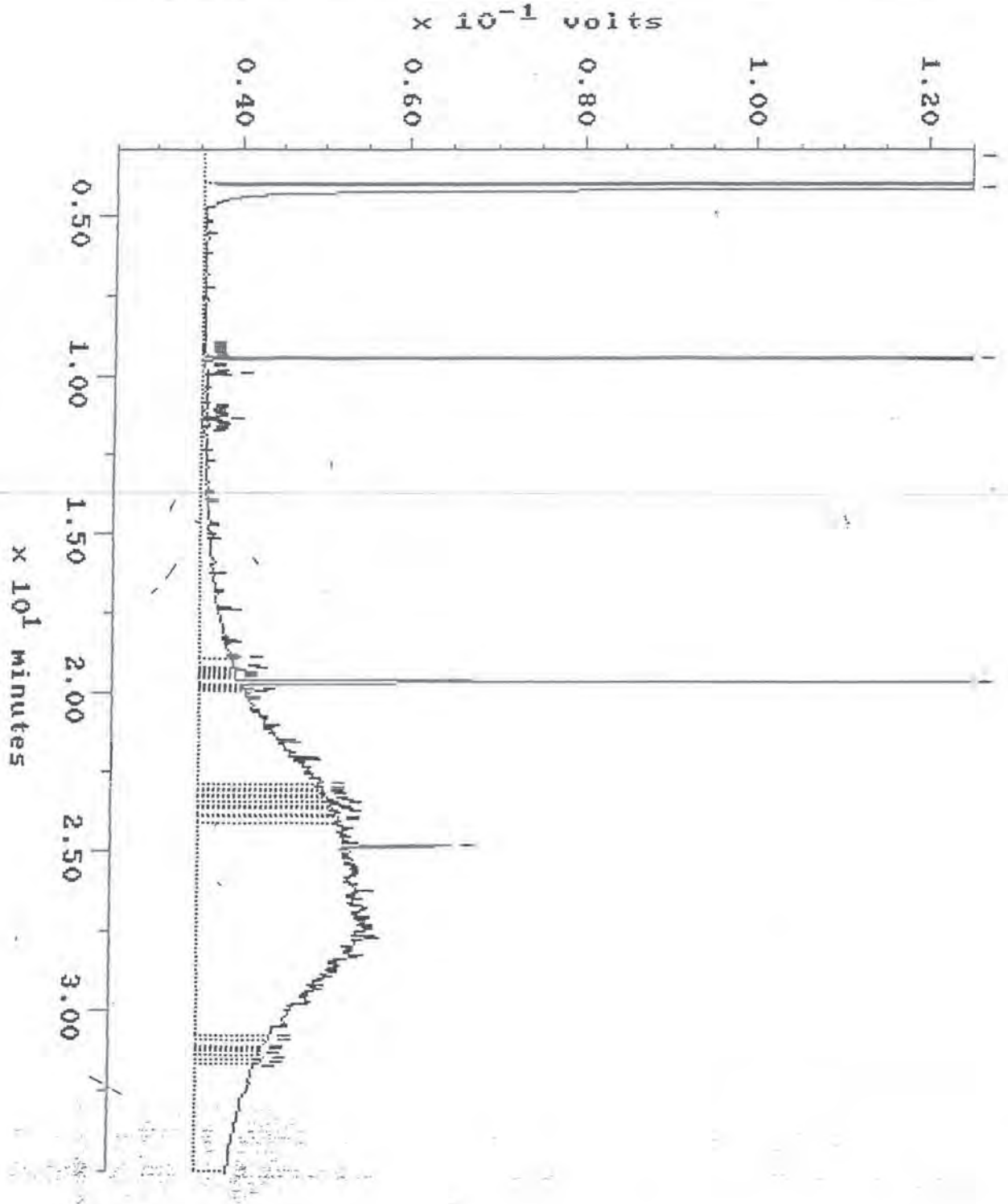
Filename: R5218W27
Operator: MAX



805019-2

R5218W33

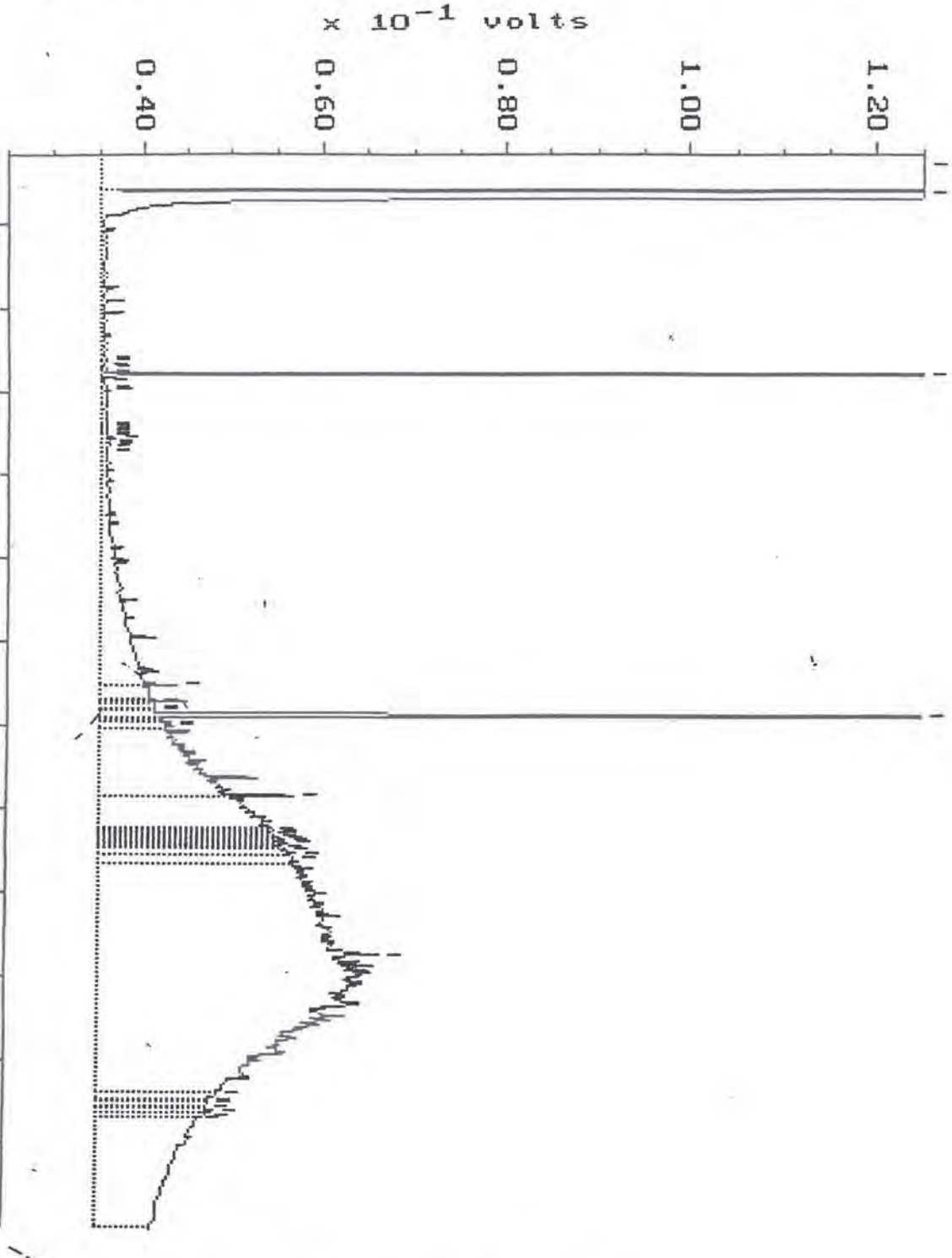
Sample: 805019-2B 10:50 Channel: WILMA\DATA\WILMA\FUEL521 Operator: R5218W33
Acquired: 05-MAY-98
Dilution: 1 : 2.000
Comments: WA DOE TPH D



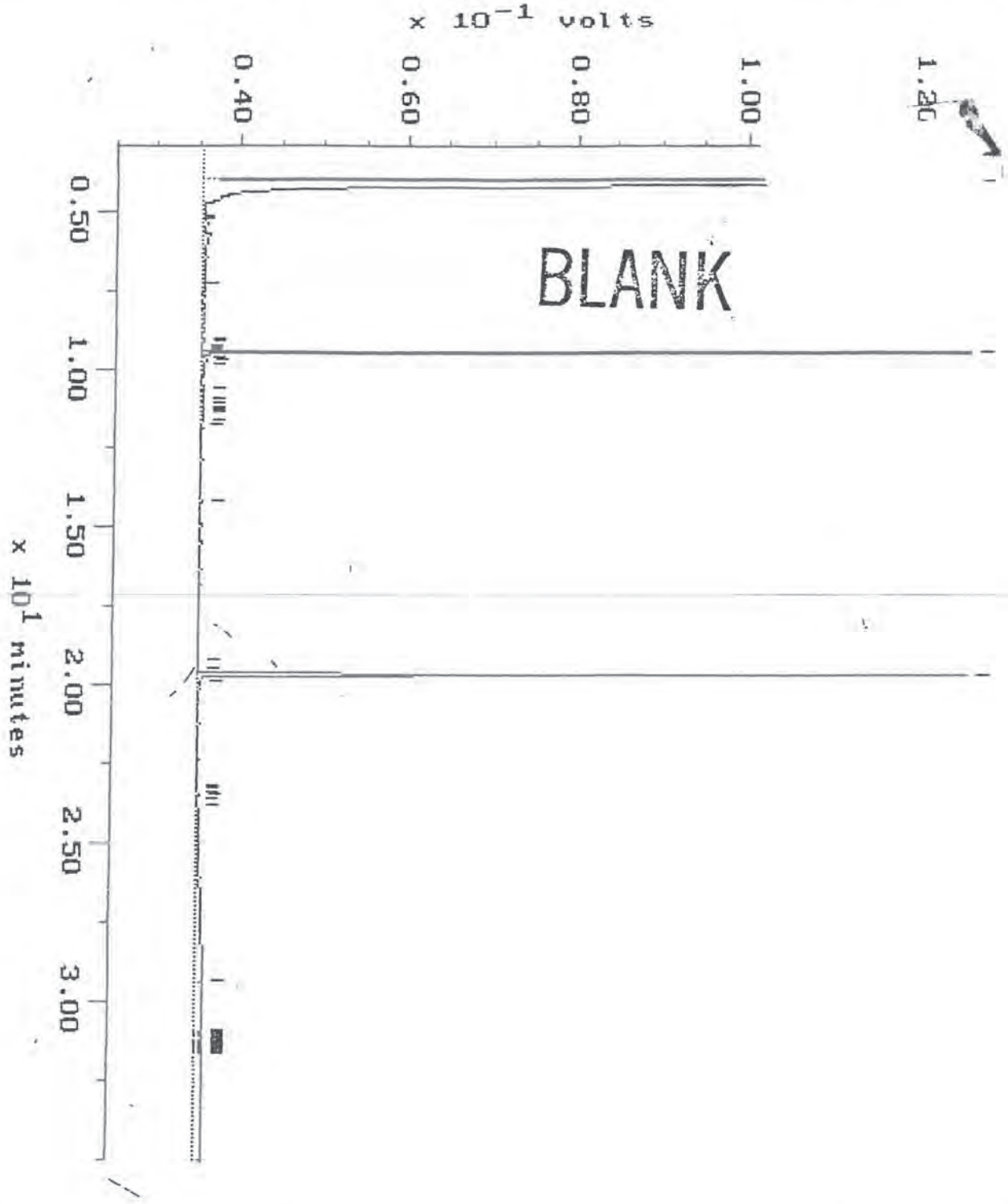
Sample: B05019-3
Acquired: 22-MAY-98 11:46
Comments:

Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL521
WA DOE TPH D

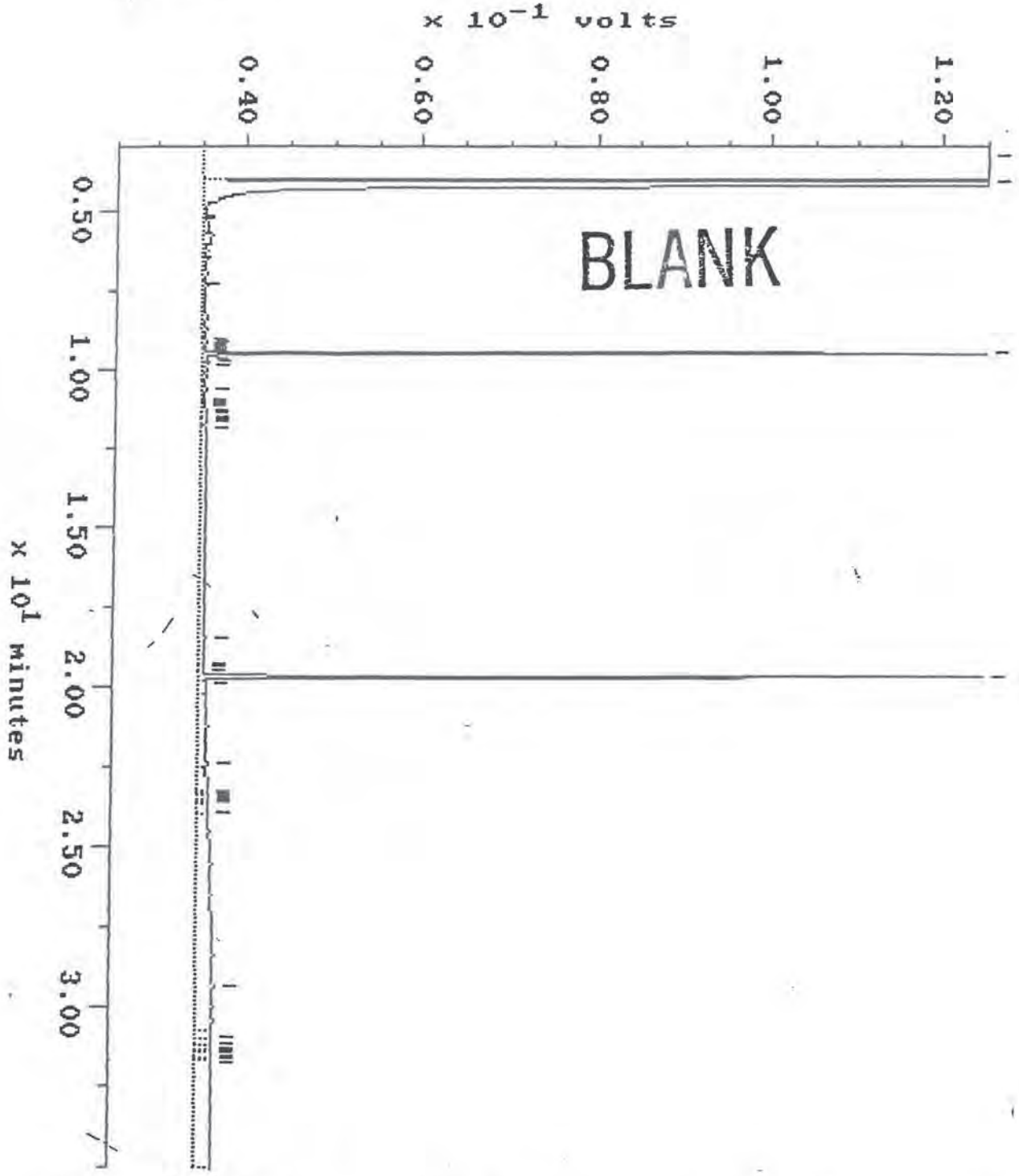
Filename: R5218W34
Operator: MAX



Sample: A0507 NTPHD BLK Channel: WILMA Filename: R5218W06
Acquired: 21-MAY-98 14:33 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



Sample: A0507 NTPHD BLK Channel: WILMA Filename: R5268W03
Acquired: 26-MAY-98 10:54 Method: X:\MAXDATA\WILMA\FUEL0526 Operator: MAX
Comments: WA DOE TPH D



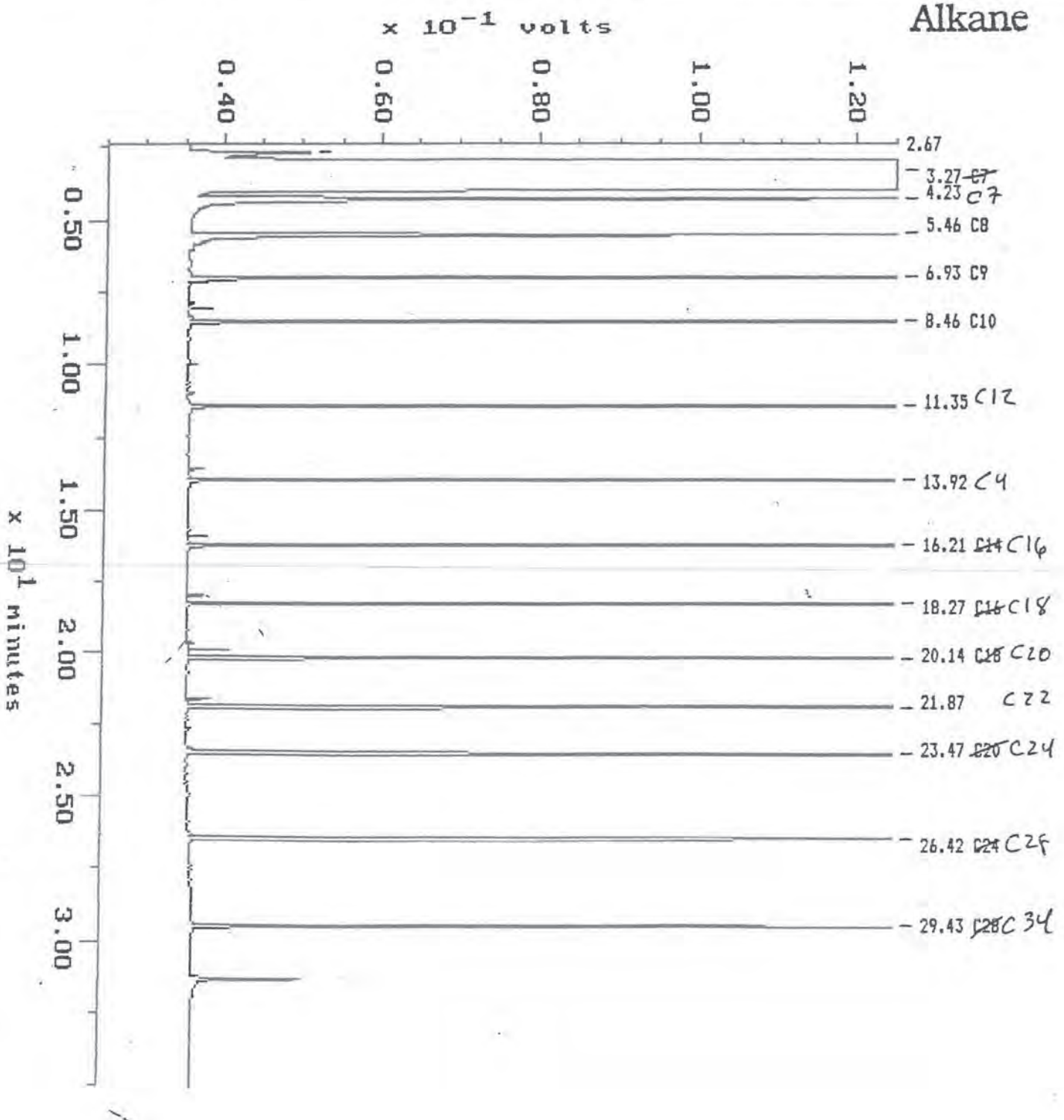
Sample: ALKANE WILMA
Acquired: 19-MAY-98 17:39
Inj Vol: 1.00
Comments:

Channel: WILMA
Method: X:\MAXDATA\WILMA\FUEL0519

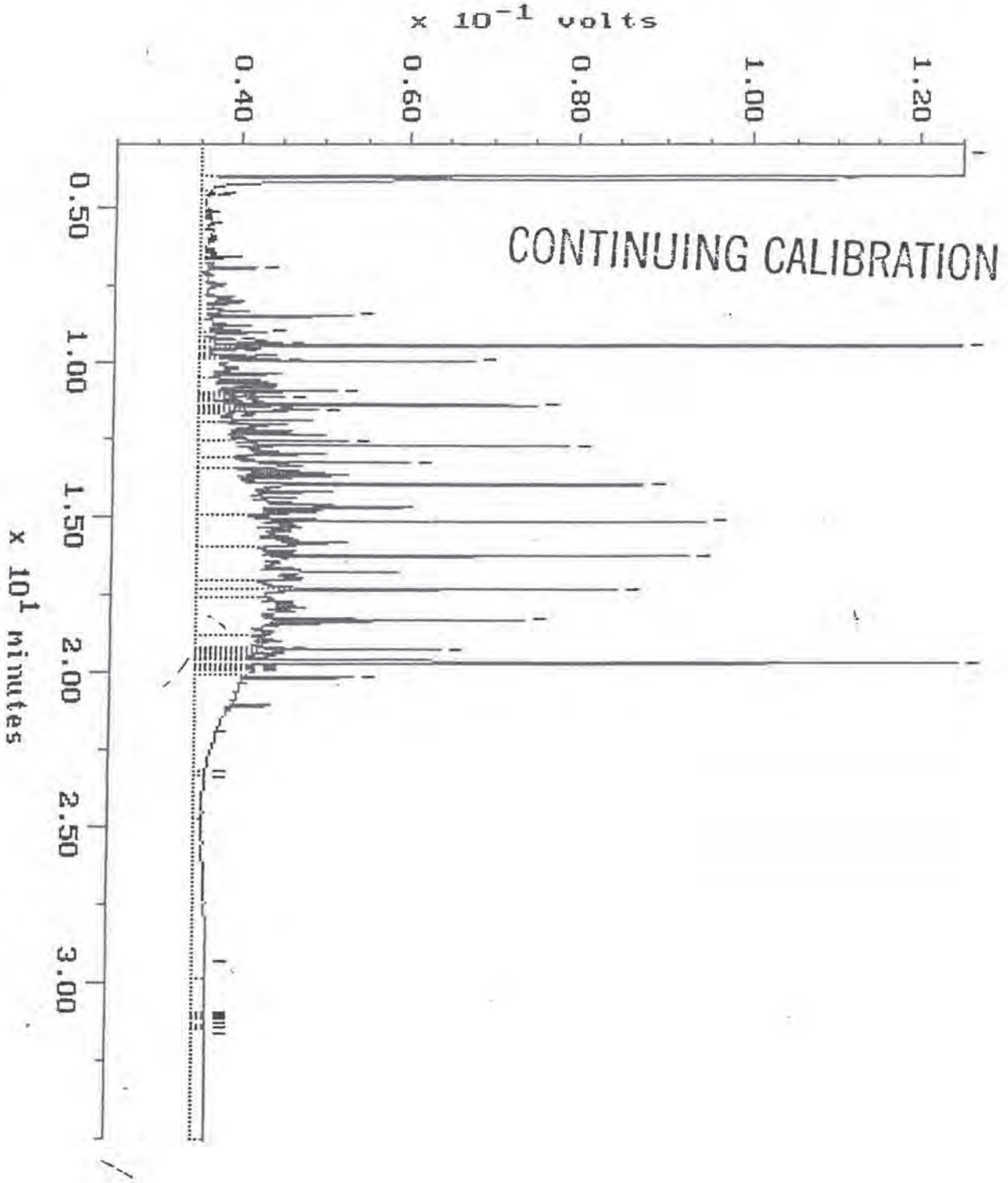
Filename: R5198W02
Operator: MAX

NORMAL ALKANE STANDARD C7-C34

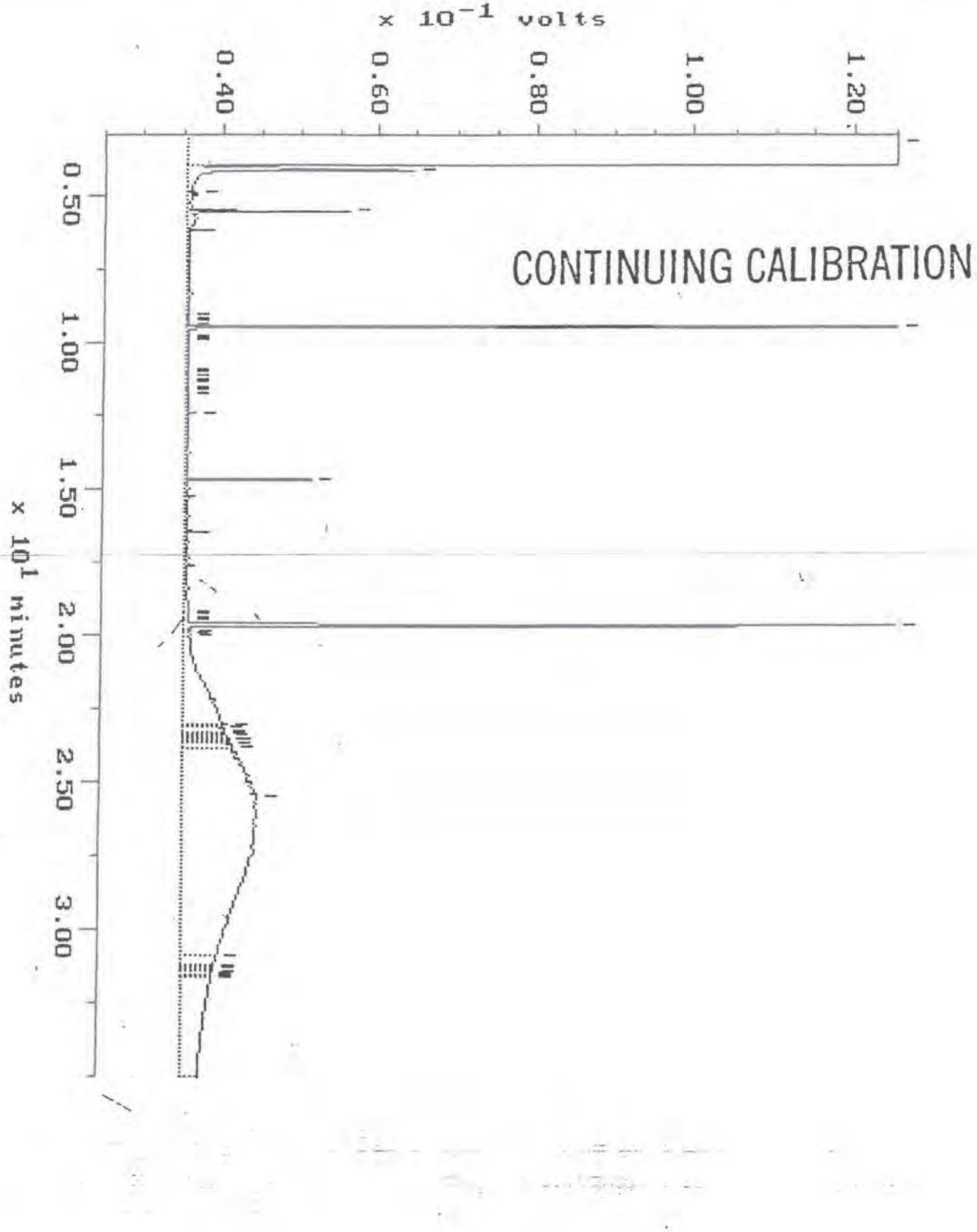
Alkane



Sample: D CCV 500 Channel: WILMA Filename: R5218W02
Acquired: 21-MAY-98 11:33 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



Sample: MO CCV 500 Channel: WILMA Filename: R5218W03
Acquired: 21-MAY-98 12:18 Method: X:\MAXDATA\WILMA\FUEL521 Operator: MAX
Comments: WA DOE TPH D



MultiChem ANALYTICAL SERVICES

560 Naches Ave. SW Suite 101 Renton, WA 98055
(800) 609-0580 • (425) 228-8335 • FAX (425) 228-8336

LAB NUMBER: [redacted]

DATE: 5/6/98
PAGE: 1 of 1

COMPANY: GEOENGINEERS
ADDRESS: 8410 154th AVE NE
REDMOND WA 98052
PHONE: (425) 861-6000 FAX (425) 861-6050
PROJ. MGR / CONTACT: LISA J. BONA
PROJECT NUMBER: 5925-003-01
PROJECT NAME: FAMILY FUN CENTER
DISPOSAL: MAS ☐ HOLD ☐ RETURN

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	FUELS: TPH-HCID	BETX / TPH-G (NW)	BETX (by 8021)	TPH-G	TPH-D (TPHD-extended) (NW)	8015 modified	418.1	413.2	AK-GRO AK101	AK-DRO AK102 / 103	ORGANIC COMPOUNDS: 8240 / 8260 GCMS Volatiles	8270 GCMS Semivolatiles (PAHs)	8081 Pesticides / PCBs	PCB only (by 8081) STID / LI	8021 Halogenated VOCs	8021 Aromatic VOCs	8310 HPLC PAHs	8041 Phenols	8151 OC Herbicides	METALS: Metals indicate below	Total / Dissolved Lead	RCRA Metals (8)	Pb Metals (13) w BARIUM	TAL Metals (23)	TCLP: TCLP 8240 (Alt)	TCLP 8270 Semivolatiles	8081 Pesticides 8081A	TCLP 8151 Herbicides	TCLP Metals	OTHER	Total # of Containers
HS-1	5/6/98	1120	S	1		X	X		X							X											X				X			2
HS-2	5/6/98	1130	S	2		X	X		X							X											X				X			2
HS-3	5/6/98	1140	S	3		X	X		X							X											X				X			2
B-139																																		

TAT:
☐ 24 HOURS
☐ 48 HOURS
☐ 72 HOURS
☐ 7 DAYS
☐ SP
☑ STANDARD

SPECIAL INSTRUCTIONS/COMMENTS:
SILICA GEL CLEANUP -
DO NWTPH-Dext

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
SIGNATURE:	SIGNATURE:	SIGNATURE:
PRINT NAME: DAVID BALMANTEEN	PRINT NAME:	PRINT NAME:
DATE: 5/6/98 TIME: 1530	DATE: TIME:	DATE: TIME:
COMPANY: GEOENGINEERS	COMPANY:	COMPANY:
RECEIVED BY:	**RECEIVED BY:**	**RECEIVED BY:**
SIGNATURE: Elaine Walker	SIGNATURE:	SIGNATURE:
PRINT NAME: Elaine Walker	PRINT NAME:	PRINT NAME:
DATE: 5/6/98 TIME: 1530	DATE: TIME:	DATE: TIME:
COMPANY: MultiChem	COMPANY:	COMPANY:

NON-CONFORMANCES?
Y (N)
(if Y see other side)

MultiChem Analytical Services

SAMPLE LOG-IN CHECKLIST

DATE: 5/6/98
TIME: 1410
INITIALS: VP

ACCESSION NO. 805019
CLIENT: GEOENGINEERS
PROJECT: FAMILY FUN CENTER

Shipping:

Type:
- X Cooler
- ____ Box
- ____ Other

COC Seals:
- ____ Ship. Cont.
- ____ On Bottles
- X None

Intact?
- Y N
- Y N

Packing Material:
- ____ Styrofoam
- ____ Bubble Bags
- ____ Foam Vial Packs
- X Other ZIP LOCKS

Refrigerant:
- X Gel Ice Pack
- ____ Loose Ice
- ____ Other
- ____ None

Frozen?
- (Y) N
- Y N
- Y N

Received Via:
- X Hand Delivery
- ____ Federal Express
- ____ Airborne
- ____ Other: ____
- ____ Courier
- ____ UPS
- ____ Taxi
- ____ Goldstreak

Sample Information:

Samp. #	Bottle #	Type
3	6	Soil
		Water
		Product
		Other

Soil VOAs
Water VOAs

0 headspace (Y) N N ____
0 headspace Y N N ____
Preserved? Y N ____
Trip blanks? Y N ____

Condition of Samples:
Containers:
Intact? (Bottle/Lid) (Y) N
Correct Type? (Y) N

CA # ____
CA # ____

Waters Preserved? (if needed) Y N N ____

ID's Match C.O.C. (Y) N N ____

Temperature: 5.5 C ____ CA NO.
(See corrective action on reverse side for explanation if temperature is outside of the MAS recommended range.)

LAB USE ONLY ☐ NO NOTICE ☐ SENDOUTS NEEDED BY
☐ COC/TAT DOES NOT MATCH NOTICE ☐ NEED TESTS VERIFIED BY CLIENT

COMMENTS: ____

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/10/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/11/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-B6-2	B808154-01	Soil	8/10/98
EX-B7-2	B808154-02	Soil	8/10/98
B-G2-12	B808154-03	Soil	8/10/98
B-G3-12	B808154-04	Soil	8/10/98
EX-G5-7	B808154-05	Soil	8/10/98
EX-G6-7	B808154-06	Soil	8/10/98

GeoEngineers

Routing LJB

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-G2-12			**B808154-03**				**Soil**	
Gasoline Range Hydrocarbons	0880340	8/13/98	8/13/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*88.5*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*89.2*	"	
B-G3-12			**B808154-04**				**Soil**	
Gasoline Range Hydrocarbons	0880340	8/13/98	8/13/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*84.3*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*86.8*	"	
EX-G5-7			**B808154-05**				**Soil**	
Gasoline Range Hydrocarbons	0880340	8/13/98	8/13/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*92.0*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*95.1*	"	
EX-G6-7			**B808154-06**				**Soil**	
Gasoline Range Hydrocarbons	0880340	8/13/98	8/13/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*95.9*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*96.5*	"	

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/10/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/11/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

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	Note
EX-B6-2			**B808154-01**				**Soil**	
Beryllium	0880568	8/20/98	8/21/98	EPA 6020	0.500	ND	mg/kg dry	
Lead	"	"	"	EPA 6020	0.500	**6.26**	"	
EX-B7-2			**B808154-02**				**Soil**	
Beryllium	0880568	8/20/98	8/21/98	EPA 6020	0.500	ND	mg/kg dry	
Lead	"	"	"	EPA 6020	0.500	**3.75**	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled:	8/10/98
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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported:	8/24/98 14:18

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-B6-2	B808154-01	Soil	87.4	%
EX-B7-2	B808154-02	Soil	94.3	%
B-G2-12	B808154-03	Soil	73.2	%
B-G3-12	B808154-04	Soil	71.2	%
EX-G5-7	B808154-05	Soil	82.3	%
EX-G6-7	B808154-06	Soil	82.6	%

North Creek Analytical - Bothell

Steve Davis, 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

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/10/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/11/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B/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: 0880340	**Date Prepared: 8/13/98**					**Extraction Method: EPA 5030B (MeOH)**				
Blank	**0880340-BLK1**									
Gasoline Range Hydrocarbons	8/13/98			**ND**	mg/kg dry	**5.00**				
Benzene	"			**ND**	"	**0.0500**				
Toluene	"			**ND**	"	**0.0500**				
Ethylbenzene	"			**ND**	"	**0.0500**				
Xylenes (total)	"			**ND**	"	**0.100**				
Surrogate: 4-BFB (FID)	"	*4.00*		*4.40*	"	*50.0-150*	*110*			
Surrogate: 4-BFB (PID)	"	*4.00*		*4.26*	"	*50.0-150*	*107*			
LCS	**0880340-BS1**									
Gasoline Range Hydrocarbons	8/13/98	25.0		24.4	mg/kg dry	70.0-130	97.6			
Surrogate: 4-BFB (FID)	"	*4.00*		*4.20*	"	*50.0-150*	*105*			
Duplicate	**0880340-DUP1**	**B808174-03**								
Gasoline Range Hydrocarbons	8/13/98		ND	ND	mg/kg dry			50.0		
Surrogate: 4-BFB (FID)	"	*5.33*		*4.57*	"	*50.0-150*	*85.7*			
Matrix Spike	**0880340-MS1**	**B808154-05**								
Benzene	8/13/98	0.607	ND	0.488	mg/kg dry	60.0-140	**80.4**			
Toluene	"	0.607	ND	0.495	"	60.0-140	**81.5**			
Ethylbenzene	"	0.607	ND	0.498	"	60.0-140	**82.0**			
Xylenes (total)	"	1.82	ND	1.50	"	60.0-140	**82.4**			
Surrogate: 4-BFB (PID)	"	*4.86*		*4.53*	"	*50.0-150*	*93.2*			
Matrix Spike Dup	**0880340-MSD1**	**B808154-05**								
Benzene	8/13/98	0.607	ND	0.493	mg/kg dry	60.0-140	**81.2**	20.0	**0.990**	
Toluene	"	0.607	ND	0.496	"	60.0-140	**81.7**	20.0	**0.245**	
Ethylbenzene	"	0.607	ND	0.505	"	60.0-140	**83.2**	20.0	**1.45**	
Xylenes (total)	"	1.82	ND	1.52	"	60.0-140	**83.5**	20.0	**1.33**	
Surrogate: 4-BFB (PID)	"	*4.86*		*4.53*	"	*50.0-150*	*93.2*			

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8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/11/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

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: 0880568	**Date Prepared: 8/20/98**					**Extraction Method: EPA 3050B**				
Blank	**0880568-BLK1**									
Beryllium	8/21/98			**ND**	mg/kg dry	**0.500**				
Lead	"			**ND**	"	**0.500**				
LCS	**0880568-BS2**									
Beryllium	8/21/98	25.0		20.4	mg/kg dry	80.0-120	81.6			
Lead	"	25.0		24.1	"	80.0-120	96.4			
Duplicate	**0880568-DUP1**		**B808154-02**							
Beryllium	8/21/98		ND	ND	mg/kg dry			20.0		
Lead	"		3.75	4.32	"			20.0	**14.1**	
Matrix Spike	**0880568-MS1**		**B808154-02**							
Beryllium	8/21/98	25.5	ND	20.1	mg/kg dry	70.0-130	**78.8**			
Lead	"	25.5	3.75	29.1	"	70.0-130	**99.4**			

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/10/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/11/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/24/98 14:18

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

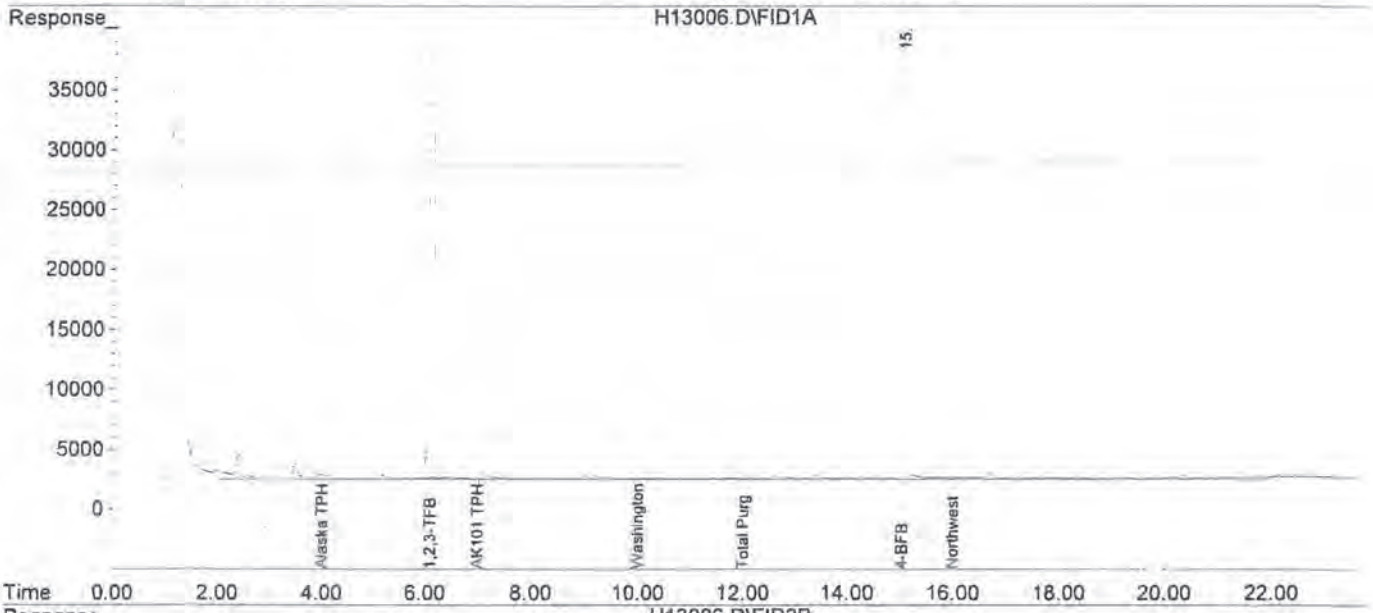
Quantitation Report

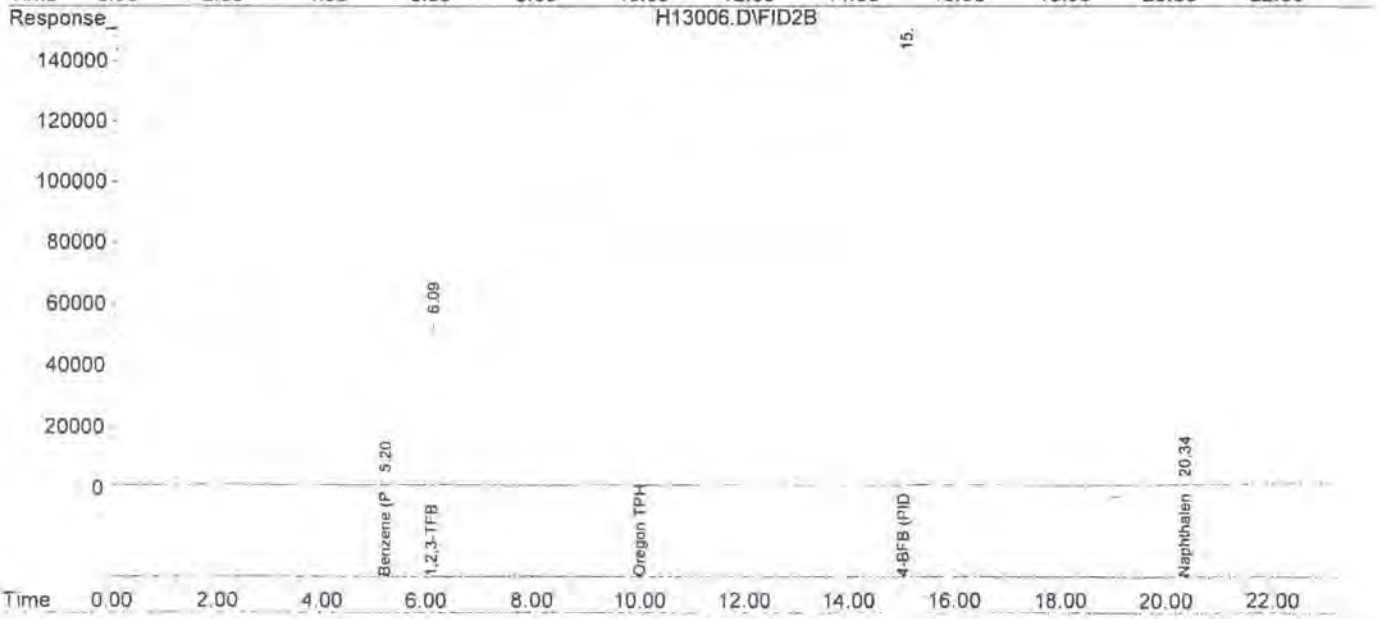
Data File : C:\HPCHEM\4\DATA\H13006.D\FID1A.CH Vial: 6
Acq On : 13 Aug 1998 3:52 pm Operator: mm
Sample : b808154-03 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\H13006.D\FID2B.CH Vial: 6
Acq On : 13 Aug 98 3:52 pm Operator: mm
Sample : b808154-03 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Aug 13 16:16 1998 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Aug 04 09:45:10 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





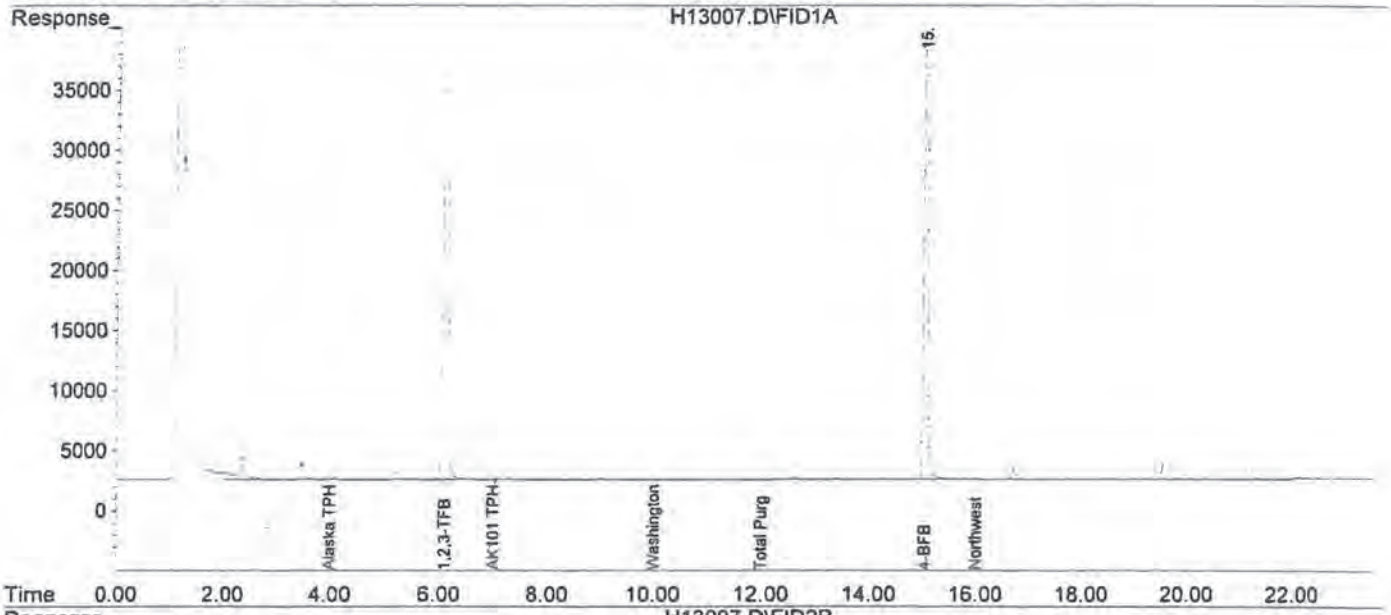
Quantitation Report

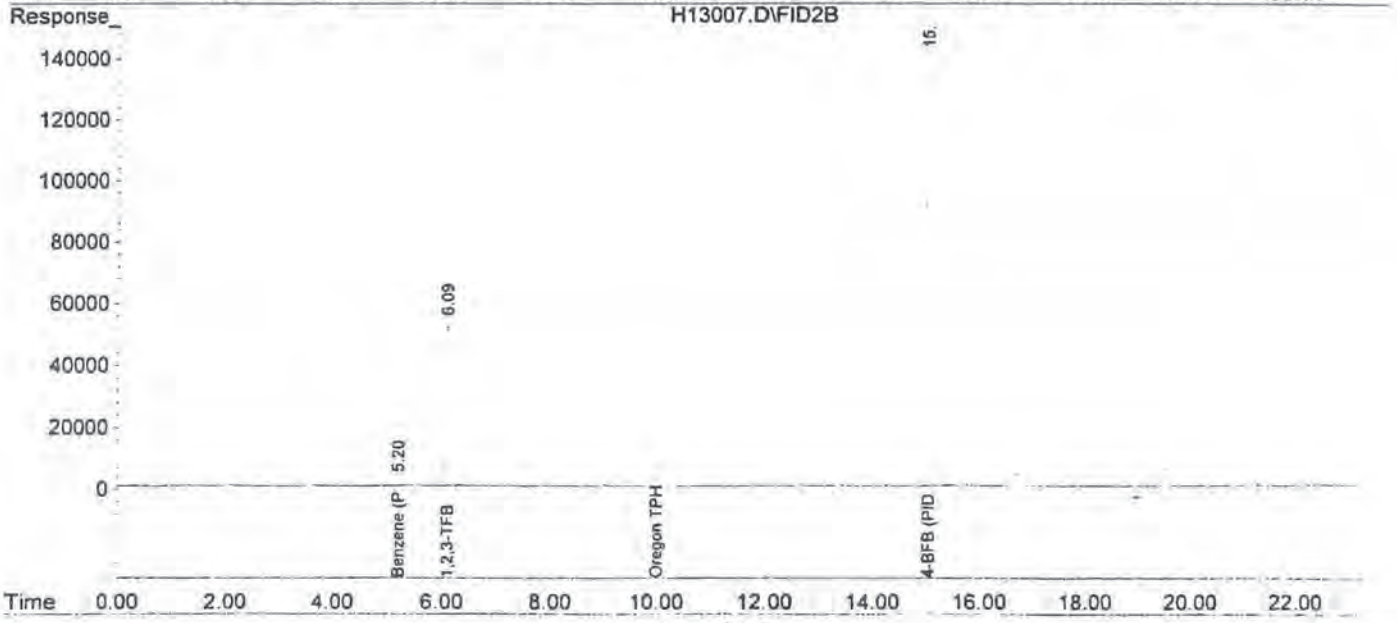
Data File : C:\HPCHEM\4\DATA\H13007.D\FID1A.CH Vial: 7
Acq On : 13 Aug 1998 4:22 pm Operator: mm
Sample : b808154-04 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\H13007.D\FID2B.CH Vial: 7
Acq On : 13 Aug 98 4:22 pm Operator: mm
Sample : b808154-04 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Aug 13 16:46 1998 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Aug 04 09:45:10 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





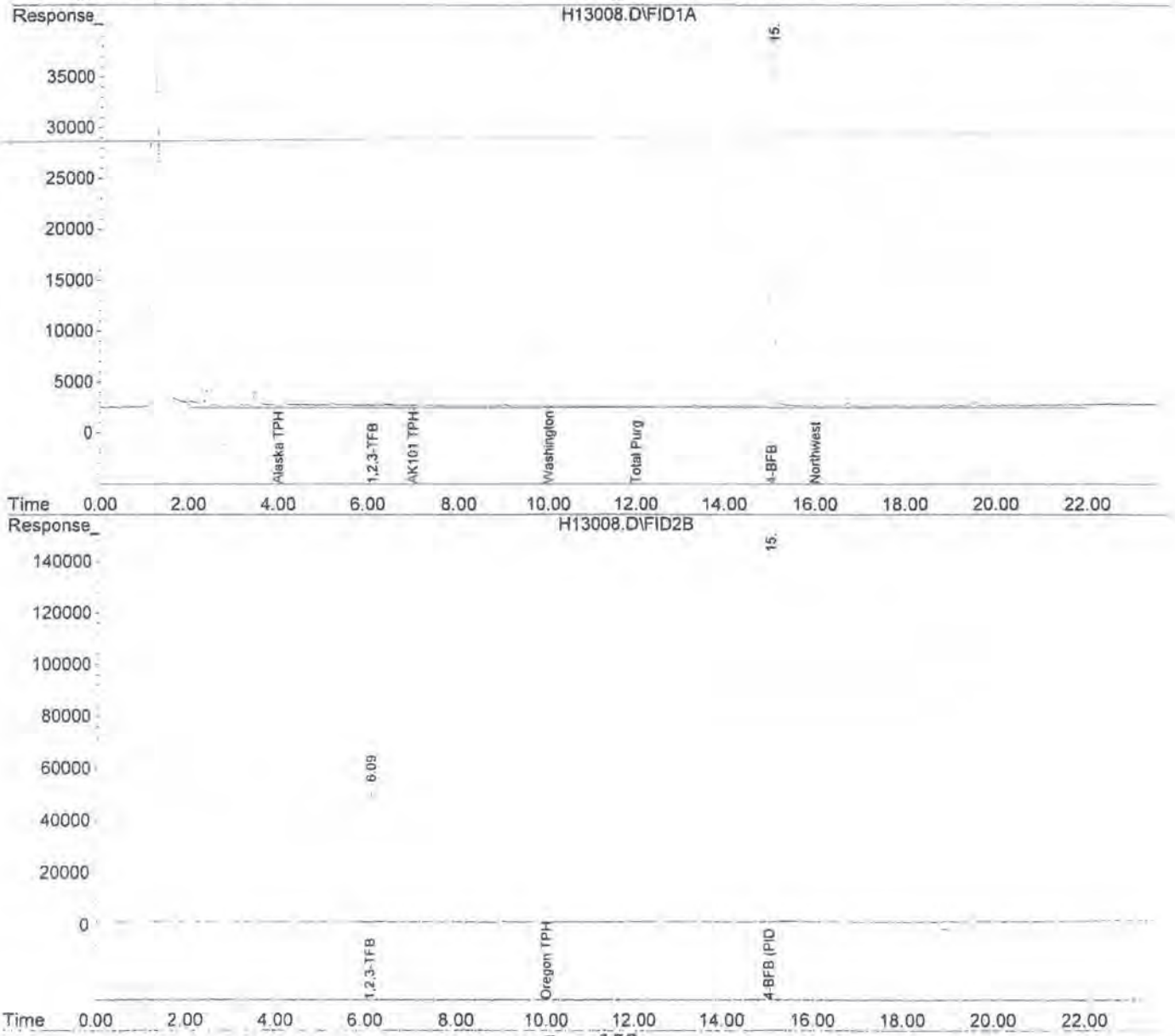
Quantitation Report

Data File : C:\HPCHEM\4\DATA\H13008.D\FID1A.CH Vial: 8
Acq On : 13 Aug 1998 4:53 pm Operator: mm
Sample : b808154-05 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\H13008.D\FID2B.CH Vial: 8
Acq On : 13 Aug 98 4:53 pm Operator: mm
Sample : b808154-05 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Aug 13 17:17 1998 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Aug 04 09:45:10 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



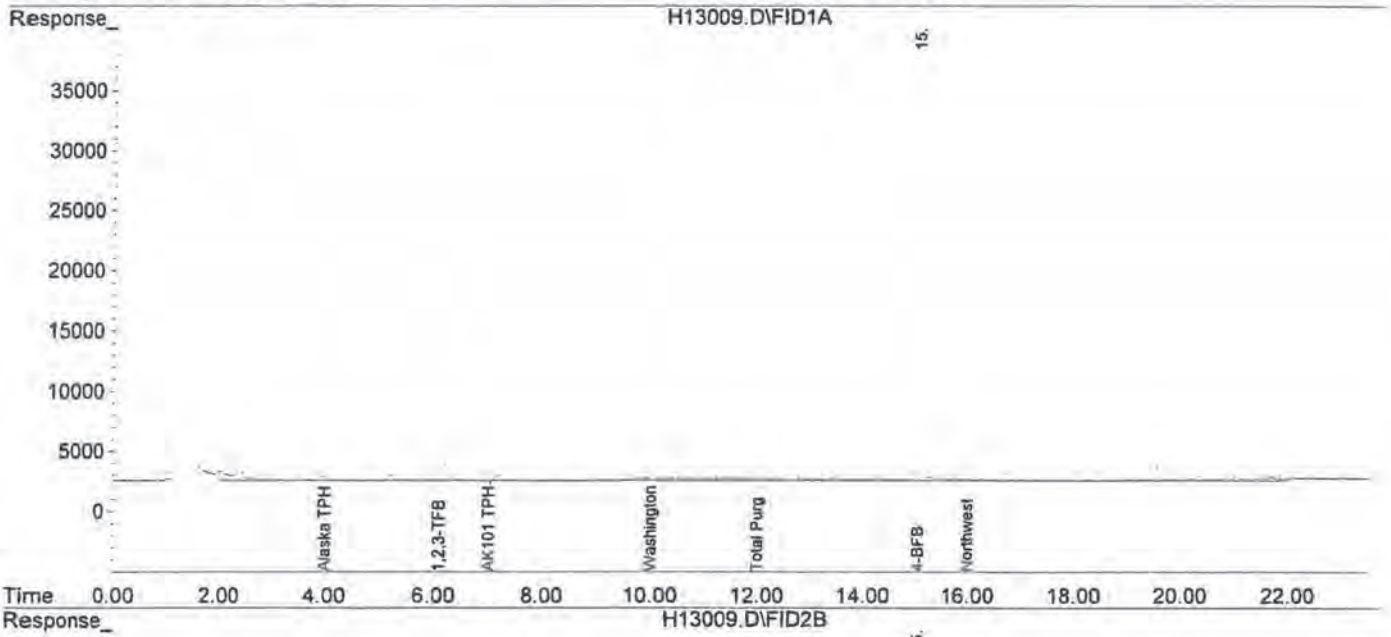
Quantitation Report

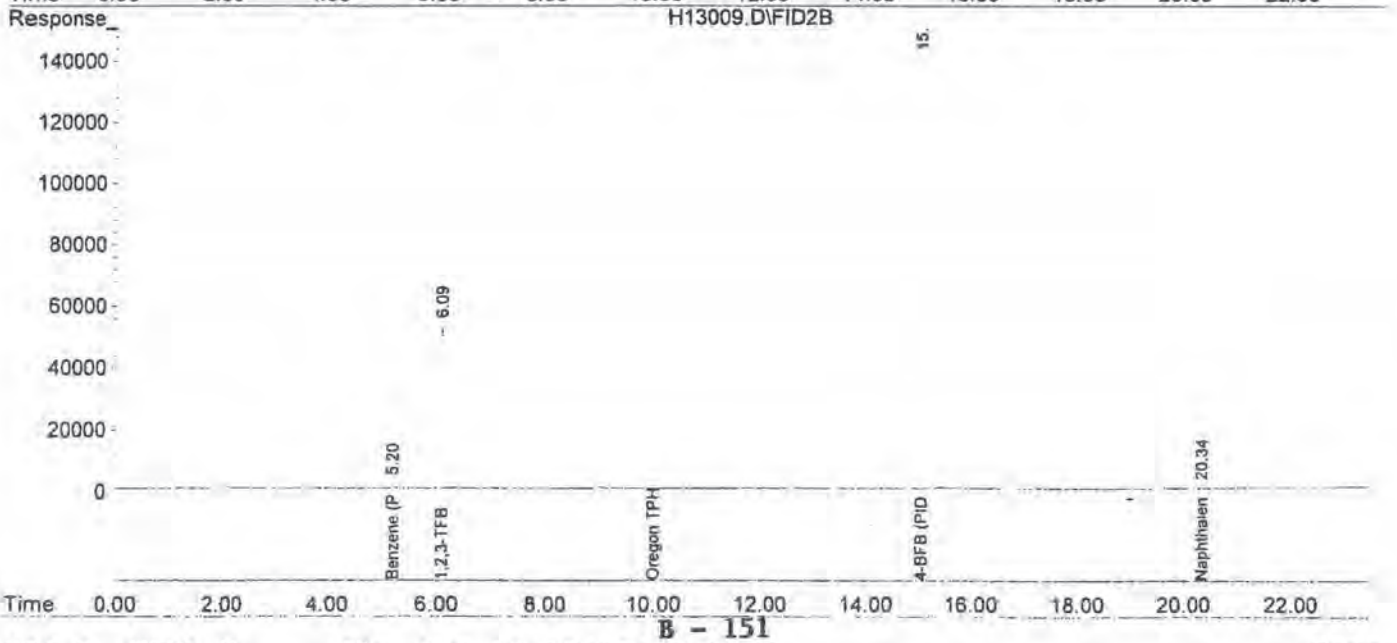
Data File : C:\HPCHEM\4\DATA\H13009.D\FID1A.CH Vial: 9
Acq On : 13 Aug 1998 5:23 pm Operator: mm
Sample : b808154-06 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\H13009.D\FID2B.CH Vial: 9
Acq On : 13 Aug 98 5:23 pm Operator: mm
Sample : b808154-06 Inst : GC #8
Misc : 100 ul, s Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Aug 13 17:47 1998 Quant Results File: TPHG.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Aug 04 09:45:10 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





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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 # B808154

REPORT TO: GEOENGINEERS
ATTENTION: LISA J BONA
ADDRESS: 8410 154TH AVE NE
REDMOND WA 98052
PHONE (425) 861-6000 FAX (425) 861-6050
PROJECT NAME: FAMILY FUN CENTER
PROJECT NUMBER: 5425-003-00
SAMPLED BY: D BAUMGARTEN

INVOICE TO:
ATTENTION: SAME
ADDRESS:
P.O. NUMBER: NCA QUOTE #:

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: NWTPH-G/BETX	Analysis Request: BENZYLLIUM & LEAD	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	EX-B6-2	8/10/18 815	B808154-01		X	S	1	
2.	EX-B7-2	815	-02		X	S	1	
3.	B-G2-12	915	-03	X		S	1	
4.	B-G3-12	1030	-04	X		S	1	
5.	EX-G5-7	915	-05	X		S	1	
6.	EX-G6-7	1030	-06	X		S	1	
7.								
8.								
9.								
10.								

SPJB

RELINQUISHED BY (Signature): DATE: 8/10/18
PRINT NAME: DAVID BAUMGARTEN FIRM: GEI TIME: 515

RECEIVED BY (Signature): Cathy Nichols DATE: 8/11/18
PRINT NAME: Cathy Nichols FIRM: NCA TIME: 12:40

RELINQUISHED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: NORTHWEST METHODS ON G/BETX

1.2° w/C.A.

PAGE OF

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/11/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/12/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/19/98 11:38

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-F1-1.5	B808175-01	Soil	8/11/98
EX-F2-1.5	B808175-02	Soil	8/11/98
EX-F3-2.0	B808175-03	Soil	8/11/98
EX-S1-1.5	B808175-04	Soil	8/11/98

GeoEngineers

AUG 24 1998

Received

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/11/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/12/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/19/98 11:38

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F1-1.5			**B808175-01**				**Soil**	
Diesel Range Hydrocarbons	0880300	8/12/98	8/13/98		10.0	**24.7**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**98.6**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*78.2*	*%*	
EX-F2-1.5			**B808175-02**				**Soil**	
Diesel Range Hydrocarbons	0880300	8/12/98	8/13/98		10.0	**34.6**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**123**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*63.5*	*%*	
EX-F3-2.0			**B808175-03**				**Soil**	
Diesel Range Hydrocarbons	0880300	8/12/98	8/13/98		10.0	**31.6**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**151**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*79.7*	*%*	
EX-S1-1.5			**B808175-04**				**Soil**	
Diesel Range Hydrocarbons	0880300	8/12/98	8/13/98		10.0	**45.0**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**96.9**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*65.5*	*%*	

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PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/11/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/12/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/19/98 11:38

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-F1-1.5	B808175-01	Soil	92.8	%
EX-F2-1.5	B808175-02	Soil	85.3	%
EX-F3-2.0	B808175-03	Soil	85.8	%
EX-S1-1.5	B808175-04	Soil	93.2	%

North Creek Analytical - Bothell

Steve Davis, Project Manager

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/11/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/12/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/19/98 11:38

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/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: 0880300	**Date Prepared: 8/12/98**				**Extraction Method: EPA 3550B**					
Blank	**0880300-BLK1**									
Diesel Range Hydrocarbons	8/12/98			**ND**	mg/kg dry	**10.0**				
Lube Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*11.0*		*6.41*	"	*50.0-150*	*58.3*			
LCS	**0880300-BS1**									
Diesel Range Hydrocarbons	8/12/98	66.7		56.3	mg/kg dry	60.0-140	84.4			
Surrogate: 2-FBP	"	*11.0*		*9.14*	"	*50.0-150*	*83.1*			
Duplicate	**0880300-DUP2**		**B808166-03**							
Diesel Range Hydrocarbons	8/13/98		34800	33100	mg/kg dry			50.0	**5.01**	
Lube Oil Range Hydrocarbons	"		ND	ND	"			50.0		
Surrogate: 2-FBP	"	*13.1*		*ND*	"	*50.0-150*	*NR*			

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PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/11/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/12/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/19/98 11:38

Notes and Definitions

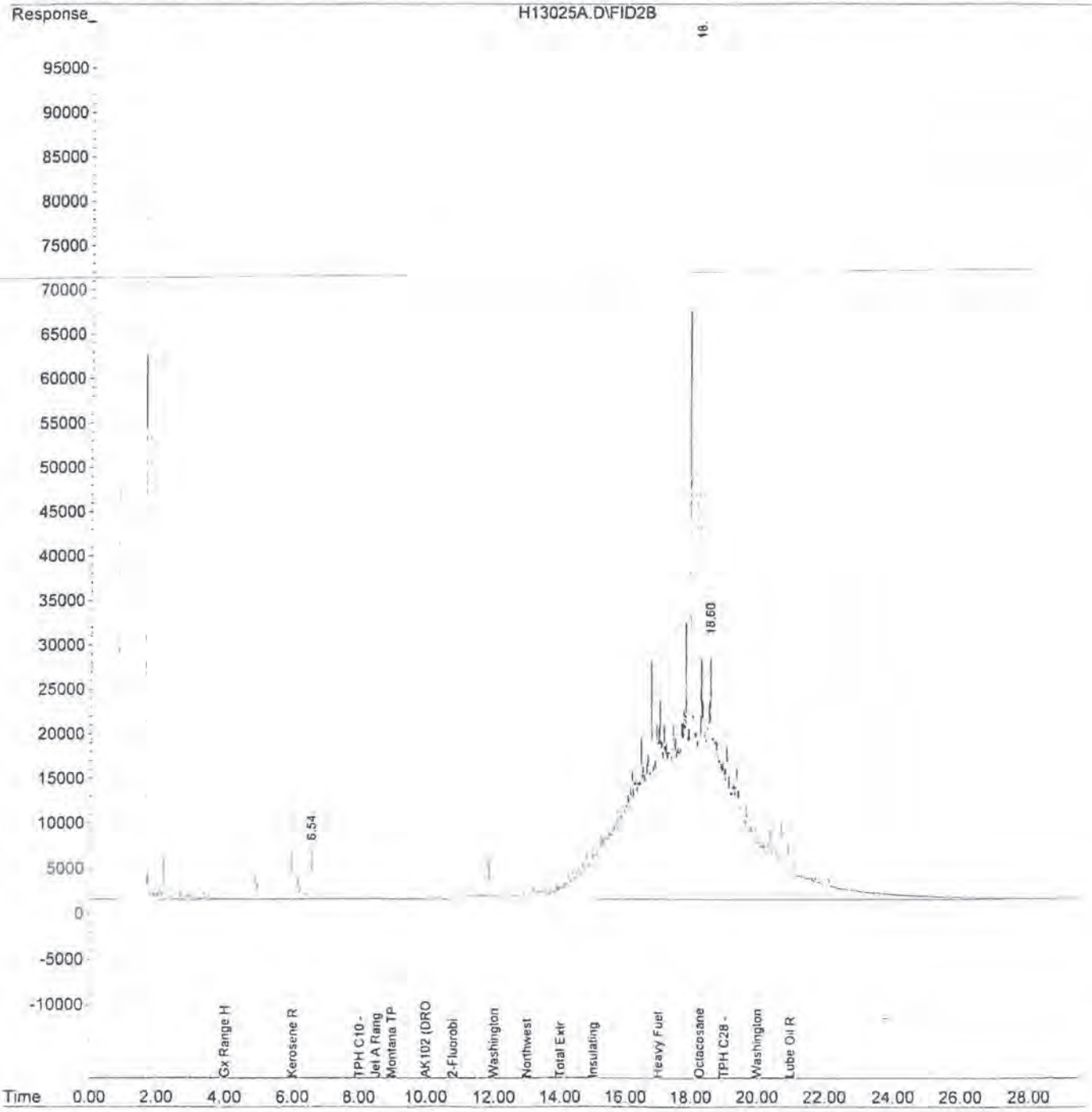
#	Note
1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
2	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\H13025A.D Vial: 14
Acq On : 13 Aug 1998 5:27 pm Operator: CC
Sample : b808175-01 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 13 18:57 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

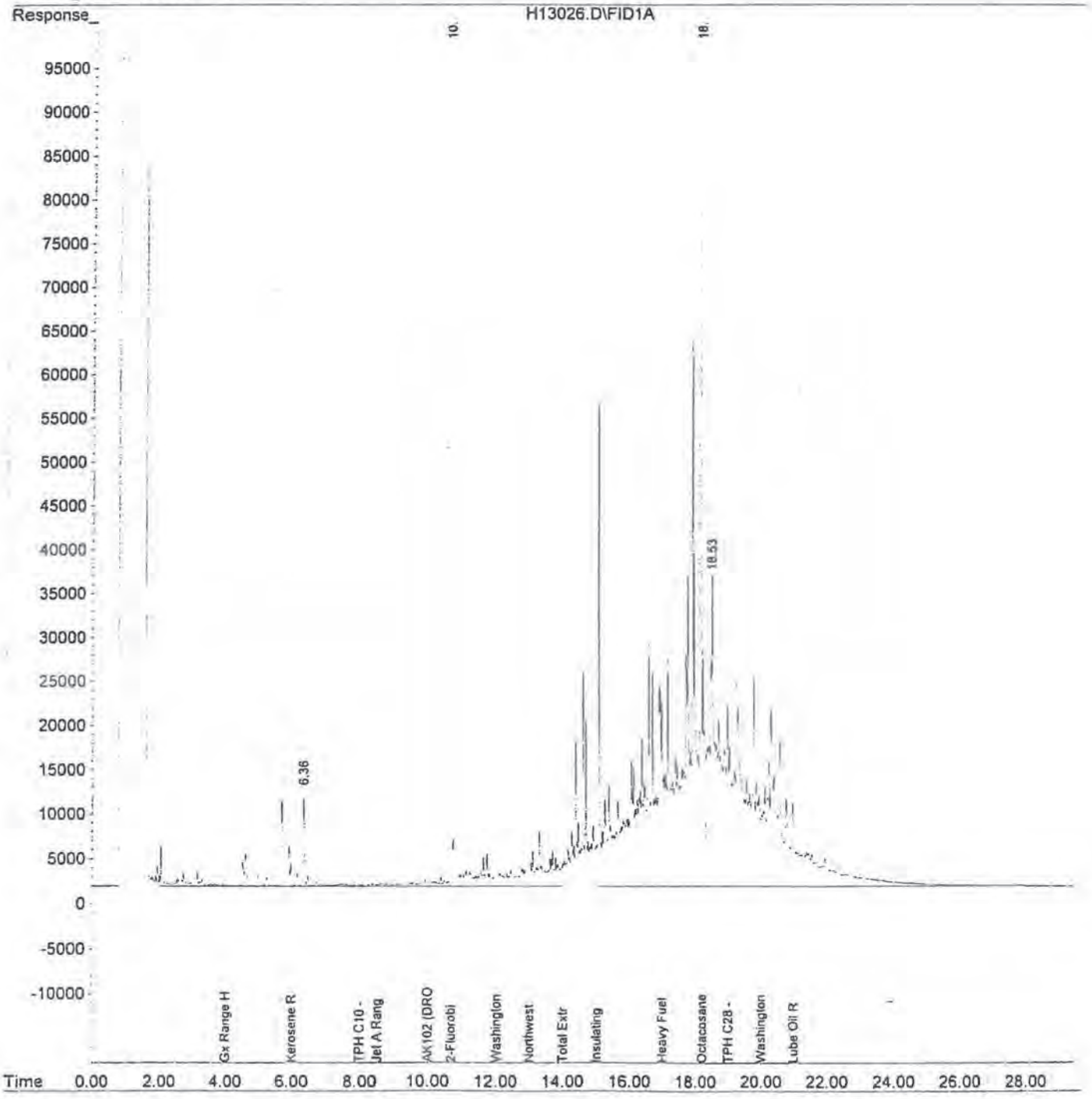


Quantitation Report

Data File : C:\HPCHEM\3\DATA\H13026.D Vial: 15
Acq On : 13 Aug 1998 5:27 pm Operator: CC
Sample : b808175-02 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 13 18:48 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 06 13:13:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

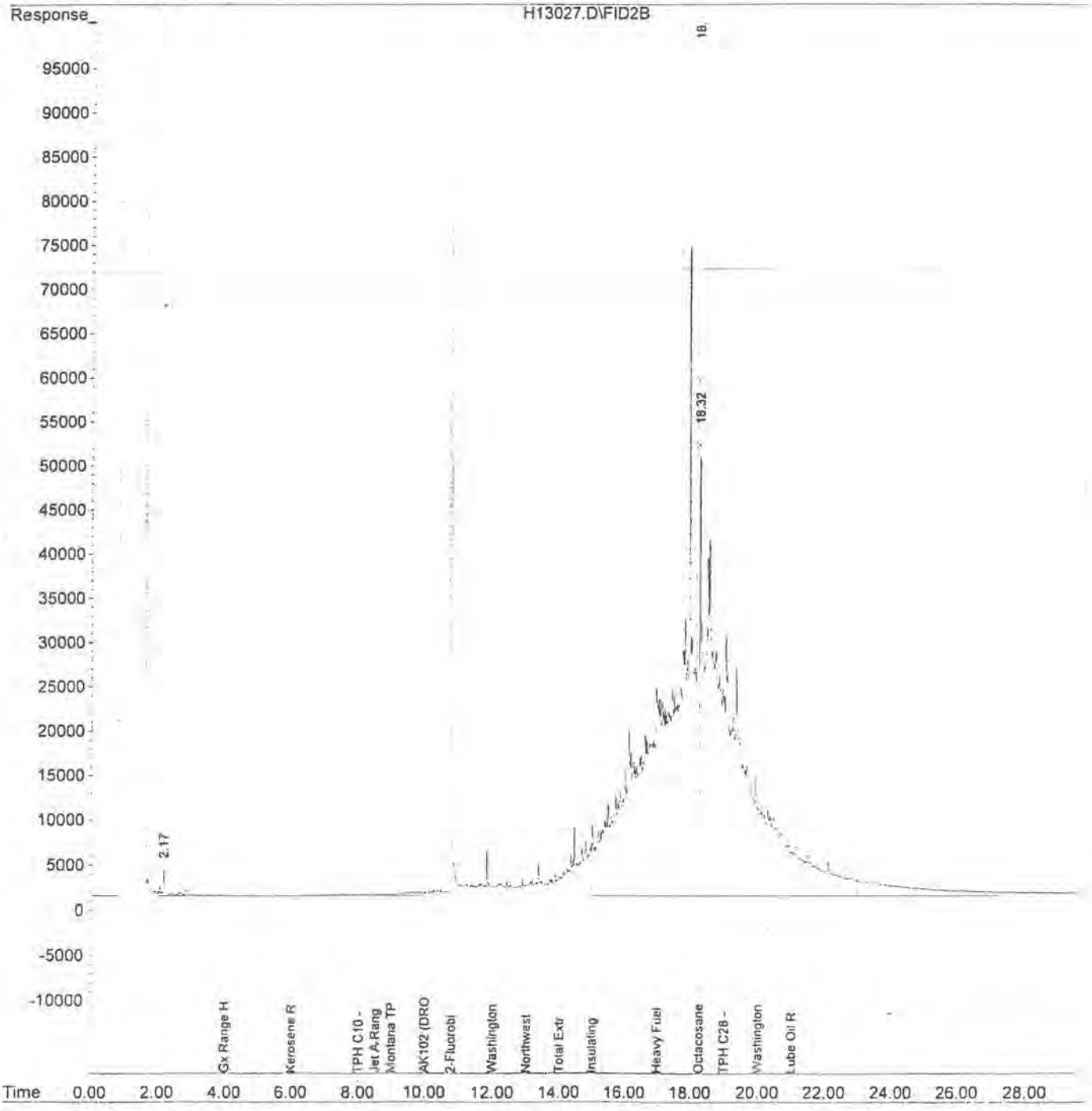


Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\H13027.D Vial: 16
Acq On : 13 Aug 1998 6:09 pm Operator: CC
Sample : b808175-03 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 13 18:58 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

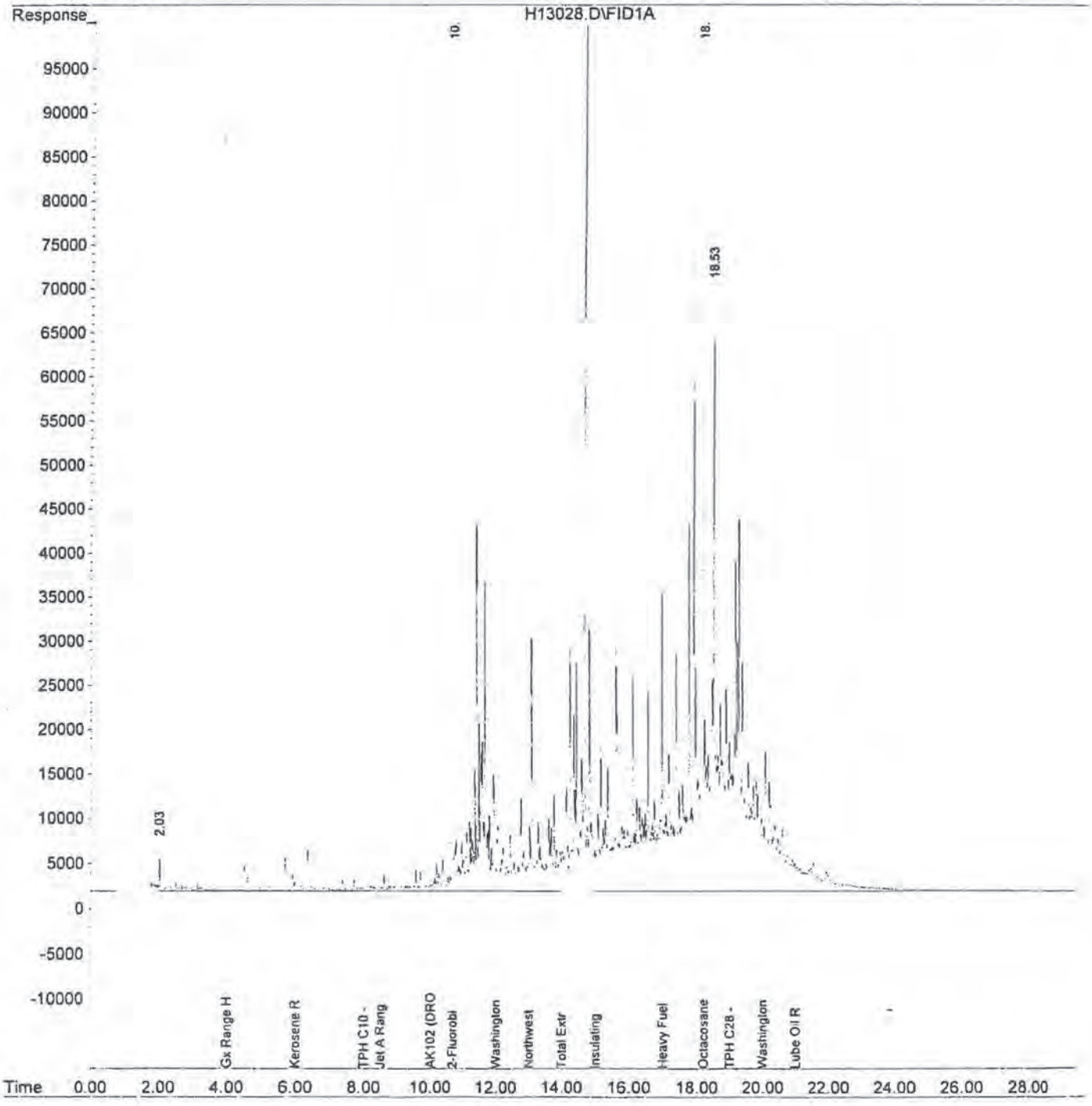


Quantitation Report

Data File : C:\HPCHEM\3\DATA\H13028.D Vial: 17
Acq On : 13 Aug 1998 6:09 pm Operator: CC
Sample : b808175-04 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 13 18:48 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 06 13:13:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



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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 # B808175

REPORT TO: GEOENGINEERS
ATTENTION: LISA BONA
ADDRESS: 8410 154TH AVENE
REDMOND WA 98052
PHONE: (425) 861-6000 FAX: (425) 861-6050
PROJECT NAME: FAMILY FUN CENTER
PROJECT NUMBER: 5925-003-00
SAMPLED BY: D BAUMGARTEN

INVOICE TO:
ATTENTION: S Dame
ADDRESS:
P.O. NUMBER: NCA QUOTE #:

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: NWTPH-Dx	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	EX-F1-1.5	8/11/98 1145	B808175 -01	X	S	1	
2.	EX-F2-1.5	1150	-02	X		1	
3.	EX-F3-2.0	1415	-03	X		1	
4.	EX-S1-1.5	1420	-04	X		1	
5.							
6.							
7.							
8.							
9.							
10.							

B-102

RELINQUISHED BY (Signature): DATE: 8/11/98
PRINT NAME: D BAUMGARTEN FIRM: GEI TIME: 1800

RECEIVED BY (Signature): S. Wideen DATE: 8/12/98
PRINT NAME: S. Wideen FIRM: NCA TIME: 7:40

RELINQUISHED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

17.0

PAGE 1 OF 1

NORTH CREEK ANALYTICAL
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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled:	8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received:	8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported:	8/31/98 11:15

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-F4-6	B808214-01	Soil	8/12/98
EX-F5-4	B808214-02	Soil	8/12/98
EX-F6-10	B808214-03	Soil	8/12/98
EX-F7-1.5	B808214-04	Soil	8/12/98
EX-F8-10	B808214-05	Soil	8/12/98
EX-F9-5	B808214-06	Soil	8/12/98
EX-F10-5	B808214-07	Soil	8/12/98
EX-F11-1.5	B808214-08	Soil	8/12/98
EX-F12-2.5	B808214-09	Soil	8/12/98
EX-F13-1.5	B808214-10	Soil	8/12/98
DPSP-1	B808214-11	Soil	8/12/98

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NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F4-6			**B808214-01**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		10.0	**36.0**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**116**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*92.8*	%	
EX-F5-4			**B808214-02**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/15/98		10.0	**68.2**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**66.7**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*89.1*	%	
EX-F6-10			**B808214-03**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		10.0	**926**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**503**	"	
Surrogate: Octacosane	"	"	"	*50.0-150*		*75.9*	%	*1*
EX-F7-1.5			**B808214-04**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/15/98		10.0	ND	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*70.7*	%	
EX-F8-10			**B808214-05**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		10.0	**13.8**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**45.5**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*100*	%	
EX-F9-5			**B808214-06**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/15/98		10.0	**187**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**208**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*90.4*	%	
EX-F10-5			**B808214-07**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		10.0	**54.5**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**153**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*84.4*	%	
EX-F11-1.5			**B808214-08**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/15/98		10.0	ND	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	ND	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*83.9*	%	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F12-2.5			**B808214-09**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		10.0	**26.4**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**32.3**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*80.0*	%	
EX-F13-1.5			**B808214-10**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/15/98		10.0	**34.9**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**93.5**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*79.7*	%	
DPSP-1			**B808214-11**				**Soil**	
Diesel Range Hydrocarbons	0880371	8/14/98	8/17/98		110	**4710**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		275	**2950**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*57.1*	%	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

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*
EX-F6-10			**B808214-03**				**Soil**	
Antimony	0880667	8/24/98	8/26/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**8.68**	"	
Beryllium	"	"	8/27/98	EPA 6020	0.500	ND	"	
Cadmium	"	"	8/26/98	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**10.6**	"	
Copper	"	"	"	EPA 6020	0.500	**21.6**	"	
Lead	"	"	"	EPA 6020	0.500	**41.9**	"	
Nickel	"	"	"	EPA 6020	0.500	**34.7**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	**1.16**	"	
Thallium	"	"	8/27/98	EPA 6020	0.500	ND	"	
Zinc	"	"	8/26/98	EPA 6020	5.00	**37.5**	"	
Mercury	0880524	8/19/98	8/20/98	EPA 7471A	0.100	**0.128**	"	
DPSP-1			**B808214-11**				**Soil**	
Antimony	0880667	8/24/98	8/26/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**9.95**	"	
Beryllium	"	"	8/27/98	EPA 6020	0.500	ND	"	
Cadmium	"	"	8/26/98	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**12.9**	"	
Copper	"	"	"	EPA 6020	0.500	**18.9**	"	
Lead	"	"	"	EPA 6020	0.500	**51.8**	"	
Nickel	"	"	"	EPA 6020	0.500	**22.5**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	8/27/98	EPA 6020	0.500	ND	"	
Zinc	"	"	8/26/98	EPA 6020	5.00	**26.4**	"	
Mercury	0880524	8/19/98	8/20/98	EPA 7471A	0.100	**0.140**	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Organic Compounds by EPA Method 8270C
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Note
EX-F6-10			**B808214-03**				**Soil**	
Acenaphthene	0880380	8/14/98	8/19/98		2.50	**48.9**	mg/kg dry	
Acenaphthylene	"	"	"		2.50	**12.0**	"	
Aniline	"	"	"		2.50	ND	"	
Anthracene	"	"	"		2.50	**32.6**	"	
Benzoic Acid	"	"	"		12.5	ND	"	
Benzo (a) anthracene	"	"	"		2.50	**69.3**	"	
Benzo (b) fluoranthene	"	"	"		2.50	**117**	"	
Benzo (k) fluoranthene	"	"	"		2.50	**35.9**	"	
Benzo (ghi) perylene	"	"	"		2.50	**150**	"	
Benzo (a) pyrene	"	"	"		2.50	**119**	"	
Benzyl alcohol	"	"	"		2.50	ND	"	
Bis(2-chloroethoxy)methane	"	"	"		2.50	ND	"	
Bis(2-chloroethyl)ether	"	"	"		2.50	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"		2.50	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"		12.5	ND	"	
4-Bromophenyl phenyl ether	"	"	"		2.50	ND	"	
Butyl benzyl phthalate	"	"	"		2.50	ND	"	
Carbazole	"	"	"		12.5	ND	"	
4-Chloroaniline	"	"	"		2.50	ND	"	
2-Chloronaphthalene	"	"	"		2.50	ND	"	
4-Chloro-3-methylphenol	"	"	"		2.50	ND	"	
2-Chlorophenol	"	"	"		2.50	ND	"	
4-Chlorophenyl phenyl ether	"	"	"		2.50	ND	"	
Chrysene	"	"	"		2.50	**82.0**	"	
Dibenz (a,h) anthracene	"	"	"		2.50	**14.2**	"	
Dibenzofuran	"	"	"		2.50	**3.93**	"	
Di-n-butyl phthalate	"	"	"		12.5	ND	"	
1,3-Dichlorobenzene	"	"	"		2.50	ND	"	
1,4-Dichlorobenzene	"	"	"		2.50	ND	"	
1,2-Dichlorobenzene	"	"	"		2.50	ND	"	
3,3'-Dichlorobenzidine	"	"	"		125	ND	"	
2,4-Dichlorophenol	"	"	"		2.50	ND	"	
Diethyl phthalate	"	"	"		2.50	ND	"	
2,4-Dimethylphenol	"	"	"		2.50	ND	"	
Dimethyl phthalate	"	"	"		2.50	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"		12.5	ND	"	
2,4-Dinitrophenol	"	"	"		12.5	ND	"	
2,4-Dinitrotoluene	"	"	"		2.50	ND	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Organic Compounds by EPA Method 8270C
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F6-10 (continued)			**B808214-03**				**Soil**	
2,6-Dinitrotoluene	0880380	8/14/98	8/19/98		2.50	ND	mg/kg dry	
Di-n-octyl phthalate	"	"	"		12.5	ND	"	
Fluoranthene	"	"	"		2.50	**209**	"	
Fluorene	"	"	"		2.50	**25.4**	"	
Hexachlorobenzene	"	"	"		2.50	ND	"	
Hexachlorobutadiene	"	"	"		2.50	ND	"	
Hexachlorocyclopentadiene	"	"	"		2.50	ND	"	
Hexachloroethane	"	"	"		2.50	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		2.50	**120**	"	
Isophorone	"	"	"		2.50	ND	"	
2-Methylnaphthalene	"	"	"		2.50	**47.7**	"	
2-Methylphenol	"	"	"		2.50	ND	"	
3 & 4-Methylphenol	"	"	"		2.50	ND	"	
Naphthalene	"	"	"		2.50	**166**	"	
2-Nitroaniline	"	"	"		12.5	ND	"	
3-Nitroaniline	"	"	"		12.5	ND	"	
4-Nitroaniline	"	"	"		12.5	ND	"	
Nitrobenzene	"	"	"		2.50	ND	"	
2-Nitrophenol	"	"	"		2.50	ND	"	
4-Nitrophenol	"	"	"		12.5	ND	"	
N-Nitrosodiphenylamine	"	"	"		5.00	ND	"	
N-Nitrosodi-n-propylamine	"	"	"		2.50	ND	"	
Pentachlorophenol	"	"	"		12.5	ND	"	
Phenanthrene	"	"	"		2.50	**153**	"	
Phenol	"	"	"		2.50	ND	"	
Pyrene	"	"	8/17/98		10.0	**339**	"	
1,2,4-Trichlorobenzene	"	"	8/19/98		2.50	ND	"	
2,4,5-Trichlorophenol	"	"	"		12.5	ND	"	
2,4,6-Trichlorophenol	"	"	"		2.50	ND	"	
Surrogate: 2-FP	"	"	"	*19.0-141*		*66.7*	*%*	
Surrogate: Phenol-d6	"	"	"	*44.0-128*		*60.1*	"	
Surrogate: 2,4,6-TBP	"	"	"	*10.0-137*		*80.8*	"	
Surrogate: Nitrobenzene-d5	"	"	"	*33.0-108*		*79.8*	"	
Surrogate: 2-FBP	"	"	"	*51.0-124*		*110*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*48.0-149*		*96.7*	"	

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
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Semivolatile Organic Compounds by EPA Method 8270C
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
DPSP-1			**B808214-11**				**Soil**	
Acenaphthene	0880380	8/14/98	8/19/98		2.50	**26.3**	mg/kg dry	
Acenaphthylene	"	"	"		2.50	**18.3**	"	
Aniline	"	"	"		2.50	ND	"	
Anthracene	"	"	"		2.50	**29.9**	"	
Benzoic Acid	"	"	"		12.5	ND	"	
Benzo (a) anthracene	"	"	"		2.50	**60.5**	"	
Benzo (b) fluoranthene	"	"	"		2.50	**90.6**	"	
Benzo (k) fluoranthene	"	"	"		2.50	**28.9**	"	
Benzo (ghi) perylene	"	"	"		2.50	**106**	"	
Benzo (a) pyrene	"	"	"		2.50	**97.3**	"	
Benzyl alcohol	"	"	"		2.50	ND	"	
Bis(2-chloroethoxy)methane	"	"	"		2.50	ND	"	
Bis(2-chloroethyl)ether	"	"	"		2.50	ND	"	
Bis(2-chloroisopropyl)ether	"	"	"		2.50	ND	"	
Bis(2-ethylhexyl)phthalate	"	"	"		12.5	ND	"	
4-Bromophenyl phenyl ether	"	"	"		2.50	ND	"	
Butyl benzyl phthalate	"	"	"		2.50	ND	"	
Carbazole	"	"	"		12.5	ND	"	
4-Chloroaniline	"	"	"		2.50	ND	"	
2-Chloronaphthalene	"	"	"		2.50	ND	"	
4-Chloro-3-methylphenol	"	"	"		2.50	ND	"	
2-Chlorophenol	"	"	"		2.50	ND	"	
4-Chlorophenyl phenyl ether	"	"	"		2.50	ND	"	
Chrysene	"	"	"		2.50	**67.4**	"	
Dibenz (a,h) anthracene	"	"	"		2.50	**14.0**	"	
Dibenzofuran	"	"	"		2.50	**6.43**	"	
Di-n-butyl phthalate	"	"	"		12.5	ND	"	
1,3-Dichlorobenzene	"	"	"		2.50	ND	"	
1,4-Dichlorobenzene	"	"	"		2.50	ND	"	
1,2-Dichlorobenzene	"	"	"		2.50	ND	"	
3,3'-Dichlorobenzidine	"	"	"		125	ND	"	
2,4-Dichlorophenol	"	"	"		2.50	ND	"	
Diethyl phthalate	"	"	"		2.50	ND	"	
2,4-Dimethylphenol	"	"	"		2.50	ND	"	
Dimethyl phthalate	"	"	"		2.50	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"		12.5	ND	"	
2,4-Dinitrophenol	"	"	"		12.5	ND	"	
2,4-Dinitrotoluene	"	"	"		2.50	ND	"	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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Semivolatile Organic Compounds by EPA Method 8270C
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
DPSP-1 (continued)			B808214-11				Soil	
2,6-Dinitrotoluene	0880380	8/14/98	8/19/98		2.50	ND	mg/kg dry	
Di-n-octyl phthalate	"	"	"		12.5	ND	"	
Fluoranthene	"	"	"		2.50	**132**	"	
Fluorene	"	"	"		2.50	**24.3**	"	
Hexachlorobenzene	"	"	"		2.50	ND	"	
Hexachlorobutadiene	"	"	"		2.50	ND	"	
Hexachlorocyclopentadiene	"	"	"		2.50	ND	"	
Hexachloroethane	"	"	"		2.50	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		2.50	**87.3**	"	
Isophorone	"	"	"		2.50	ND	"	
2-Methylnaphthalene	"	"	"		2.50	**40.7**	"	
2-Methylphenol	"	"	"		2.50	ND	"	
3 & 4-Methylphenol	"	"	"		2.50	ND	"	
Naphthalene	"	"	"		2.50	**97.8**	"	
2-Nitroaniline	"	"	"		12.5	ND	"	
3-Nitroaniline	"	"	"		12.5	ND	"	
4-Nitroaniline	"	"	"		12.5	ND	"	
Nitrobenzene	"	"	"		2.50	ND	"	
2-Nitrophenol	"	"	"		2.50	ND	"	
4-Nitrophenol	"	"	"		12.5	ND	"	
N-Nitrosodiphenylamine	"	"	"		5.00	ND	"	
N-Nitrosodi-n-propylamine	"	"	"		2.50	ND	"	
Pentachlorophenol	"	"	"		12.5	ND	"	
Phenanthrene	"	"	"		2.50	**125**	"	
Phenol	"	"	"		2.50	ND	"	
Pyrene	"	"	"		2.50	**213**	"	
1,2,4-Trichlorobenzene	"	"	"		2.50	ND	"	
2,4,5-Trichlorophenol	"	"	"		12.5	ND	"	
2,4,6-Trichlorophenol	"	"	"		2.50	ND	"	
Surrogate: 2-FP	"	"	"	*19.0-141*		*62.1*	%	
Surrogate: Phenol-d6	"	"	"	*44.0-128*		*65.3*	"	
Surrogate: 2,4,6-TBP	"	"	"	*10.0-137*		*78.9*	"	
Surrogate: Nitrobenzene-d5	"	"	"	*33.0-108*		*77.4*	"	
Surrogate: 2-FBP	"	"	"	*51.0-124*		*121*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*48.0-149*		*111*	"	

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

Steve Davis, Project Manager

NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project: Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number: 5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager: Lisa Bona	Reported: 8/31/98 11:15

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-F4-6	B808214-01	Soil	78.7	%
EX-F5-4	B808214-02	Soil	79.6	%
EX-F6-10	B808214-03	Soil	78.4	%
EX-F7-1.5	B808214-04	Soil	89.2	%
EX-F8-10	B808214-05	Soil	91.3	%
EX-F9-5	B808214-06	Soil	81.1	%
EX-F10-5	B808214-07	Soil	77.7	%
EX-F11-1.5	B808214-08	Soil	95.2	%
EX-F12-2.5	B808214-09	Soil	81.3	%
EX-F13-1.5	B808214-10	Soil	82.7	%
DPSP-1	B808214-11	Soil	87.6	%

North Creek Analytical - Bothell

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/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: 0880371	Date Prepared: 8/14/98					Extraction Method: EPA 3550B				
Blank	0880371-BLK1									
Diesel Range Hydrocarbons	8/17/98			ND	mg/kg dry	10.0				
Lube Oil Range Hydrocarbons	"			ND	"	25.0				
Surrogate: 2-FBP	"	*11.0*		*9.03*	"	*50.0-150*	*82.1*			
LCS	0880371-BS1									
Diesel Range Hydrocarbons	8/15/98	66.7		58.1	mg/kg dry	60.0-140	87.1			
Surrogate: 2-FBP	"	*11.0*		*9.44*	"	*50.0-150*	*85.8*			
Duplicate	0880371-DUP1		B808214-01							
Diesel Range Hydrocarbons	8/17/98		36.0	34.0	mg/kg dry			50.0	**5.71**	
Lube Oil Range Hydrocarbons	"		116	93.8	"			50.0	**21.2**	
Surrogate: 2-FBP	"	*13.9*		*11.5*	"	*50.0-150*	*82.7*			
Duplicate	0880371-DUP2		B808214-04							
Diesel Range Hydrocarbons	8/15/98		ND	ND	mg/kg dry			50.0		
Lube Oil Range Hydrocarbons	"		ND	ND	"			50.0		
Surrogate: 2-FBP	"	*12.3*		*10.0*	"	*50.0-150*	*81.3*			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

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 %	Note:
Batch: 0880524	**Date Prepared: 8/19/98**				**Extraction Method: EPA 7471A**					
Blank	**0880524-BLK1**									
Mercury	8/20/98			**ND**	mg/kg dry	**0.100**				
LCS	**0880524-BS1**									
Mercury	8/20/98	1.34		2.02	mg/kg dry	80.0-120	151			
Matrix Spike	**0880524-MS1**		**B808204-03**							
Mercury	8/20/98	0.736	ND	0.855	mg/kg dry	80.0-120	**116**			
Matrix Spike Dup	**0880524-MSD1**		**B808204-03**							
Mercury	8/20/98	0.689	ND	0.814	mg/kg dry	80.0-120	**118**	20.0	**1.71**	
Batch: 0880667	**Date Prepared: 8/24/98**				**Extraction Method: EPA 3050B**					
Blank	**0880667-BLK1**									
Antimony	8/26/98			**ND**	mg/kg dry	**0.500**				
Arsenic	"			**0.517**	"	**0.500**				
Beryllium	8/27/98			**ND**	"	**0.500**				
Cadmium	8/26/98			**ND**	"	**0.500**				
Chromium	"			**ND**	"	**0.500**				
Copper	"			**ND**	"	**0.500**				
Lead	"			**ND**	"	**0.500**				
Nickel	"			**ND**	"	**0.500**				
Selenium	"			**ND**	"	**0.500**				
Silver	"			**ND**	"	**0.500**				
Thallium	8/27/98			**ND**	"	**0.500**				
Zinc	8/26/98			**ND**	"	**5.00**				
LCS	**0880667-BS1**									
Antimony	8/26/98	25.0		22.4	mg/kg dry	80.0-120	89.6			
Arsenic	"	25.0		22.8	"	70.0-130	91.2			
Beryllium	8/27/98	25.0		21.9	"	80.0-120	87.6			
Cadmium	8/26/98	25.0		21.9	"	70.0-130	87.6			
Chromium	"	25.0		24.8	"	80.0-120	99.2			
Copper	"	25.0		24.8	"	80.0-120	99.2			
Lead	"	25.0		27.0	"	80.0-120	108			
Nickel	"	25.0		23.9	"	80.0-120	95.6			
Selenium	"	25.0		19.8	"	70.0-130	79.2			
Silver	"	25.0		23.2	"	80.0-120	92.8			

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8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

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*
LCS (continued)	**0880667-BS1**									
Thallium	8/27/98	25.0		23.4	mg/kg dry	80.0-120	93.6			
Zinc	8/26/98	25.0		22.1	"	70.0-130	88.4			
Duplicate	**0880667-DUP1**		**B808418-04**							
Antimony	8/26/98		ND	ND	mg/kg dry			20.0		
Arsenic	"		4.53	3.03	"			20.0	**39.7**	
Beryllium	8/27/98		ND	ND	"			20.0		
Cadmium	8/26/98		0.586	ND	"			20.0		
Chromium	"		22.6	18.4	"			20.0	**20.5**	4
Copper	"		51.7	35.6	"			20.0	**36.9**	
Lead	"		165	81.5	"			20.0	**67.7**	
Nickel	"		33.3	25.0	"			20.0	**28.5**	4
Selenium	"		ND	ND	"			20.0		
Silver	"		0.698	ND	"			20.0		
Thallium	8/28/98		ND	ND	"			20.0		
Zinc	8/26/98		100	75.0	"			20.0	**28.6**	4
Matrix Spike	**0880667-MS1**		**B808418-04**							
Antimony	8/26/98	26.7	ND	5.97	mg/kg dry	70.0-130	**22.4**			5
Arsenic	"	26.7	4.53	27.5	"	70.0-130	**86.0**			
Beryllium	8/27/98	26.7	ND	23.7	"	70.0-130	**88.8**			
Cadmium	8/26/98	26.7	0.586	23.4	"	70.0-130	**85.4**			
Chromium	"	26.7	22.6	42.4	"	70.0-130	**74.2**			
Copper	"	26.7	51.7	67.1	"	70.0-130	**57.7**			5
Lead	"	26.7	165	163	"	70.0-130	**NR**			5
Nickel	"	26.7	33.3	52.1	"	70.0-130	**70.4**			
Selenium	"	26.7	ND	19.3	"	70.0-130	**72.3**			
Silver	"	26.7	0.698	23.8	"	70.0-130	**86.5**			
Thallium	8/28/98	26.7	ND	23.5	"	70.0-130	**88.0**			
Zinc	8/26/98	26.7	100	105	"	70.0-130	**18.7**			5
Matrix Spike	**0880667-MS2**		**B808418-04**							
Antimony	8/26/98	464	ND	457	mg/kg dry	70.0-130	**98.5**			6
Copper	"	464	51.7	520	"	70.0-130	**101**			6
Lead	"	464	165	690	"	70.0-130	**113**			6
Zinc	"	464	100	578	"	70.0-130	**103**			6

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Organic Compounds by EPA Method 8270C/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note:
Batch: 0880380	**Date Prepared: 8/14/98**					**Extraction Method: EPA 3580A**				
Blank	**0880380-BLK1**									
Acenaphthene	8/17/98			ND	mg/kg dry	0.100				
Acenaphthylene	"			ND	"	0.100				
Aniline	"			ND	"	0.100				
Anthracene	"			ND	"	0.100				
Benzoic Acid	"			ND	"	0.500				
Benzo (a) anthracene	"			ND	"	0.100				
Benzo (b) fluoranthene	"			ND	"	0.100				
Benzo (k) fluoranthene	"			ND	"	0.100				
Benzo (ghi) perylene	"			ND	"	0.100				
Benzo (a) pyrene	"			ND	"	0.100				
Benzyl alcohol	"			ND	"	0.100				
Bis(2-chloroethoxy)methane	"			ND	"	0.100				
Bis(2-chloroethyl)ether	"			ND	"	0.100				
Bis(2-chloroisopropyl)ether	"			ND	"	0.100				
Bis(2-ethylhexyl)phthalate	"			ND	"	0.500				
4-Bromophenyl phenyl ether	"			ND	"	0.100				
Butyl benzyl phthalate	"			ND	"	0.100				
Carbazole	"			ND	"	0.500				
4-Chloroaniline	"			ND	"	0.100				
2-Chloronaphthalene	"			ND	"	0.100				
4-Chloro-3-methylphenol	"			ND	"	0.100				
2-Chlorophenol	"			ND	"	0.100				
4-Chlorophenyl phenyl ether	"			ND	"	0.100				
Chrysene	"			ND	"	0.100				
Dibenz (a,h) anthracene	"			ND	"	0.100				
Dibenzofuran	"			ND	"	0.100				
Di-n-butyl phthalate	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.100				
1,4-Dichlorobenzene	"			ND	"	0.100				
1,2-Dichlorobenzene	"			ND	"	0.100				
3,3'-Dichlorobenzidine	"			ND	"	5.00				
2,4-Dichlorophenol	"			ND	"	0.100				
Diethyl phthalate	"			ND	"	0.100				
2,4-Dimethylphenol	"			ND	"	0.100				
Dimethyl phthalate	"			ND	"	0.100				
4,6-Dinitro-2-methylphenol	"			ND	"	0.500				
2,4-Dinitrophenol	"			ND	"	0.500				

North Creek Analytical - Bothell

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8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Organic Compounds by EPA Method 8270C/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)	**0880380-BLK1**									
2,4-Dinitrotoluene	8/17/98			ND	mg/kg dry	0.100				
2,6-Dinitrotoluene	"			ND	"	0.100				
Di-n-octyl phthalate	"			ND	"	0.500				
Fluoranthene	"			ND	"	0.100				
Fluorene	"			ND	"	0.100				
Hexachlorobenzene	"			ND	"	0.100				
Hexachlorobutadiene	"			ND	"	0.100				
Hexachlorocyclopentadiene	"			ND	"	0.100				
Hexachloroethane	"			ND	"	0.100				
Indeno (1,2,3-cd) pyrene	"			ND	"	0.100				
Isophorone	"			ND	"	0.100				
2-Methylnaphthalene	"			ND	"	0.100				
2-Methylphenol	"			ND	"	0.100				
3 & 4-Methylphenol	"			ND	"	0.100				
Naphthalene	"			ND	"	0.100				
2-Nitroaniline	"			ND	"	0.500				
3-Nitroaniline	"			ND	"	0.500				
4-Nitroaniline	"			ND	"	0.500				
Nitrobenzene	"			ND	"	0.100				
2-Nitrophenol	"			ND	"	0.100				
4-Nitrophenol	"			ND	"	0.500				
N-Nitrosodiphenylamine	"			ND	"	0.200				
N-Nitrosodi-n-propylamine	"			ND	"	0.100				
Pentachlorophenol	"			ND	"	0.500				
Phenanthrene	"			ND	"	0.100				
Phenol	"			ND	"	0.100				
Pyrene	"			ND	"	0.100				
1,2,4-Trichlorobenzene	"			ND	"	0.100				
2,4,5-Trichlorophenol	"			ND	"	0.500				
2,4,6-Trichlorophenol	"			ND	"	0.100				
Surrogate: 2-FP	"	*1.67*		*1.21*	"	*19.0-141*	*72.5*			
Surrogate: Phenol-d6	"	*1.67*		*1.14*	"	*44.0-128*	*68.3*			
Surrogate: 2,4,6-TBP	"	*1.67*		*1.68*	"	*10.0-137*	*101*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.17*	"	*33.0-108*	*70.1*			
Surrogate: 2-FBP	"	*1.67*		*1.35*	"	*51.0-124*	*80.8*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.48*	"	*48.0-149*	*88.6*			

North Creek Analytical - Bothell

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Semivolatile Organic Compounds by EPA Method 8270C/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note:
LCS	**0880380-BS1**									
Acenaphthene	8/17/98	3.33		2.18	mg/kg dry	48.0-110	65.5			
4-Chloro-3-methylphenol	"	6.67		5.00	"	34.0-115	75.0			
2-Chlorophenol	"	6.67		4.59	"	57.0-110	68.8			
1,4-Dichlorobenzene	"	3.33		2.39	"	39.0-110	71.8			
2,4-Dinitrotoluene	"	3.33		2.46	"	50.0-110	73.9			
4-Nitrophenol	"	6.67		4.41	"	26.0-116	66.1			
N-Nitrosodi-n-propylamine	"	3.33		2.37	"	28.0-147	71.2			
Pentachlorophenol	"	6.67		6.42	"	46.0-120	96.3			
Phenol	"	6.67		4.41	"	35.0-110	66.1			
Pyrene	"	3.33		2.55	"	35.0-143	76.6			
1,2,4-Trichlorobenzene	"	3.33		2.76	"	39.0-110	82.9			
Surrogate: 2-FP	"	*1.67*		*1.26*	"	*19.0-141*	*75.4*			
Surrogate: Phenol-d6	"	*1.67*		*1.22*	"	*44.0-128*	*73.1*			
Surrogate: 2,4,6-TBP	"	*1.67*		*1.75*	"	*10.0-137*	*105*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.19*	"	*33.0-108*	*71.3*			
Surrogate: 2-FBP	"	*1.67*		*1.36*	"	*51.0-124*	*81.4*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.53*	"	*48.0-149*	*91.6*			
Matrix Spike	**0880380-MS1**		**B808214-03**							
Acenaphthene	8/17/98	4.25	48.9	61.5	mg/kg dry	34.0-122	**NR**			
4-Chloro-3-methylphenol	"	8.50	ND	5.78	"	26.0-129	**68.0**			
2-Chlorophenol	"	8.50	ND	5.36	"	43.0-131	**63.1**			
1,4-Dichlorobenzene	"	4.25	ND	2.98	"	34.0-131	**70.1**			
2,4-Dinitrotoluene	"	4.25	ND	3.32	"	10.0-126	**78.1**			
4-Nitrophenol	"	8.50	ND	ND	"	10.0-111	**NR**			
N-Nitrosodi-n-propylamine	"	4.25	ND	3.36	"	29.0-160	**79.1**			
Pentachlorophenol	"	8.50	ND	5.44	"	46.0-120	**64.0**			
Phenol	"	8.50	ND	4.93	"	41.0-118	**58.0**			
Pyrene	"	4.25	339	342	"	44.0-122	**70.6**			
1,2,4-Trichlorobenzene	"	4.25	ND	3.70	"	10.0-176	**87.1**			
Surrogate: 2-FP	"	*2.13*		*1.45*	"	*19.0-141*	*68.1*			
Surrogate: Phenol-d6	"	*2.13*		*1.49*	"	*44.0-128*	*70.0*			
Surrogate: 2,4,6-TBP	"	*2.13*		*2.59*	"	*10.0-137*	*122*			
Surrogate: Nitrobenzene-d5	"	*2.13*		*1.62*	"	*33.0-108*	*76.1*			
Surrogate: 2-FBP	"	*2.13*		*2.00*	"	*51.0-124*	*93.9*			
Surrogate: p-Terphenyl-d14	"	*2.13*		*2.04*	"	*48.0-149*	*95.8*			

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8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Semivolatile Organic Compounds by EPA Method 8270C/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 Dup	**0880380-MSD1**		**B808214-03**							
Acenaphthene	8/17/98	4.25	48.9	49.1	mg/kg dry	34.0-122	**4.71**	56.0	**194**	
4-Chloro-3-methylphenol	"	8.50	ND	5.82	"	26.0-129	**68.5**	29.0	**0.733**	
2-Chlorophenol	"	8.50	ND	5.78	"	43.0-131	**68.0**	27.0	**7.48**	
1,4-Dichlorobenzene	"	4.25	ND	2.89	"	34.0-131	**68.0**	23.0	**3.04**	
2,4-Dinitrotoluene	"	4.25	ND	3.27	"	10.0-126	**76.9**	22.0	**1.55**	
4-Nitrophenol	"	8.50	ND	ND	"	10.0-111	**NR**	43.0		
N-Nitrosodi-n-propylamine	"	4.25	ND	3.10	"	29.0-160	**72.9**	25.0	**8.16**	
Pentachlorophenol	"	8.50	ND	6.29	"	46.0-120	**74.0**	29.0	**14.5**	
Phenol	"	8.50	ND	4.51	"	41.0-118	**53.1**	29.0	**8.82**	
Pyrene	"	4.25	339	299	"	44.0-122	**NR**	31.0	**-232**	
1,2,4-Trichlorobenzene	"	4.25	ND	3.74	"	10.0-176	**88.0**	24.0	**1.03**	
Surrogate: 2-FP	"	*2.13*		*1.02*	"	*19.0-141*	*47.9*			
Surrogate: Phenol-d6	"	*2.13*		*1.32*	"	*44.0-128*	*62.0*			
Surrogate: 2,4,6-TBP	"	*2.13*		*1.66*	"	*10.0-137*	*77.9*			
Surrogate: Nitrobenzene-d5	"	*2.13*		*1.19*	"	*33.0-108*	*55.9*			
Surrogate: 2-FBP	"	*2.13*		*1.91*	"	*51.0-124*	*89.7*			
Surrogate: p-Terphenyl-d14	"	*2.13*		*1.91*	"	*48.0-149*	*89.7*			

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/12/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/13/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:15

Notes and Definitions

#	Note
1	Due to interference from coeluting organic compounds with the primary surrogate, results of the secondary surrogate have been used to control the analysis.
2	The spike recovery for this QC sample was outside the laboratory's default control limits but within the vendor's published acceptance criteria.
3	The method blank contains analyte at a concentration above the MRL. This concentration is less than 5% of the sample result, which is negligible according to method criteria.
4	Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.
5	The spike recovery for this QC sample is outside of NCA established control limits due to sample matrix interference.
6	Post-digestion Matrix Spike.
7	The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
8	The recovery of this matrix spike compound is below the detection limit due to sample dilution.
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 - Bothell

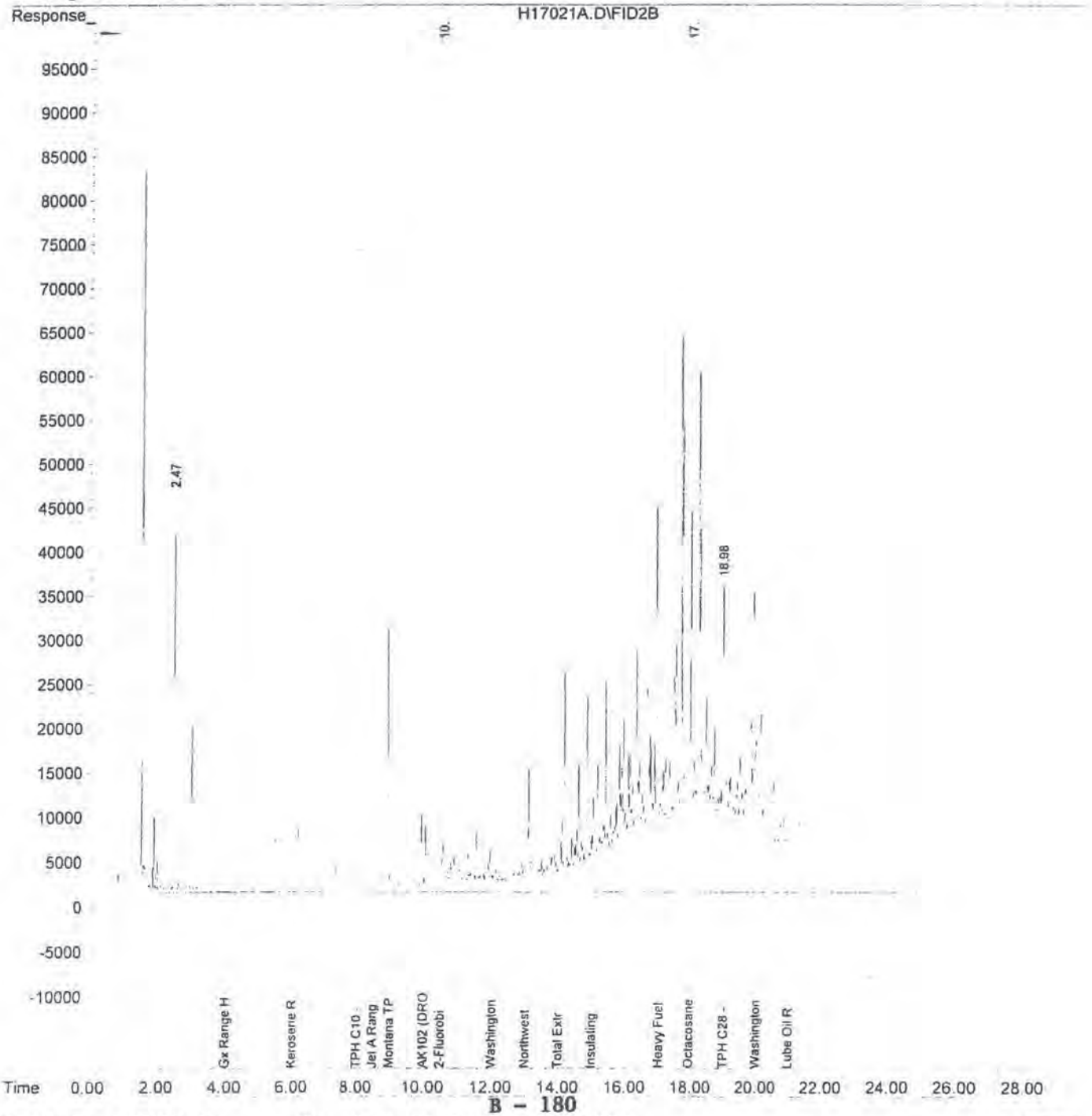
Steve Davis, Project Manager

Quantitation Report

Data File : C:\HPCHEM\3\DATA\081798\H17021A.D Vial: 16
Acq On : 17 Aug 1998 9:24 pm Operator: CC
Sample : b808214-01 r1 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 11:53 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Aug 17 15:20:13 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

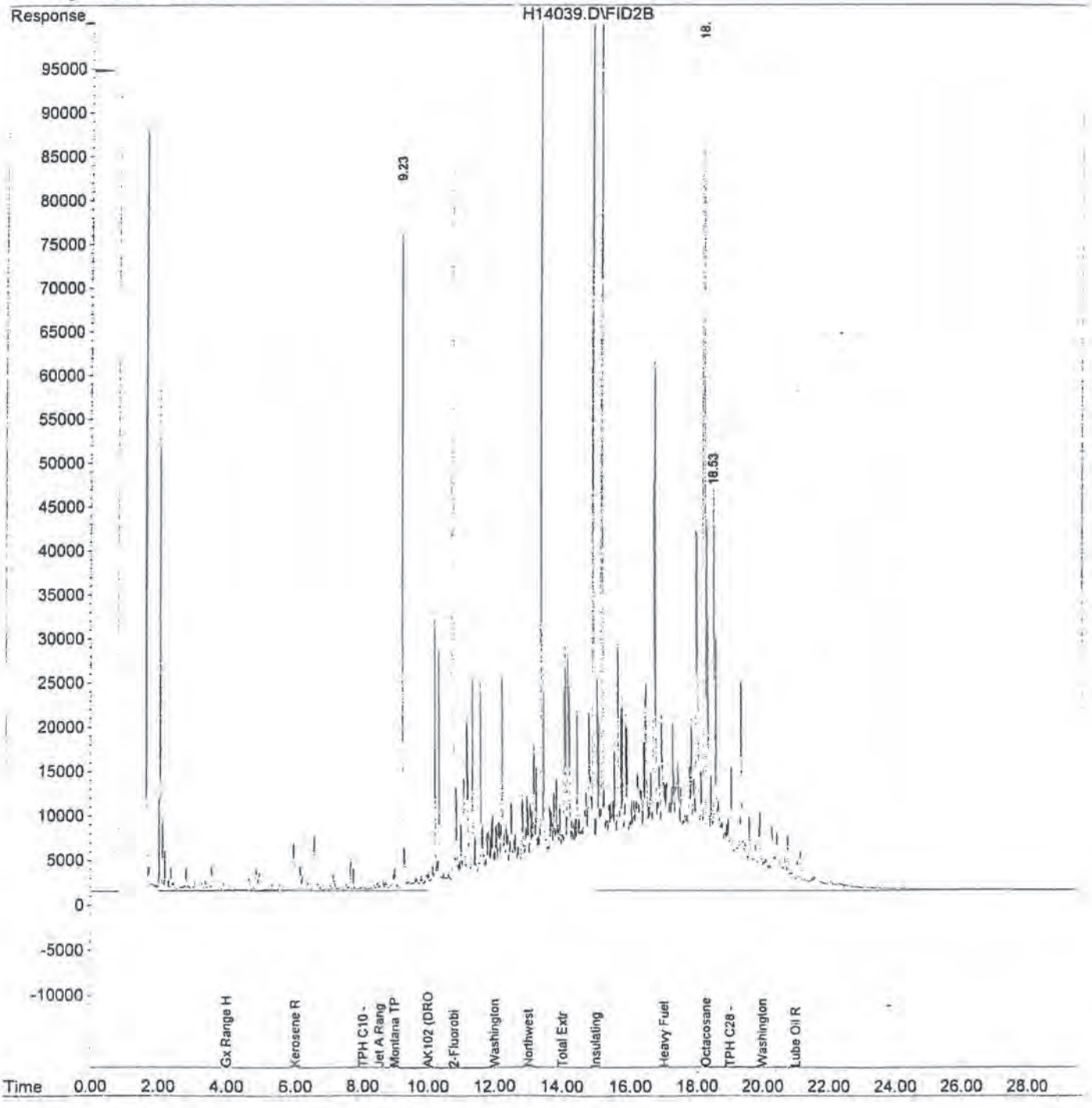


Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\H14039.D Vial: 29
Acq On : 15 Aug 1998 4:53 am Operator: CC
Sample : b808214-02 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 17 11:57 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

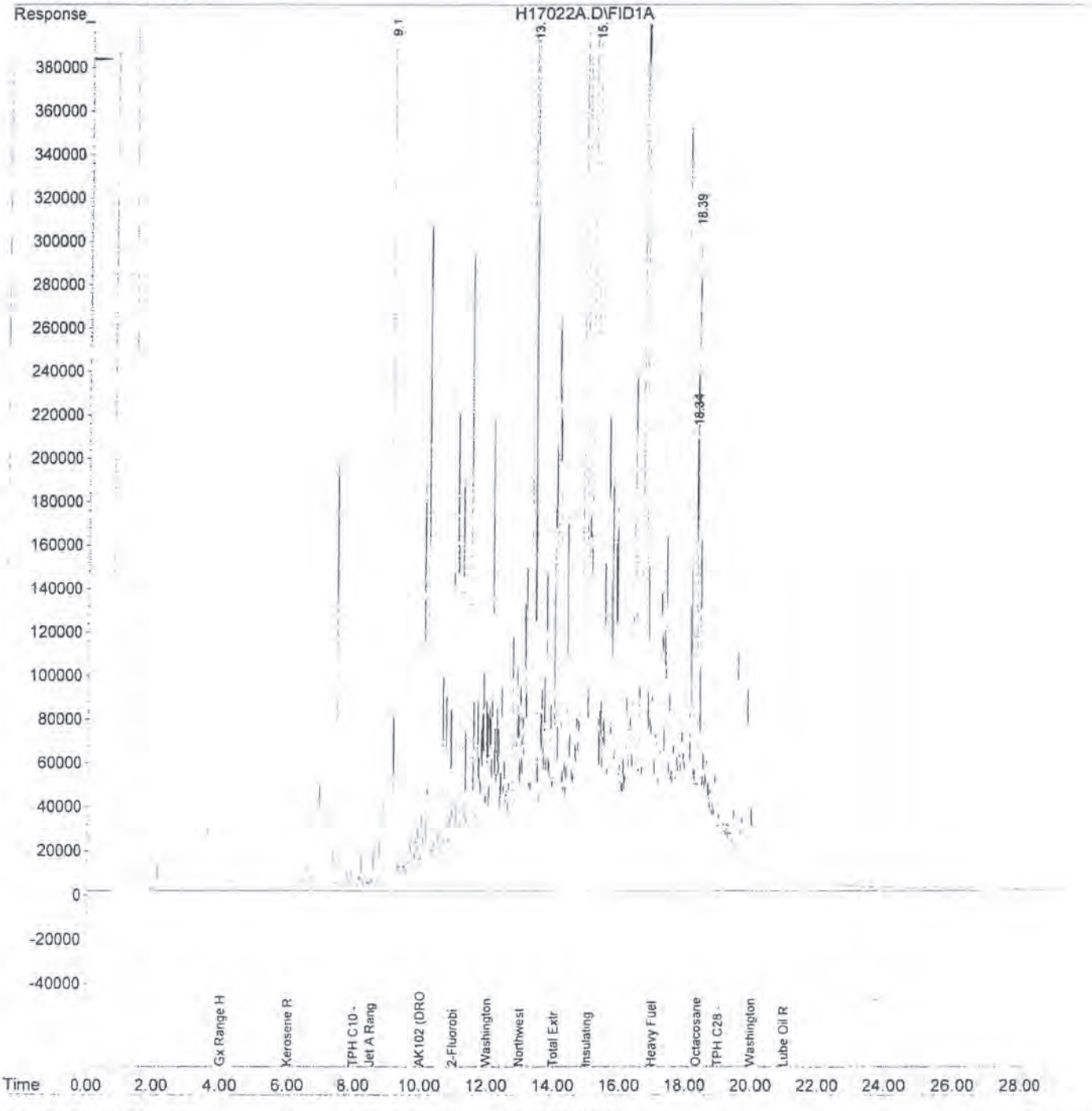


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081798\H17022A.D Vial: 17
Acq On : 17 Aug 1998 9:24 pm Operator: CC
Sample : b808214-03 r1 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 19:48 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 06 13:13:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

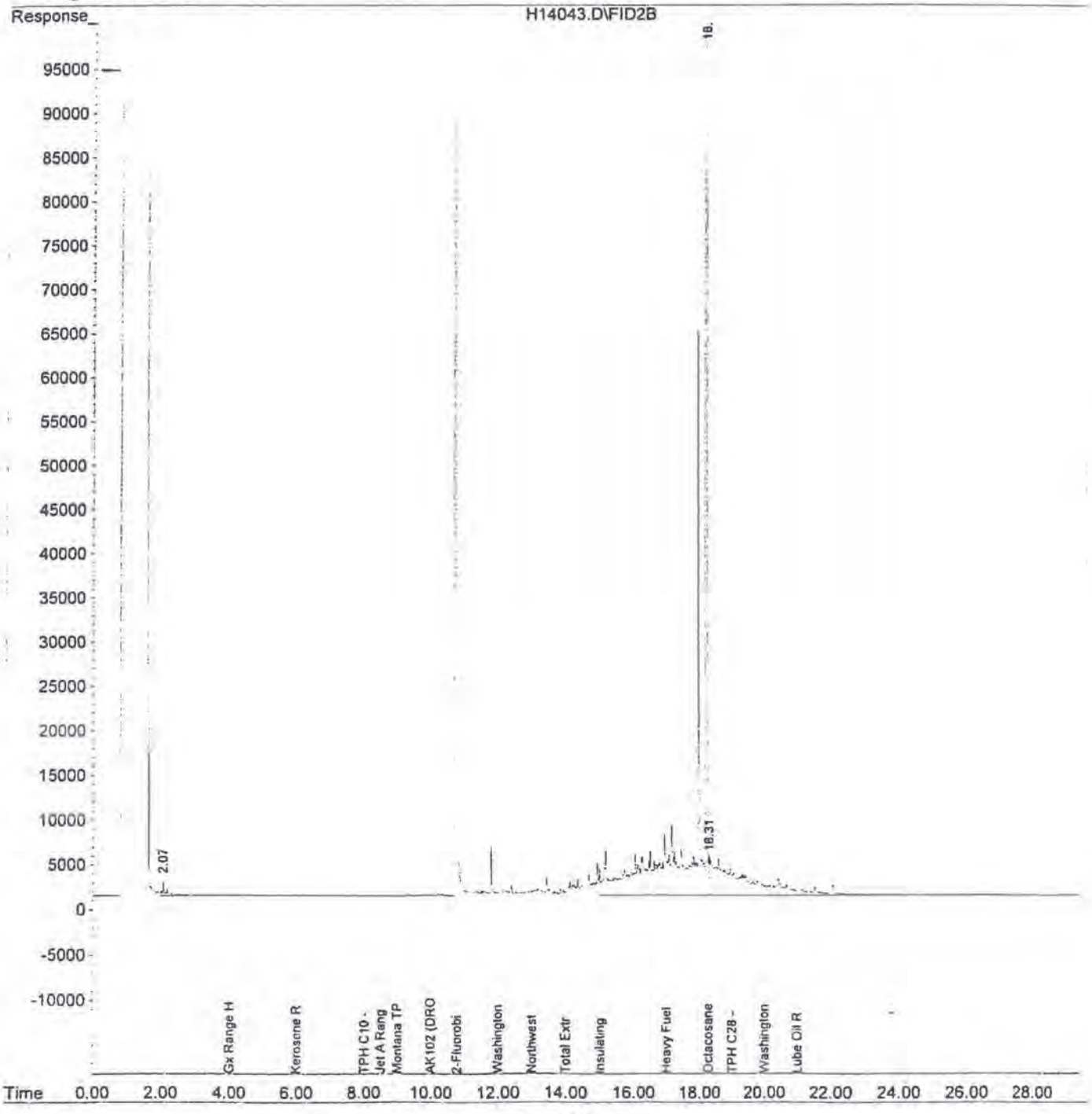


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081498\H14043.D Vial: 31
Acq On : 15 Aug 1998 6:12 am Operator: CC
Sample : b808214-04 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 17 11:59 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

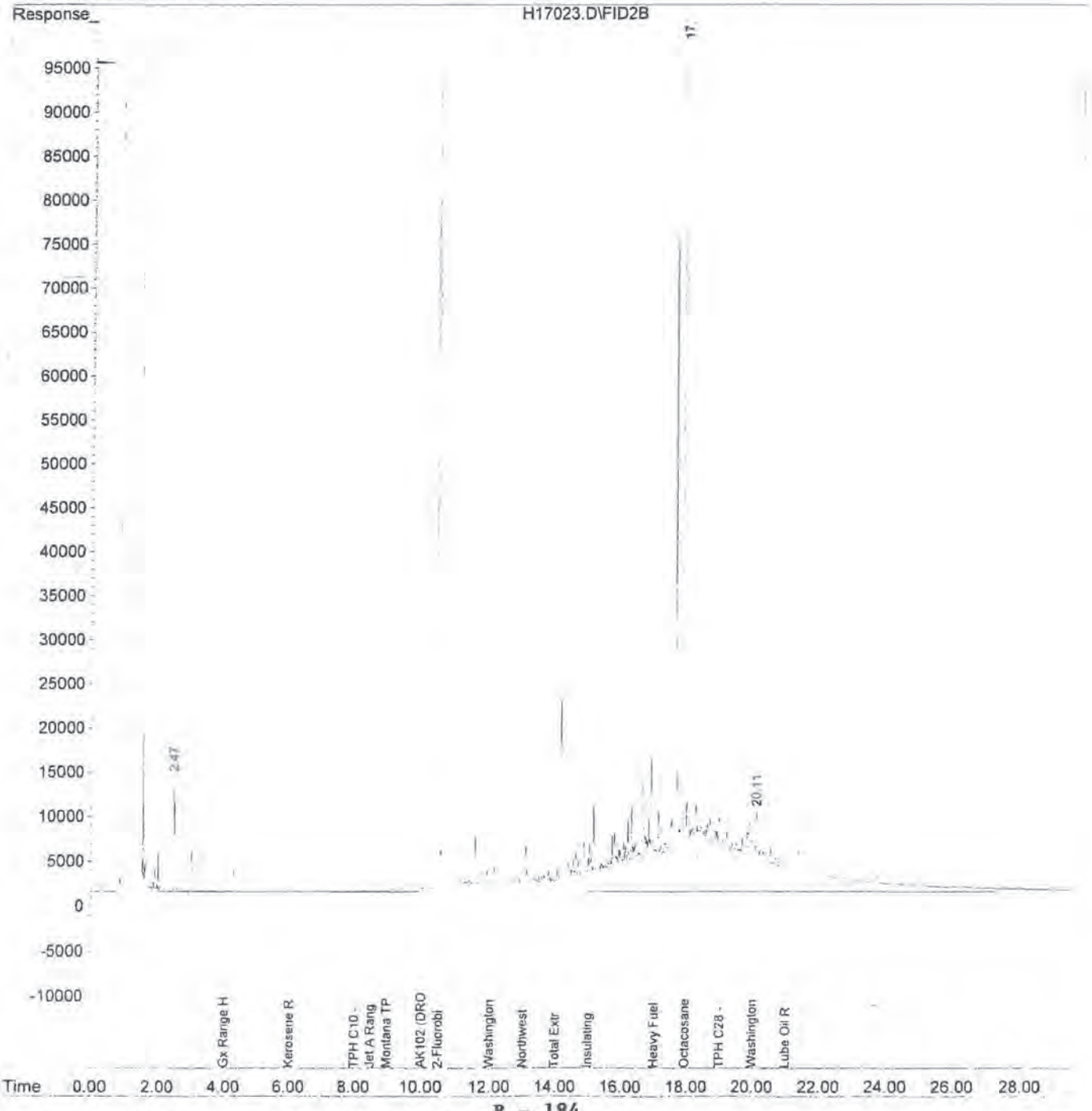


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081798\H17023.D Vial: 18
Acq On : 17 Aug 1998 10:04 pm Operator: CC
Sample : b808214-05 r1 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 12:56 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Aug 17 15:20:13 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

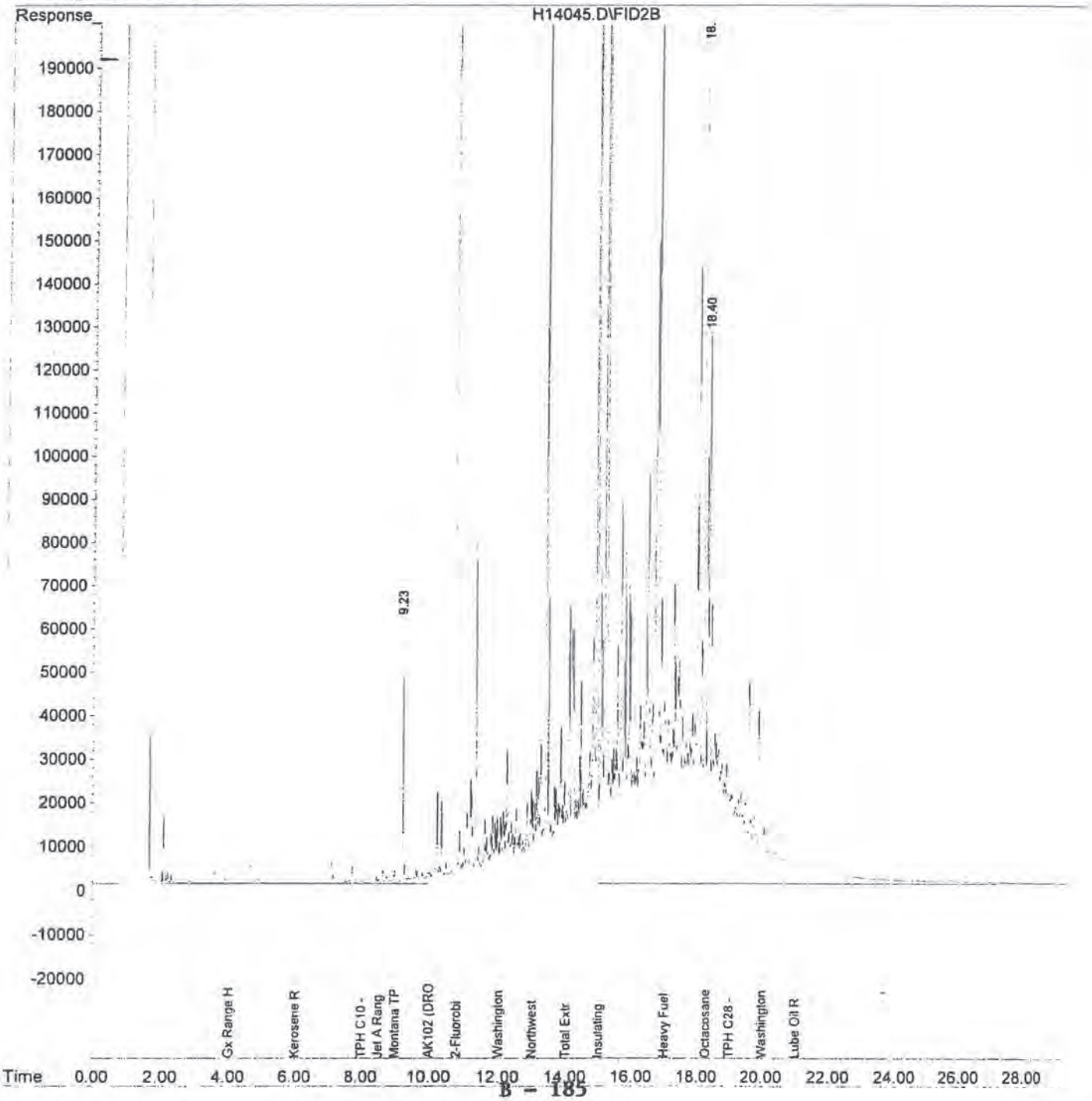


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081498\H14045.D Vial: 33
Acq On : 15 Aug 1998 6:52 am Operator: CC
Sample : b808214-06 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 19:50 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Aug 17 15:20:13 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



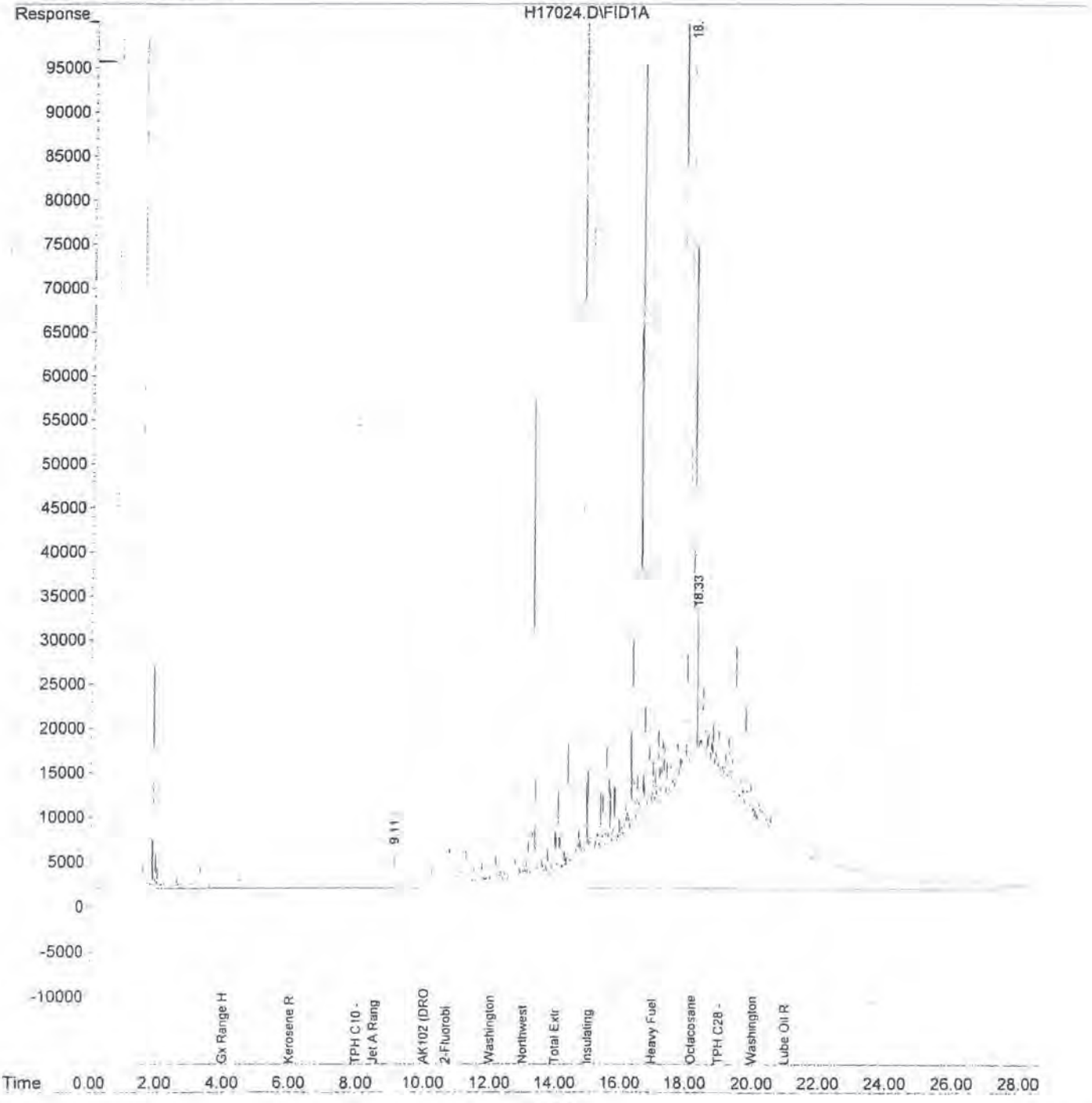
H14045.D TPHD2.M Tue Aug 18 19:50:50 1998 Page 2

Quantitation Report

Data File : C:\HPCHEM\3\DATA\H17024.D Vial: 19
Acq On : 17 Aug 1998 10:04 pm Operator: CC
Sample : b808214-07 r1 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 11:23 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 06 13:13:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

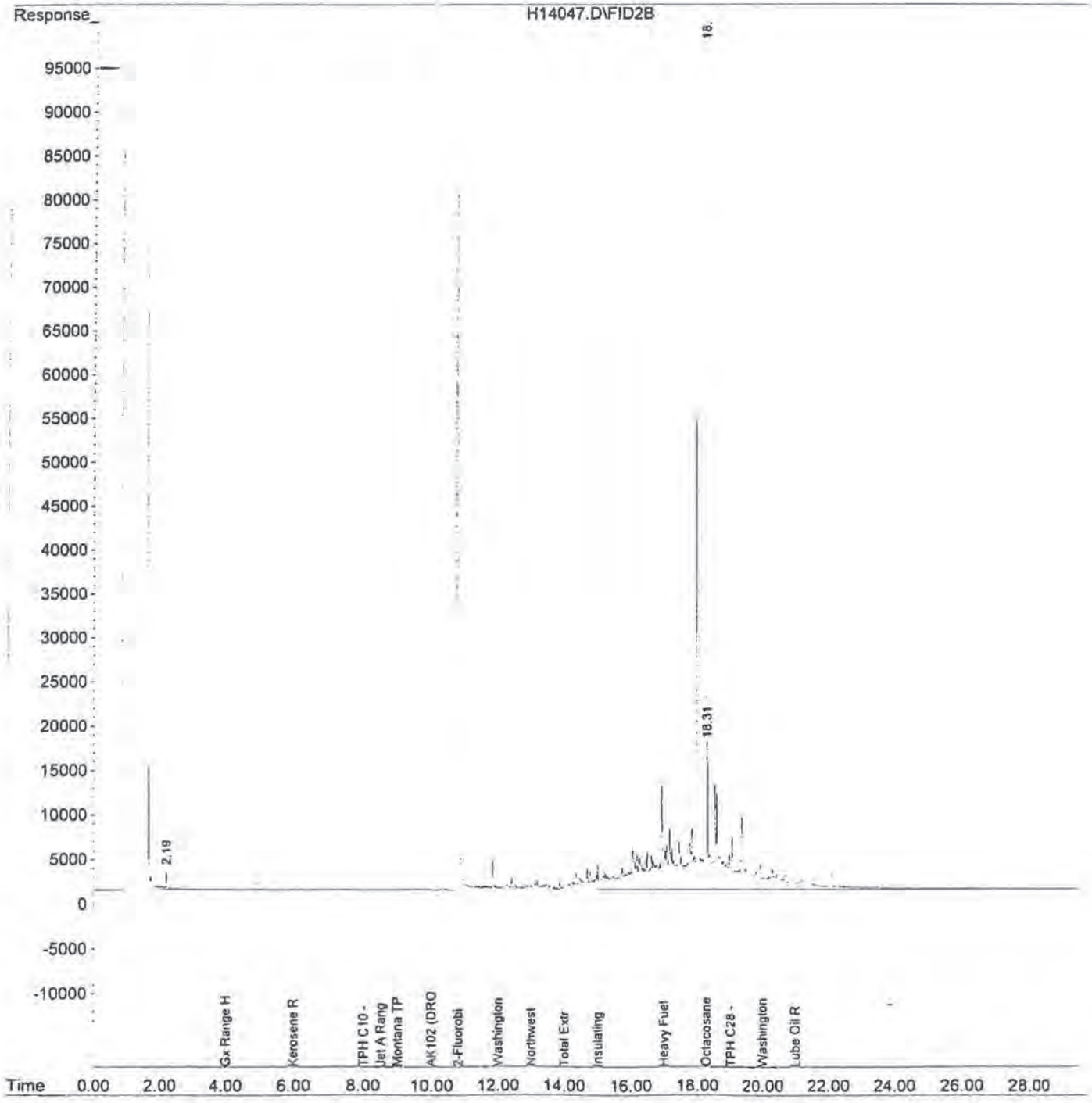


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081498\H14047.D Vial: 35
Acq On : 15 Aug 1998 7:31 am Operator: CC
Sample : b808214-08 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 17 12:05 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

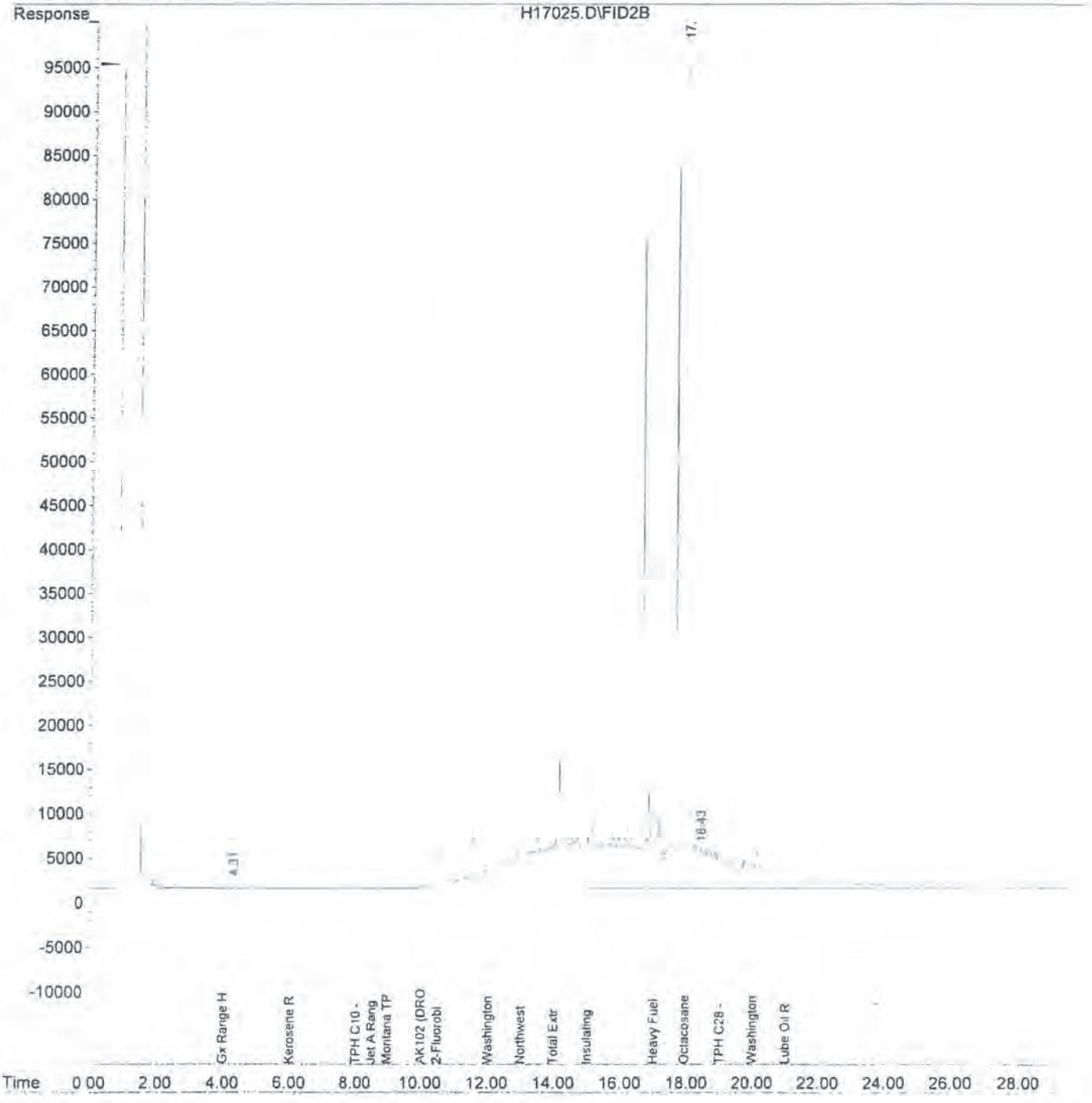


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081798\H17025.D Vial: 20
Acq On : 17 Aug 1998 10:43 pm Operator: CC
Sample : b808214-09 r1 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 12:57 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Mon Aug 17 15:20:13 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

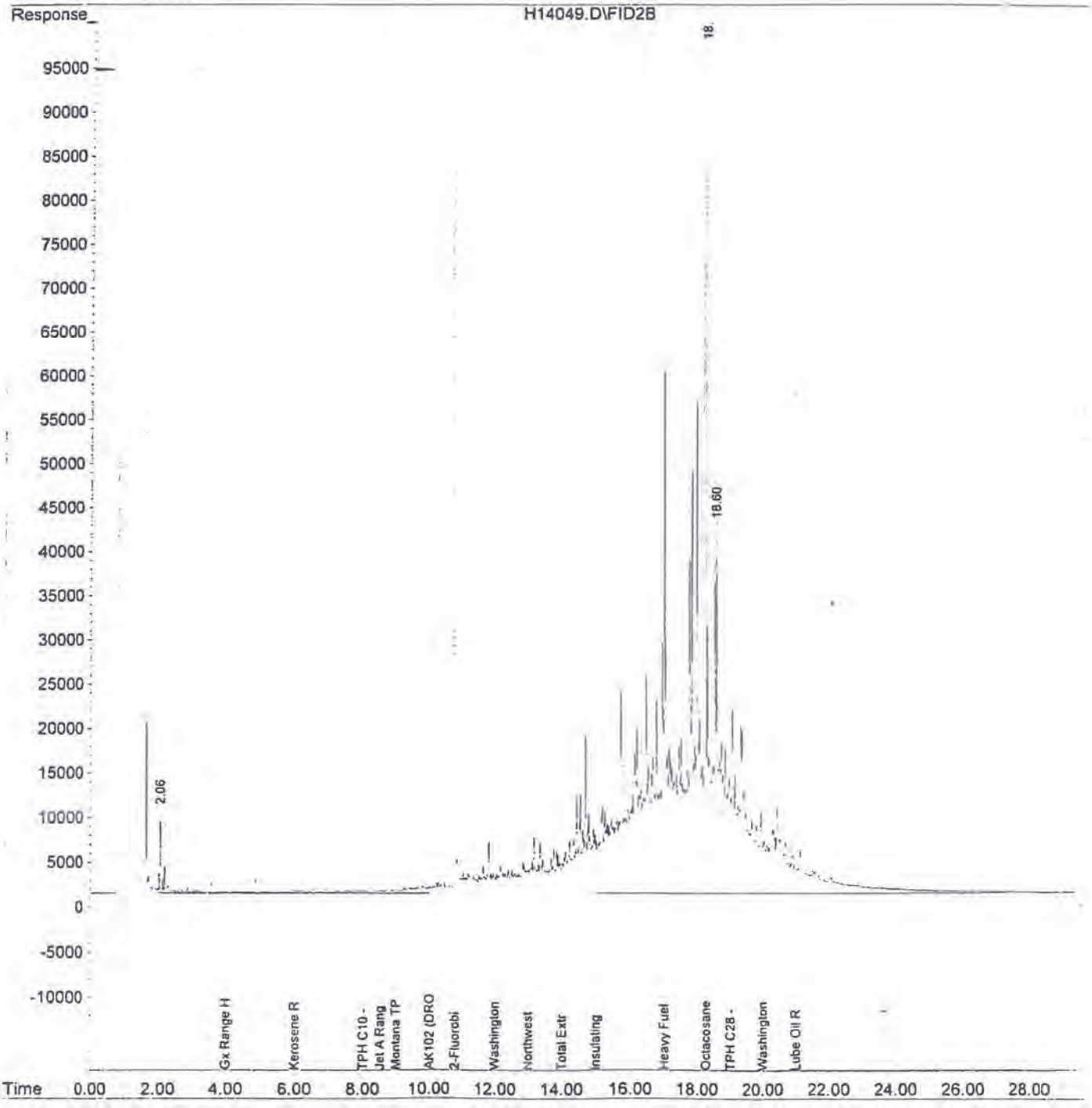


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081498\H14049.D Vial: 37
Acq On : 15 Aug 1998 8:11 am Operator: CC
Sample : b808214-10 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 17 12:05 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Aug 06 15:34:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

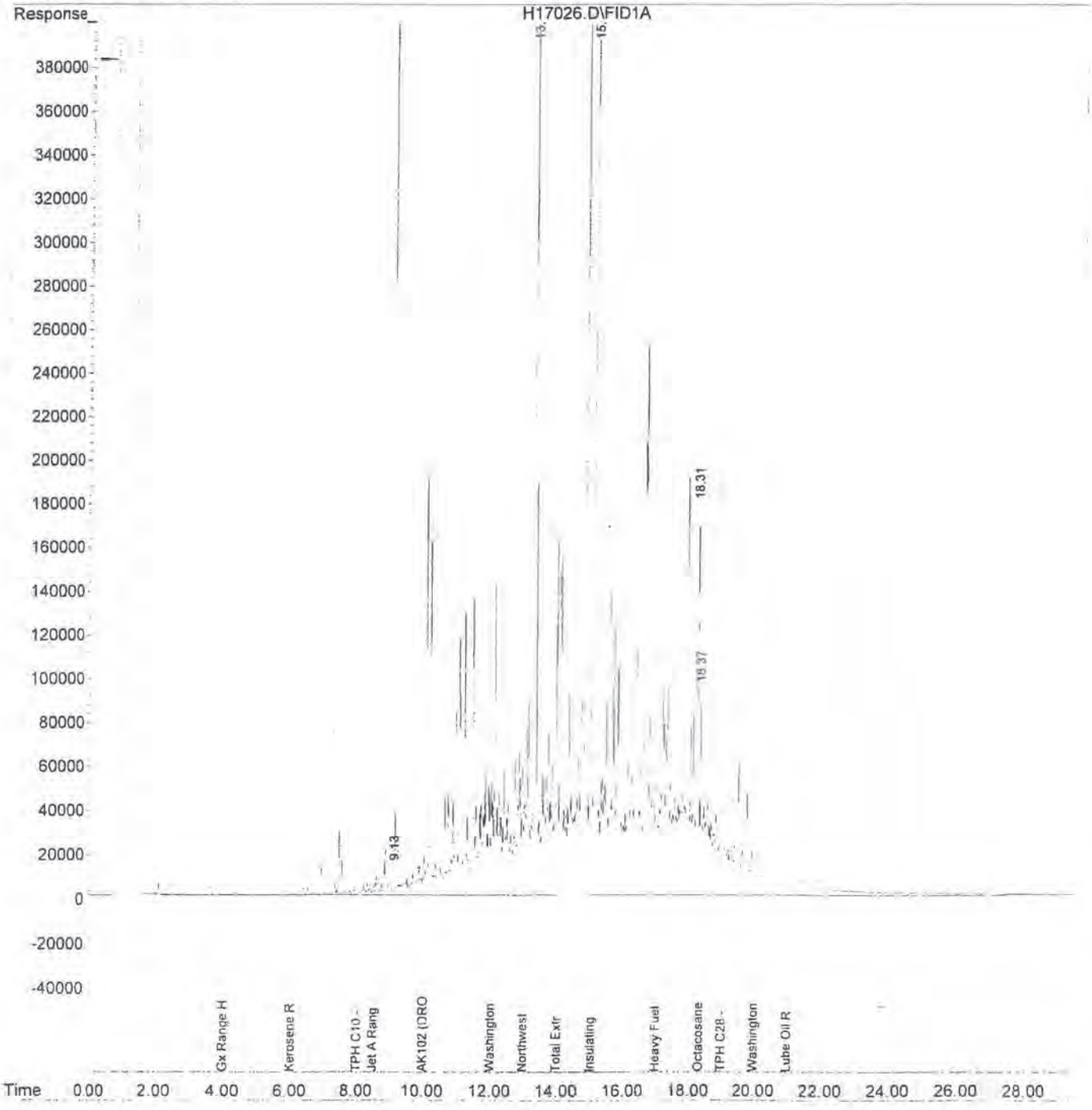


Quantitation Report

Data File : C:\HPCHEM\3\DATA\081798\H17026.D Vial: 21
Acq On : 17 Aug 1998 10:43 pm Operator: CC
Sample : b808214-11 r1 Inst : GC #5
Misc : s 11x Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 18 19:49 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 06 13:13:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



NORTH CREEK ANALYTICAL
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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 # B8082214

REPORT TO: GEI	INVOICE TO:
ATTENTION: ~~Duane Cole~~ LISA BONN	ATTENTION: SAME
ADDRESS: 8410 154th AVE NE	ADDRESS:
REDMOND WA 98052	
PHONE: (425) 861-6000 FAX: (425) 861-6050	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: FAMILY FUN CENTER	
PROJECT NUMBER: 5425-003-00	
SAMPLED BY: D BAUMGARTEN	

TURNAROUND REQUEST in Business Days *

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

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

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

Analysis Request: NWTPH-Dx | SVOCs by 8270 | METALS

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	NWTPH-Dx	SVOCs by 8270	METALS	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	EX-F4-6	8/12/98 1330	B8082140 01	X			S	1	
2.	EX-F5-4	1340	02	X					
3.	EX-F6-10	1345	03	X	X	X			
4.	EX-F7-1.5	1345	04	X					
5.	EX-F8-10	1400	05	X					
6.	EX-F9-5	1410	06	X					
7.	EX-F10-5	1440	07	X					
8.	EX-F11-1.5	1500	08	X					
9.	EX-F12-2.5	1515	09	X					
10.	EX-F13-1.5	1530	10	X					

RELINQUISHED BY (Signature):	DATE: 8/12/98	RECEIVED BY (Signature): K Barker	DATE: 8/13/98
PRINT NAME: D BAUMGARTEN	FIRM: GEI TIME: 1800	PRINT NAME: K Barker	FIRM: NCA TIME: 1430
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	DATE:
PRINT NAME:	FIRM: TIME:	PRINT NAME:	FIRM: TIME:

ADDITIONAL REMARKS: METALS = PRIORITY POLLUTANT METALS

4.6 W/C's

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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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 #

REPORT TO:
ATTENTION: LISA BUMA C. FOR CLIENTS
ADDRESS: SEE PAGE 1 of 1
PHONE: FAX:
PROJECT NAME: FAMILY FUN CENTER
PROJECT NUMBER: 5425-003-00
SAMPLED BY: P BAUMGARTEN

INVOICE TO:
ATTENTION:
ADDRESS:
P.O. NUMBER: NCA QUOTE #:

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: NWTPH-Dx	SVOCs 8270	METALS	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	~~BSP~~ DPSP-1	8/12/98 1545	-11	X	X	X	S	1	
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

RELINQUISHED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY (Signature): K Barker DATE: 8/13/98
PRINT NAME: K. Barker FIRM: NCA TIME: 1430

RELINQUISHED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
METALS PRIORITY POLLUTANT METALS

PAGE 2 OF 2

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/25/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/26/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/28/98 16:48

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
H-1-1.5	B808465-01	Soil	8/25/98
H-2-2.0	B808465-02	Soil	8/25/98
SPA-1	B808465-03	Soil	8/25/98
SPA-2	B808465-04	Soil	8/25/98
SPA-3	B808465-05	Soil	8/25/98
SPA-4	B808465-06	Soil	8/25/98
SPA-5	B808465-07	Soil	8/25/98

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/25/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/26/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/28/98 16:48

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*
H-1-1.5			**B808465-01**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		10.0	**14.0**	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**134**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*62.5*	%	
H-2-2.0			**B808465-02**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		10.0	**22.2**	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**109**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*107*	%	
SPA-1			**B808465-03**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		10.0	**308**	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**717**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*70.6*	%	
SPA-2			**B808465-04**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		10.0	**63.8**	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**315**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*101*	%	
SPA-3			**B808465-05**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		110	**2450**	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	"	"		275	**2210**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*82.9*	%	
SPA-4			**B808465-06**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/28/98		50.0	**332**	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	"	"		125	**623**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*87.7*	%	
SPA-5			**B808465-07**				**Soil**	
Diesel Range Hydrocarbons	0880758	8/26/98	8/27/98		10.0	**62.9**	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	"	"		25.0	**312**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*63.5*	%	

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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled:	8/25/98
8410 154th Ave NE	Project Number:	5925-003-00	Received:	8/26/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported:	8/28/98 16:48

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
H-1-1.5	B808465-01	Soil	72.3	%
H-2-2.0	B808465-02	Soil	74.0	%
SPA-1	B808465-03	Soil	76.5	%
SPA-2	B808465-04	Soil	82.9	%
SPA-3	B808465-05	Soil	85.1	%
SPA-4	B808465-06	Soil	84.6	%
SPA-5	B808465-07	Soil	86.9	%

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/25/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/26/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/28/98 16:48

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: 0880758	**Date Prepared: 8/26/98**					**Extraction Method: EPA 3550B**				
Blank	**0880758-BLK1**									
Diesel Range Hydrocarbons	8/27/98			**ND**	mg/kg dry	**10.0**				
Heavy Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*11.0*		*6.27*	"	*50.0-150*	*57.0*			
LCS	**0880758-BS1**									
Diesel Range Hydrocarbons	8/27/98	66.7		64.8	mg/kg dry	60.0-140	97.2			
Surrogate: 2-FBP	"	*11.0*		*12.1*	"	*50.0-150*	*110*			
Duplicate	**0880758-DUP1**		**B808454-03**							
Diesel Range Hydrocarbons	8/27/98		556	523	mg/kg dry			50.0	**6.12**	
Heavy Oil Range Hydrocarbons	"		1010	990	"			50.0	**2.00**	
Surrogate: 2-FBP	"	*13.1*		*12.0*	"	*50.0-150*	*91.6*			
Duplicate	**0880758-DUP2**		**B808465-03**							
Diesel Range Hydrocarbons	8/27/98		308	385	mg/kg dry			50.0	**22.2**	
Heavy Oil Range Hydrocarbons	"		717	708	"			50.0	**1.26**	
Surrogate: 2-FBP	"	*14.3*		*16.0*	"	*50.0-150*	*112*			

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/25/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/26/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/28/98 16:48

Notes and Definitions

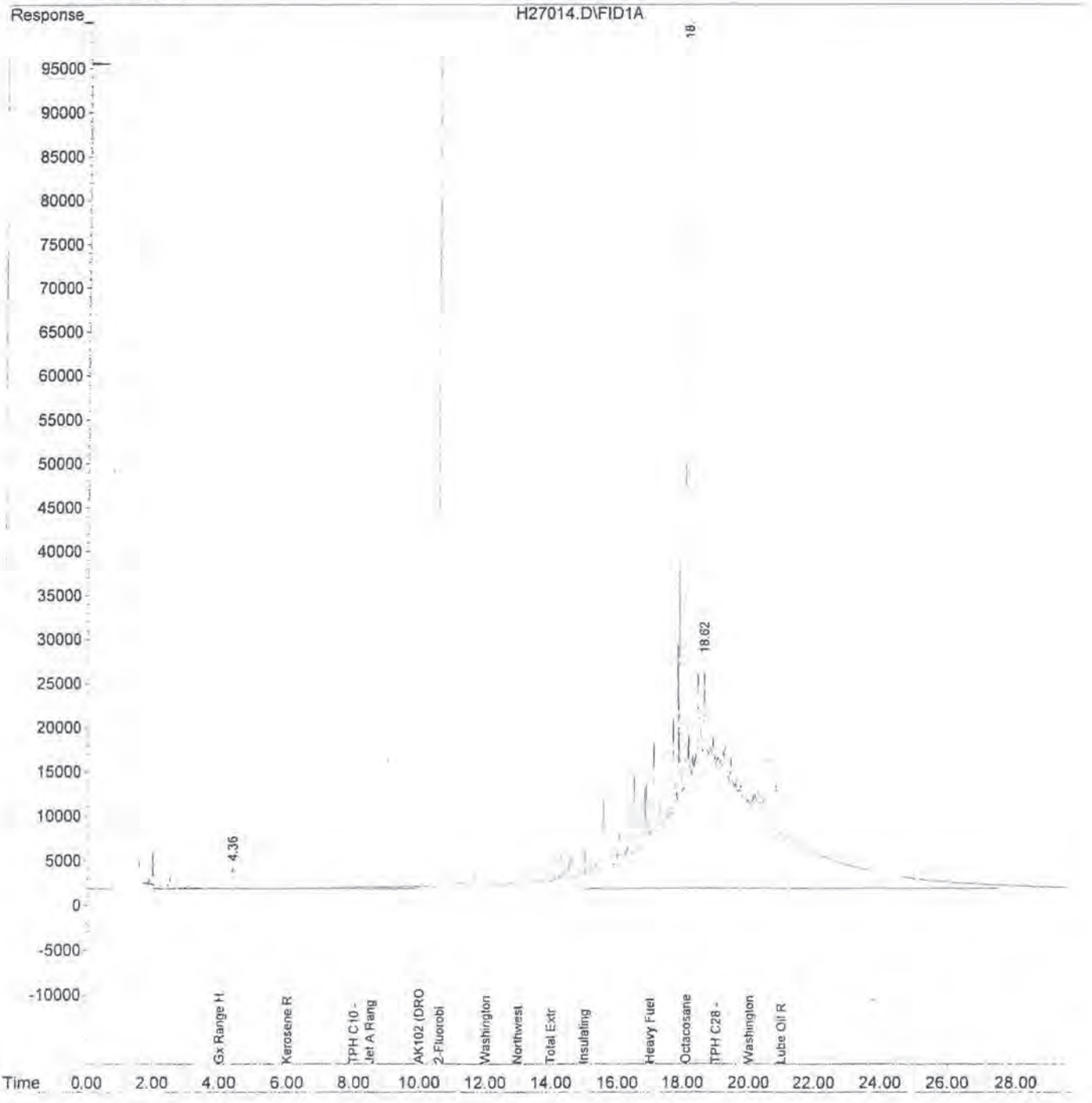
#	Note
1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Quantitation Report

Data File : C:\HPCHEM\3\DATA\H27014.D Vial: 11
Acq On : 27 Aug 1998 2:00 pm Operator: KRL
Sample : b808465-01 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 27 15:27 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 27 15:12:44 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

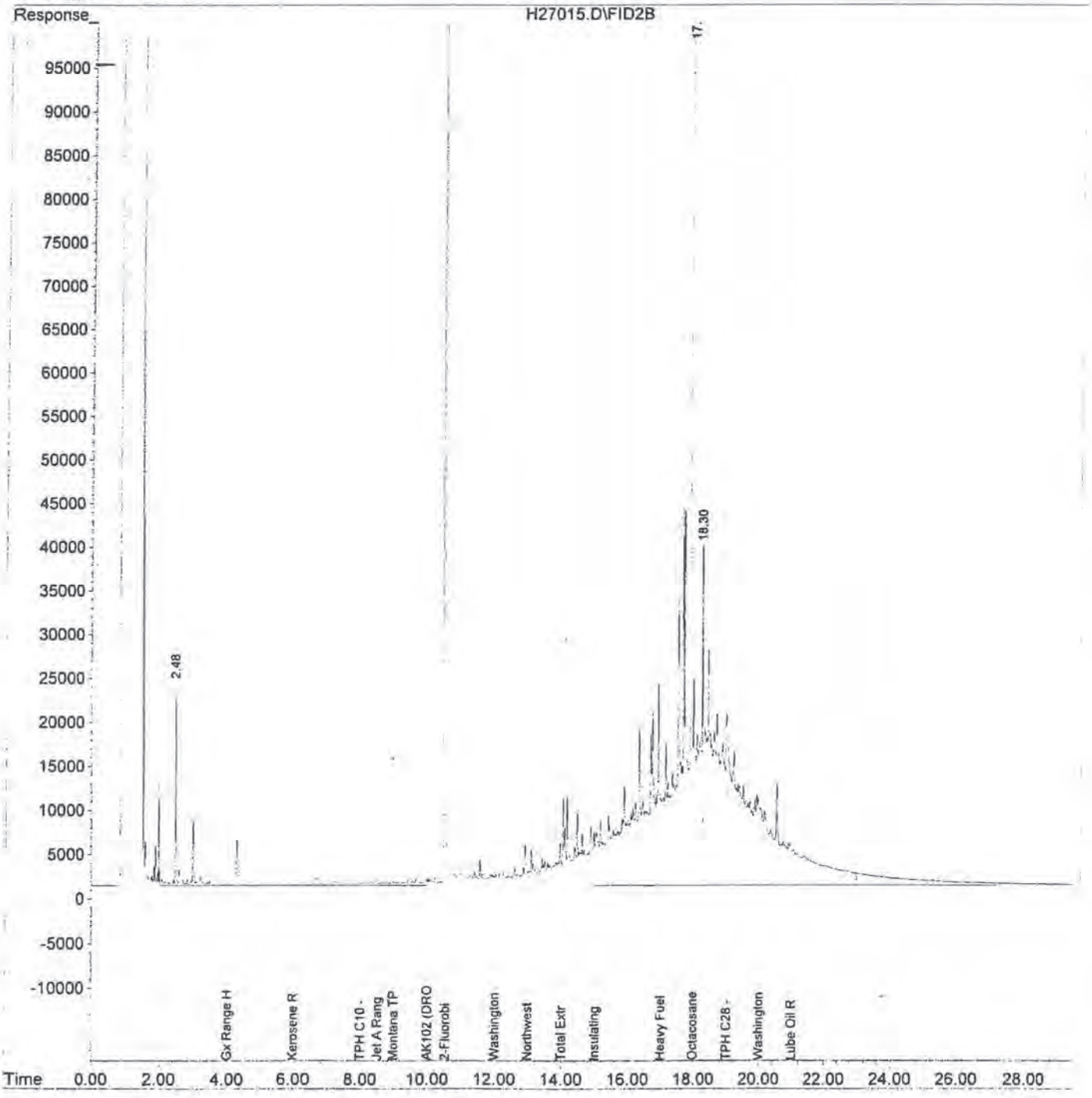


Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\H27015.D Vial: 12
Acq On : 27 Aug 1998 2:40 pm Operator: KRL
Sample : b808465-02 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 28 8:46 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Aug 26 11:54:07 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



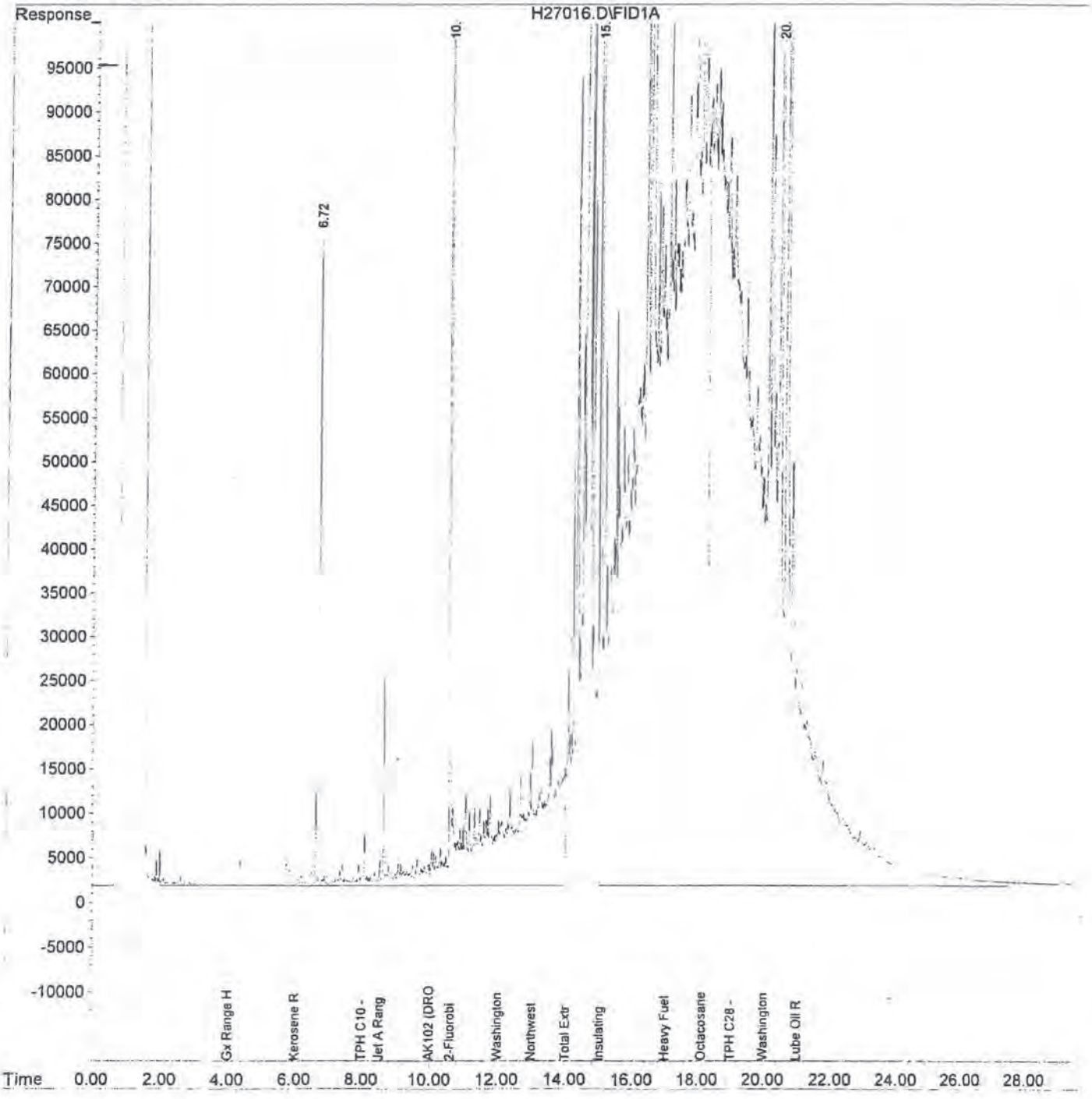
B 16 199

Quantitation Report

Data File : C:\HPCHEM\3\DATA\H27016.D Vial: 13
Acq On : 27 Aug 1998 2:40 pm Operator: KRL
Sample : b808465-03 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 27 15:27 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 27 15:12:44 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

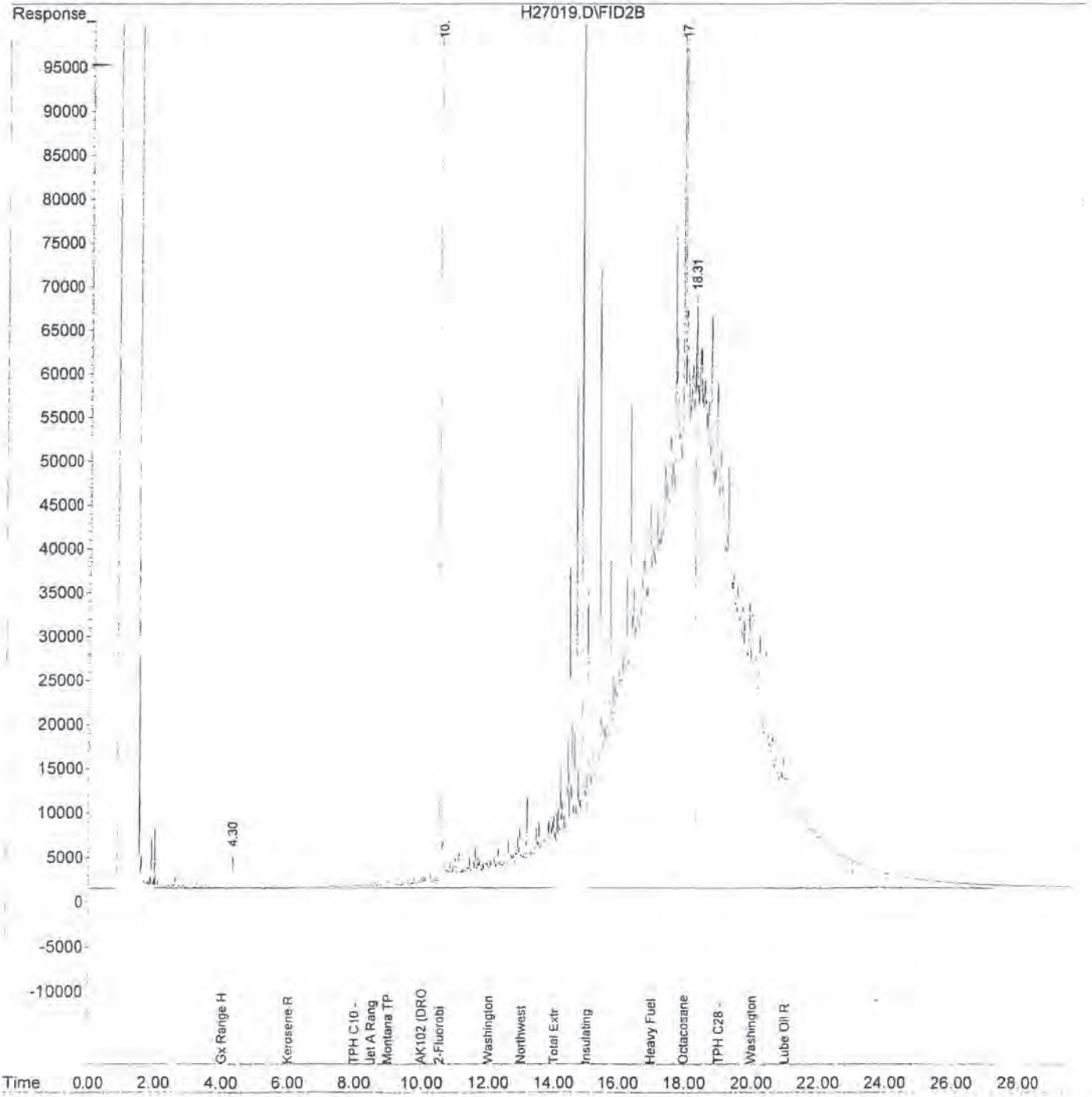


Quantitation Report

Data File : C:\HPCHEM\3\DATA\082798\H27019.D Vial: 14
Acq On : 27 Aug 1998 4:01 pm Operator: KRL
Sample : b808465-04 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 28 10:55 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Aug 26 11:54:07 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

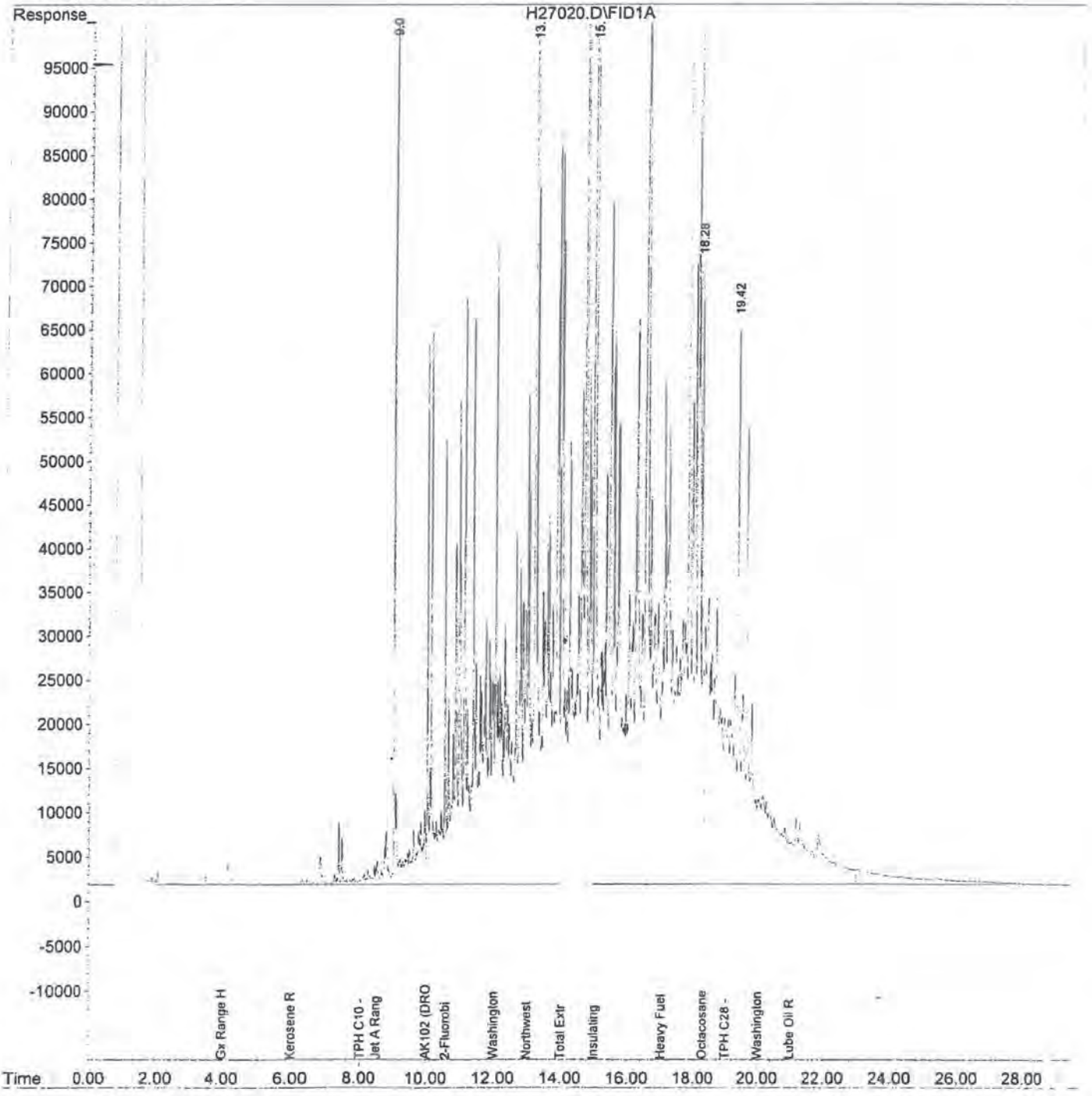


Quantitation Report

Data File : C:\HPCHEM\3\DATA\082798\H27020.D Vial: 15
Acq On : 27 Aug 1998 4:01 pm Operator: KRL
Sample : b808465-05 Inst : GC #5
Misc : s 11x Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 28 10:57 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 27 15:12:44 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

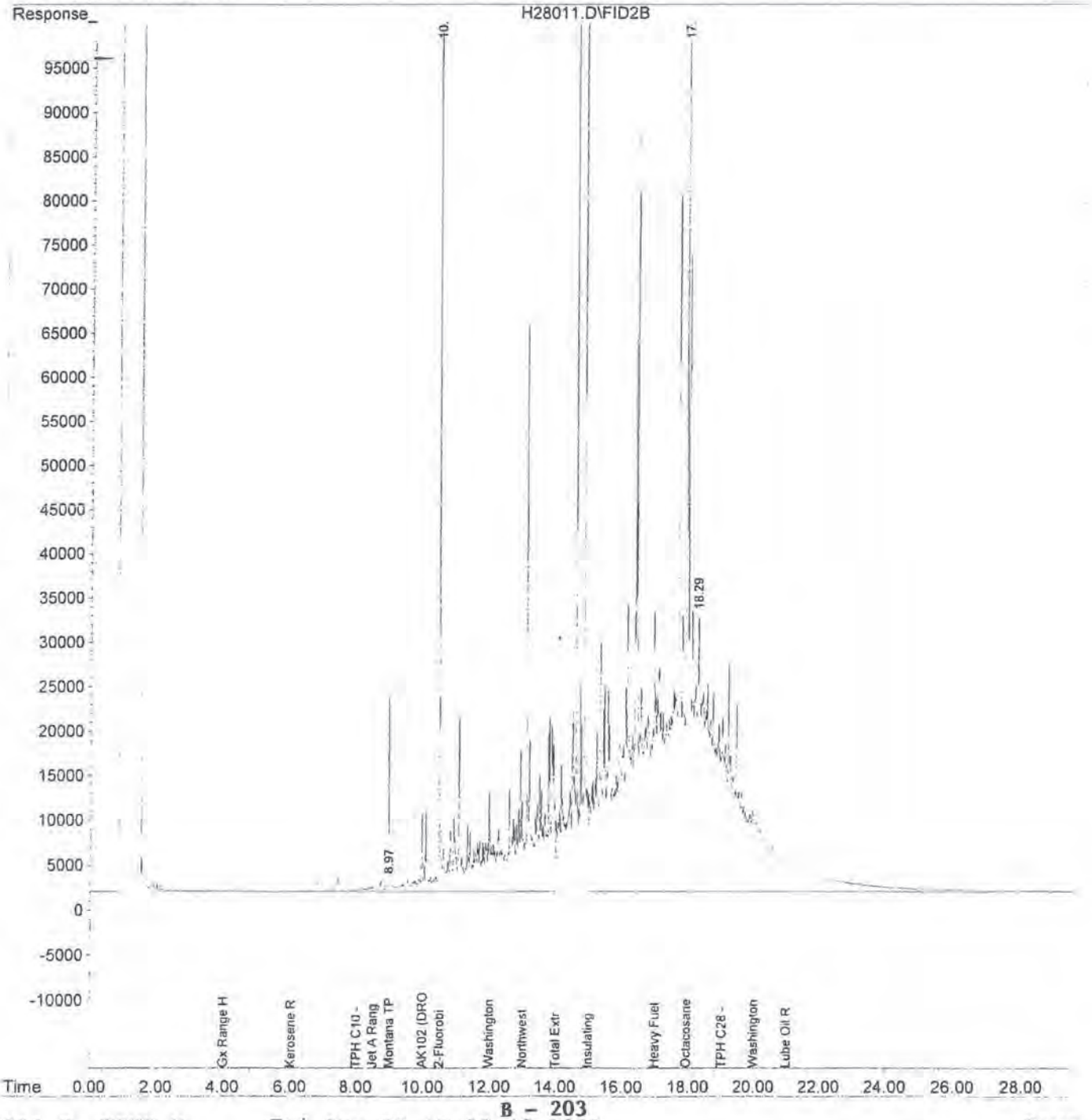


Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\H28011.D Vial: 8
Acq On : 28 Aug 1998 1:46 pm Operator: KRL
Sample : b808465-06 r1 Inst : GC #5
Misc : s 5x Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 28 15:31 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Aug 26 11:54:07 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

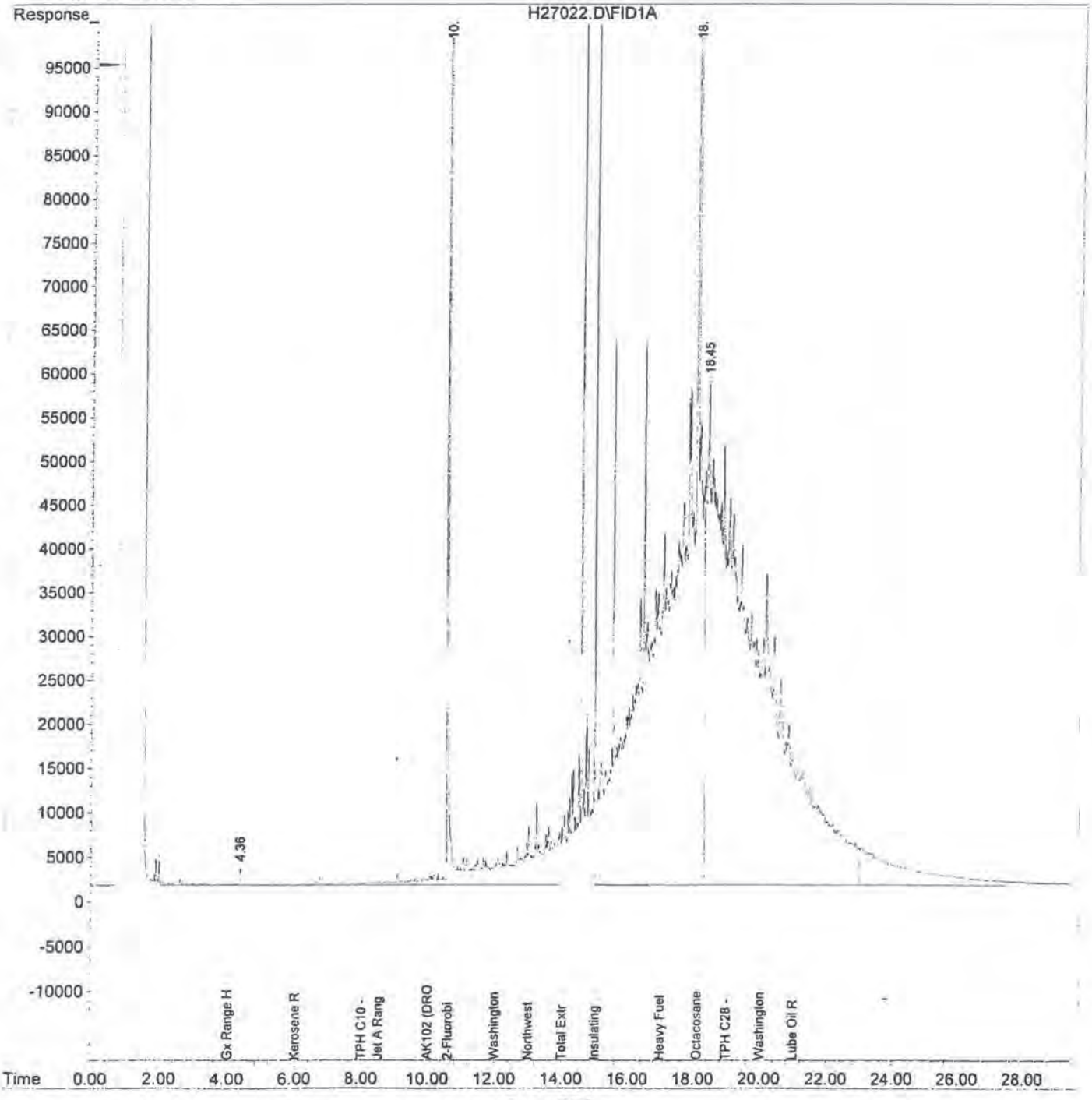


Quantitation Report

Data File : C:\HPCHEM\3\DATA\H27022.D Vial: 17
Acq On : 27 Aug 1998 4:41 pm Operator: KRL
Sample : b808465-07 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Aug 28 8:29 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Aug 27 15:12:44 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



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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 # B8084605

REPORT TO: GEOENGINEERS	INVOICE TO:
ATTENTION: LISA BINN	ATTENTION: SAME
ADDRESS: 8410 154TH AVE NE REDMOND	ADDRESS:
PHONE: (425) 861-6000 FAX: (425) 861-6050	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: FAMILY FUN CENTER	
PROJECT NUMBER: 5925-003-00	
SAMPLED BY: DAVID BALMENTER.	

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: NWTPH-Dx ext	MATRIX (W. S. A. O)	# OF CONTAINERS	COMMENTS
1	H-1-1.5	8/25/17 1800	B8084605-01	X	S	1	
2	H-2-2.0	1815	-02	X	S	1	
3	SPA-1	1620	-03	X	S	1	
4	SPA-2	1630	-04	X	S	1	
5	SPA-3	1640	-05	X	S	1	
6	SPA-4	1650	-06	X	S	1	
7	SPA-5	1545	-07	X	S	1	
8							
9							
10							

RELINQUISHED BY (Signature):	DATE: 8/25/17	RECEIVED BY (Signature): Cathy Nichols	DATE: 8/26/17
PRINT NAME: DAVID BALMENTER FIRM: GEI	TIME: 1930	PRINT NAME: Cathy Nichols FIRM: NCA	TIME: 11:00
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	DATE:
PRINT NAME: FIRM:	TIME:	PRINT NAME: FIRM:	TIME:

ADDITIONAL REMARKS:

PAGE OF

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-S3-2.0	B808270-01	Soil	8/15/98

GeoEngineers
SEP 01 1998
Routing
File

GeoEngineers
SEP 01 1998
Routing
File

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

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*
EX-S3-2.0			**B808270-01**				**Soil**	
Antimony	0880685	8/25/98	8/26/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**2.27**	"	
Barium	"	"	"	EPA 6020	5.00	**56.8**	"	
Beryllium	"	"	8/28/98	EPA 6020	0.500	ND	"	
Cadmium	"	"	8/26/98	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**22.0**	"	
Copper	"	"	"	EPA 6020	0.500	**18.8**	"	
Lead	"	"	"	EPA 6020	0.500	**23.6**	"	
Nickel	"	"	"	EPA 6020	0.500	**27.6**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	8/29/98	EPA 6020	0.500	ND	"	
Zinc	"	"	8/26/98	EPA 6020	5.00	**38.5**	"	
Mercury	0880524	8/19/98	8/20/98	EPA 7471A	0.100	ND	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-S3-2.0	B808270-01	Soil	88.5	%

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

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: 0880524	**Date Prepared: 8/19/98**					**Extraction Method: EPA 7471A**				
Blank	**0880524-BLK1**									
Mercury	8/20/98			ND	mg/kg dry	**0.100**				
LCS	**0880524-BS1**									
Mercury	8/20/98	1.34		2.02	mg/kg dry	80.0-120	151			1
Matrix Spike	**0880524-MS1**		**B808204-03**							
Mercury	8/20/98	0.736	ND	0.855	mg/kg dry	80.0-120	**116**			
Matrix Spike Dup	**0880524-MSD1**		**B808204-03**							
Mercury	8/20/98	0.689	ND	0.814	mg/kg dry	80.0-120	**118**	20.0	**1.71**	
Batch: 0880685	**Date Prepared: 8/25/98**					**Extraction Method: EPA 3050B**				
Blank	**0880685-BLK1**									
Antimony	8/26/98			ND	mg/kg dry	**0.500**				
Arsenic	"			ND	"	**0.500**				
Barium	"			ND	"	**5.00**				
Beryllium	8/28/98			ND	"	**0.500**				
Cadmium	8/26/98			ND	"	**0.500**				
Chromium	"			ND	"	**0.500**				
Copper	"			ND	"	**0.500**				
Lead	"			ND	"	**0.500**				
Nickel	"			ND	"	**0.500**				
Selenium	"			ND	"	**0.500**				
Silver	"			ND	"	**0.500**				
Thallium	8/29/98			ND	"	**0.500**				
Zinc	8/26/98			ND	"	**5.00**				
LCS	**0880685-BS1**									
Antimony	8/26/98	25.0		21.5	mg/kg dry	80.0-120	86.0			
Arsenic	"	25.0		21.1	"	70.0-130	84.4			
Barium	"	25.0		22.7	"	80.0-120	90.8			
Beryllium	8/28/98	25.0		20.8	"	80.0-120	83.2			
Cadmium	8/26/98	25.0		20.9	"	70.0-130	83.6			
Chromium	"	25.0		20.9	"	80.0-120	83.6			
Copper	"	25.0		23.0	"	80.0-120	92.0			
Lead	"	25.0		23.1	"	80.0-120	92.4			
Nickel	"	25.0		22.4	"	80.0-120	89.6			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

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 %	Note
LCS (continued)	**0880685-BS1**									
Selenium	8/26/98	25.0		19.0	mg/kg dry	70.0-130	76.0			
Silver	"	25.0		22.9	"	80.0-120	91.6			
Thallium	8/29/98	25.0		23.8	"	80.0-120	95.2			
Zinc	8/26/98	25.0		21.9	"	70.0-130	87.6			
Duplicate	**0880685-DUP1**		**B808270-01**							
Antimony	8/26/98		ND	ND	mg/kg dry			20.0		
Arsenic	"		2.27	3.18	"			20.0	**33.4**	
Barium	"		56.8	58.5	"			20.0	**2.95**	
Beryllium	8/28/98		ND	ND	"			20.0		
Cadmium	8/26/98		ND	ND	"			20.0		
Chromium	"		22.0	22.0	"			20.0	**0**	
Copper	"		18.8	16.7	"			20.0	**11.8**	
Lead	"		23.6	22.8	"			20.0	**3.45**	
Nickel	"		27.6	28.4	"			20.0	**2.86**	
Selenium	"		ND	ND	"			20.0		
Silver	"		ND	ND	"			20.0		
Thallium	8/29/98		ND	ND	"			20.0		
Zinc	8/26/98		38.5	45.7	"			20.0	**17.1**	
Matrix Spike	**0880685-MS1**		**B808270-01**							
Antimony	8/26/98	26.6	ND	3.91	mg/kg dry	70.0-130	**14.7**			
Arsenic	"	26.6	2.27	24.0	"	70.0-130	**81.7**			
Barium	"	26.6	56.8	79.0	"	70.0-130	**83.5**			
Beryllium	8/28/98	26.6	ND	24.7	"	70.0-130	**92.9**			
Cadmium	8/26/98	26.6	ND	21.7	"	70.0-130	**81.6**			
Chromium	"	26.6	22.0	37.9	"	70.0-130	**59.8**			
Copper	"	26.6	18.8	37.8	"	70.0-130	**71.4**			
Lead	"	26.6	23.6	43.6	"	70.0-130	**75.2**			
Nickel	"	26.6	27.6	43.9	"	70.0-130	**61.3**			
Selenium	"	26.6	ND	19.3	"	70.0-130	**72.6**			
Silver	"	26.6	ND	20.2	"	70.0-130	**75.9**			
Thallium	8/29/98	26.6	ND	28.2	"	70.0-130	**106**			
Zinc	8/26/98	26.6	38.5	54.7	"	70.0-130	**60.9**			
Matrix Spike	**0880685-MS2**		**B808270-01**							
Antimony	8/26/98	559	ND	547	mg/kg dry	70.0-130	**97.9**			
Chromium	"	559	22.0	581	"	70.0-130	**100**			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

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)	**0880685-MS2**		**B808270-01**							
Nickel	8/26/98	559	27.6	577	mg/kg dry	70.0-130	**98.3**			5
Zinc	"	559	38.5	538	"	70.0-130	**89.4**			5

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 8/15/98
8410 154th Ave NE	Project Number:	5925-003-00	Received: 8/17/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 8/31/98 11:52

Notes and Definitions

#	Note
1	The spike recovery for this QC sample was outside the laboratory's default control limits but within the vendor's published acceptance criteria.
2	Analyses are not controlled on RPD values from sample concentrations less than 5 times the reporting limit.
3	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
4	The spike recovery for this QC sample is outside of NCA established control limits due to sample matrix interference.
5	Post-digestion Matrix Spike.
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 - Bothell

Steve Davis, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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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 # B808270

REPORT TO: GEOENGINEERS	INVOICE TO: SAME
ATTENTION: CLIFF BLINT	ATTENTION:
ADDRESS: 8410 154TH PLACE NE REDMOND WASH 98052	ADDRESS:
PHONE: (425) 861-6000 FAX: (425) 861-6050	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: FAMILY FUN CENTER	
PROJECT NUMBER: 5-025-003-00	
SAMPLED BY: D BRIAN MILLER	

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: Priority pollutant metals + Boron	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1	EX-SB-2.0	5/15/98 1144		X	S	1	B808270 01
2	B + 213						
3							
4							
5							
6							
7	TPH						
8							
9							
10							

RELINQUISHED BY (Signature):	RECEIVED BY (Signature): K Barker
DATE: 5/12/98	DATE: 5/12/98
PRINT NAME: D BRIAN MILLER FIRM: GEE TIME:	PRINT NAME: K. Barker FIRM: NCA TIME: 1245
RELINQUISHED BY (Signature):	RECEIVED BY (Signature):
DATE:	DATE:
PRINT NAME: FIRM: TIME:	PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: PRINT & WHITE COPY 2.7 WKS.

PAGE: 1 of 1

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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/9/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/11/98 11:22

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
GSP-1	B809202-01	Soil	9/8/98
GSP-2	B809202-02	Soil	9/8/98

GeoEngineers

SEP 14 1998

Routing

File

NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/9/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/11/98 11:22

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
GSP-1			**B809202-01**				**Soil**	
Gasoline Range Hydrocarbons	0980286	9/9/98	9/10/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*91.4*	%	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*93.6*	"	
GSP-2			**B809202-02**				**Soil**	
Gasoline Range Hydrocarbons	0980286	9/9/98	9/10/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*50.0-150*		*92.1*	%	
Surrogate: 4-BFB (PID)	"	"	"	*50.0-150*		*94.3*	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/9/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/11/98 11:22

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
GSP-1	B809202-01	Soil	88.2	%
GSP-2	B809202-02	Soil	87.8	%

North Creek Analytical - Bothell

Steve Davis, Project Manager

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/9/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/11/98 11:22

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B/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: 0980286	**Date Prepared: 9/9/98**					**Extraction Method: EPA 5030B (P/T)**				
Blank	**0980286-BLK1**									
Gasoline Range Hydrocarbons	9/10/98			**ND**	mg/kg dry	**5.00**				
Benzene	"			**ND**	"	**0.0500**				
Toluene	"			**ND**	"	**0.0500**				
Ethylbenzene	"			**ND**	"	**0.0500**				
Xylenes (total)	"			**ND**	"	**0.100**				
Surrogate: 4-BFB (FID)	"	*4.00*		*3.98*	"	*50.0-150*	*99.5*			
Surrogate: 4-BFB (PID)	"	*4.00*		*4.04*	"	*50.0-150*	*101*			
LCS	**0980286-BS1**									
Gasoline Range Hydrocarbons	9/10/98	25.0		22.0	mg/kg dry	70.0-130	88.0			
Surrogate: 4-BFB (FID)	"	*4.00*		*3.91*	"	*50.0-150*	*97.8*			
Duplicate	**0980286-DUP1**		**B809220-02**							
Gasoline Range Hydrocarbons	9/10/98		ND	ND	mg/kg dry			50.0		
Surrogate: 4-BFB (FID)	"	*5.29*		*4.49*	"	*50.0-150*	*84.9*			
Matrix Spike	**0980286-MS1**		**B809222-02**							
Benzene	9/10/98	0.569	ND	0.468	mg/kg dry	60.0-140	**82.2**			
Toluene	"	0.569	ND	0.477	"	60.0-140	**83.8**			
Ethylbenzene	"	0.569	ND	0.477	"	60.0-140	**83.8**			
Xylenes (total)	"	1.71	ND	1.44	"	60.0-140	**84.2**			
Surrogate: 4-BFB (PID)	"	*4.55*		*4.54*	"	*50.0-150*	*99.8*			
Matrix Spike Dup	**0980286-MSD1**		**B809222-02**							
Benzene	9/10/98	0.569	ND	0.478	mg/kg dry	60.0-140	**84.0**	20.0	**2.17**	
Toluene	"	0.569	ND	0.486	"	60.0-140	**85.4**	20.0	**1.89**	
Ethylbenzene	"	0.569	ND	0.488	"	60.0-140	**85.8**	20.0	**2.36**	
Xylenes (total)	"	1.71	ND	1.47	"	60.0-140	**86.0**	20.0	**2.12**	
Surrogate: 4-BFB (PID)	"	*4.55*		*4.50*	"	*50.0-150*	*98.9*			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/9/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/11/98 11:22

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

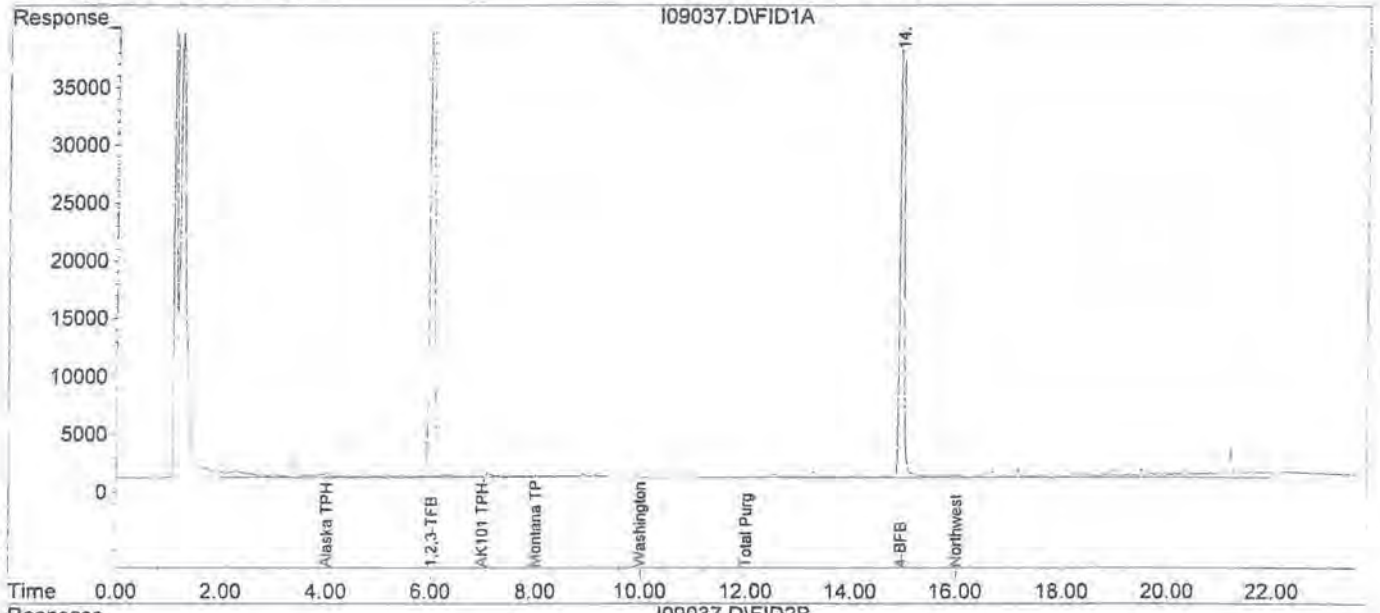
Quantitation Report

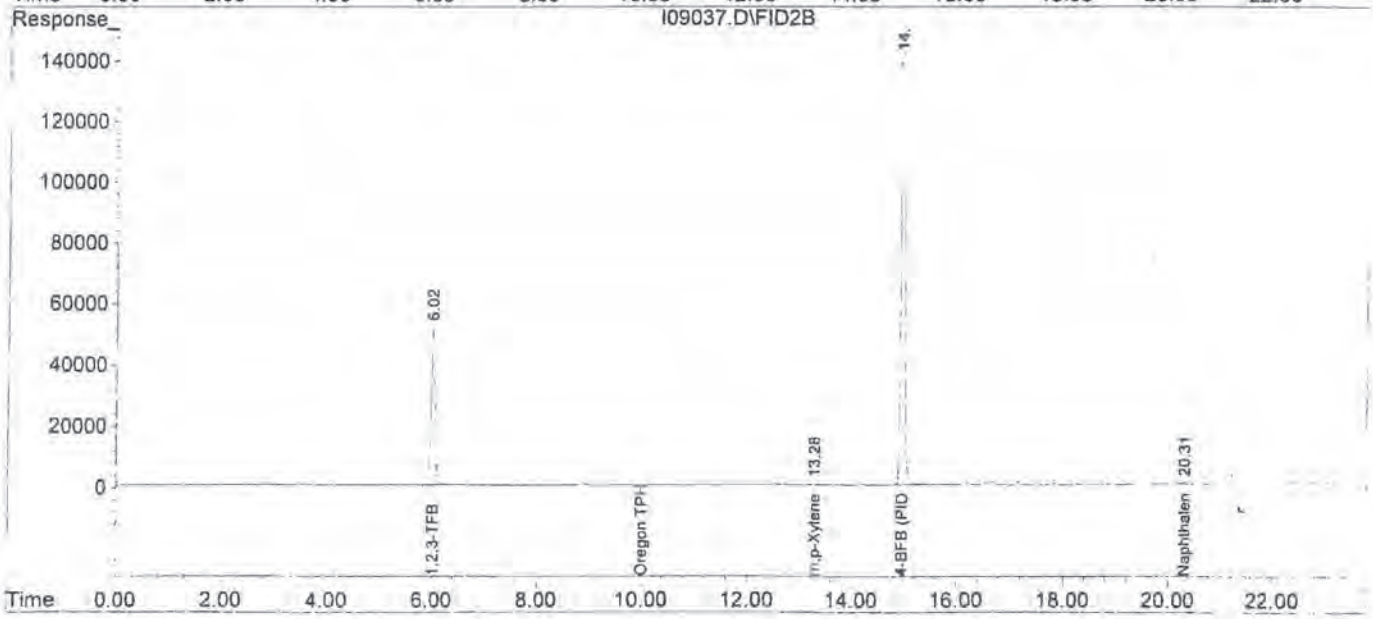
Data File : C:\HPCHEM\4\DATA\I09037.D\FID1A.CH Vial: 37
Acq On : 10 Sep 1998 1:02 am Operator: la
Sample : b809202-01 Inst : GC #8
Misc : 100 uL Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\I09037.D\FID2B.CH Vial: 37
Acq On : 10 Sep 98 1:02 am Operator: la
Sample : b809202-01 Inst : GC #8
Misc : 100 uL Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Sep 10 6:55 1998 Quant Results File: TPHG0908.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG0908.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Sep 08 13:21:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG0908.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





B 219

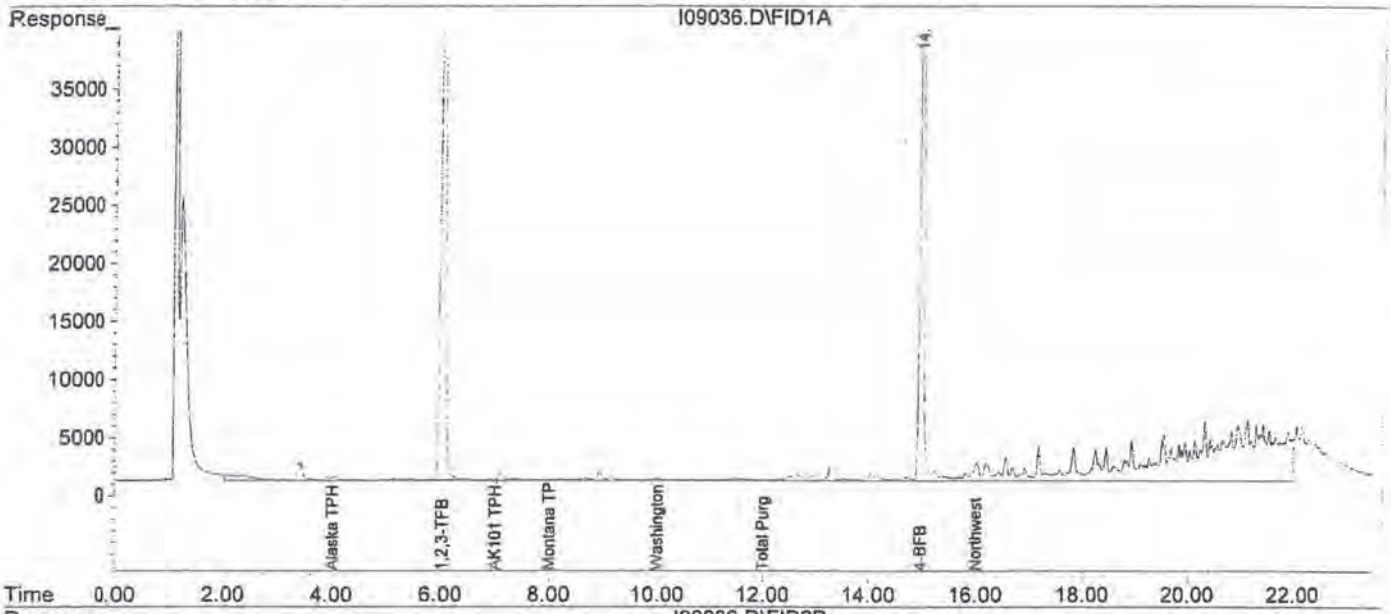
Quantitation Report

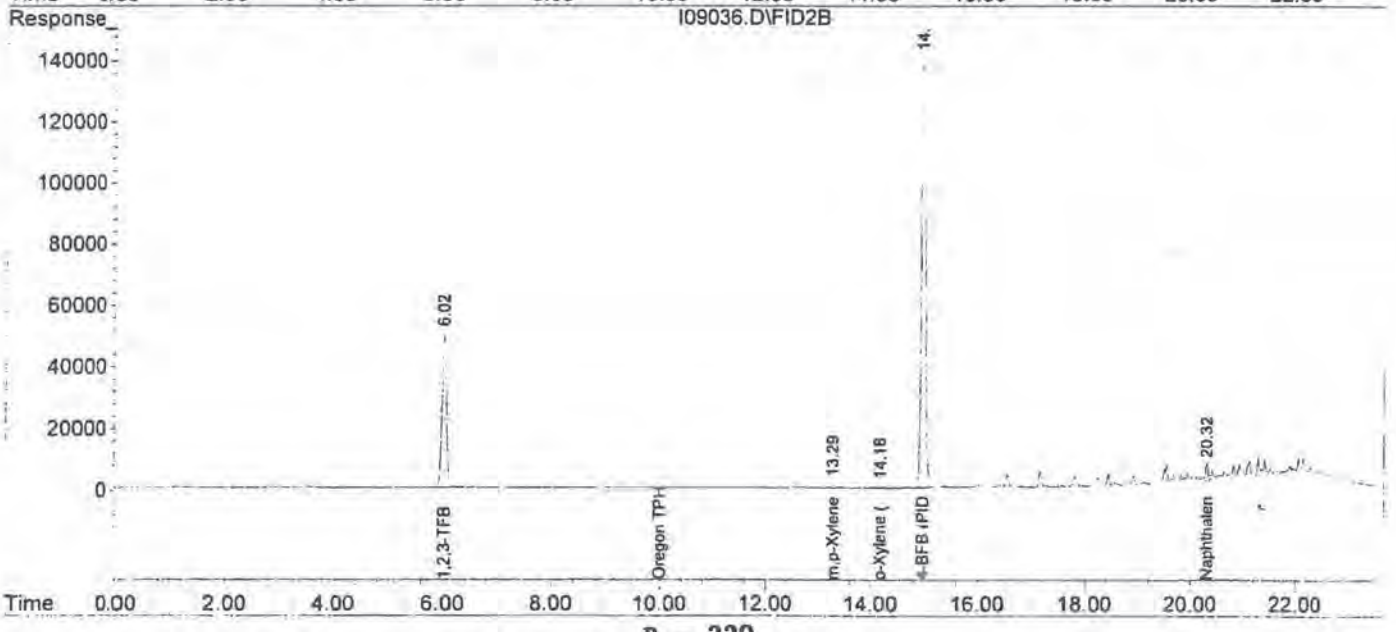
Data File : C:\HPCHEM\4\DATA\I09036.D\FID1A.CH Vial: 36
Acq On : 10 Sep 1998 12:33 am Operator: la
Sample : b809202-02 Inst : GC #8
Misc : 100 uL Multiplr: 1.00
IntFile : SURR.E

Data File : C:\HPCHEM\4\DATA\I09036.D\FID2B.CH Vial: 36
Acq On : 10 Sep 98 12:33 am Operator: la
Sample : b809202-02 Inst : GC #8
Misc : 100 uL Multiplr: 1.00
IntFile : SURR2.E
Quant Time: Sep 10 6:55 1998 Quant Results File: TPHG0908.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHG0908.M (Chemstation Integrator)
Title : TPH-G Water Method
Last Update : Tue Sep 08 13:21:34 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHG0908.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





NORTH CREEK ANALYTICAL
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~~USUAL~~ CHAIN OF CUSTODY REPORT B809202

~~USUAL~~ INFORMATION

~~Facility Number~~: FAMILY FUN CENTER
Site Address: CHERRY LAW / FRENCH BAR
City, State, ZIP: TOLT WILD WASH
~~Site Release Number~~:
~~Umcon Manager~~:
CERT INFO: (check one) ☐ Evaluation ☐ Remediation
☐ Detection ☐ Demolition ☐ Closure ☐ Miscellaneous

CONSULTANT INFORMATION

Firm: GEOENGINEERS Project# 5925-003-01
Address: 8410 154th AVE NE
REDMOND WASH 98052
Phone: (425) 861-6000 Fax (425) 861-6050
Project Manager: LISA BONA
Sample Collection by: K BAUMGARTEN

Chain of Custody Record #:

Quality Assurance Data Level:
☐ A ☐ B
A: Standard Summary
B: Standard + Chromatograms

Laboratory Turnaround Days:
☐ 10 ☐ 5 ☐ 3 ☒ 1

○ OR ○ WA ○ AK ○ NW Series

B – 221 SAMPLE INDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CON-TAINERS	TPH-HCID	TPH-Gas	BTEX EPA 8021 Mod.	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel Extended	TPH-Diesel-Ext. w/SG Cleanup	Halogen. Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles EPA 8260	GC/MS SemiVols. EPA 8270	PAH's: 8270 SIM or 8310	Lead: Total or Dissolved	TCLP or RCRA Metals (8)	NCA SAMPLE NUMBER
1. GSP-1	9/8/98 1700	S	1				X											B809202-01
2. GSP-2	1 1700	S	1				X											-02
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time
1.	GEI	9/8/98 1830	K Baumgarten	NCA	9/9/98 1330
2.					
3.					

Final Report Approval
Were all requested results provided? ☐ yes ☐ no Deline
Were results within requested turnaround? ☐ yes ☐ no "No"
Final Approval Signature: on back
Firm: Date:

Page (1 of 1)
Comments:

NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/23/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/30/98 16:56

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
GWS-1	B809647-01	Soil	9/23/98

GeoEngineers
OCT 0 1 1998
Routing
File

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/23/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/30/98 16:56

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
GWS-1			**B809647-01**				**Soil**	
Diesel Range Hydrocarbons	0980940	9/29/98	9/29/98		10.0	**53.2**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**254**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*78.3*	%	

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled:	9/23/98
8410 154th Ave NE	Project Number:	5925-003-01	Received:	9/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported:	9/30/98 16:56

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
GWS-1	B809647-01	Soil	85.5	%

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/23/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/30/98 16:56

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/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 %	Note
Batch: 0980940	**Date Prepared: 9/29/98**					**Extraction Method: EPA 3550B**				
Blank	**0980940-BLK1**									
Diesel Range Hydrocarbons	9/29/98			**ND**	mg/kg dry	**10.0**				
Lube Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*10.7*		*6.09*	"	*50.0-150*	*56.9*			
LCS	**0980940-BS1**									
Diesel Range Hydrocarbons	9/29/98	66.7		62.3	mg/kg dry	60.0-140	93.4			
Surrogate: 2-FBP	"	*10.7*		*8.11*	"	*50.0-150*	*75.8*			
Duplicate	**0980940-DUP1**	**B809647-01**								
Diesel Range Hydrocarbons	9/29/98		53.2	70.4	mg/kg dry			50.0	**27.8**	
Lube Oil Range Hydrocarbons	"		254	407	"			50.0	**46.3**	
Surrogate: 2-FBP	"	*12.5*		*9.86*	"	*50.0-150*	*78.9*			

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PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 9/23/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 9/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 9/30/98 16:56

Notes and Definitions

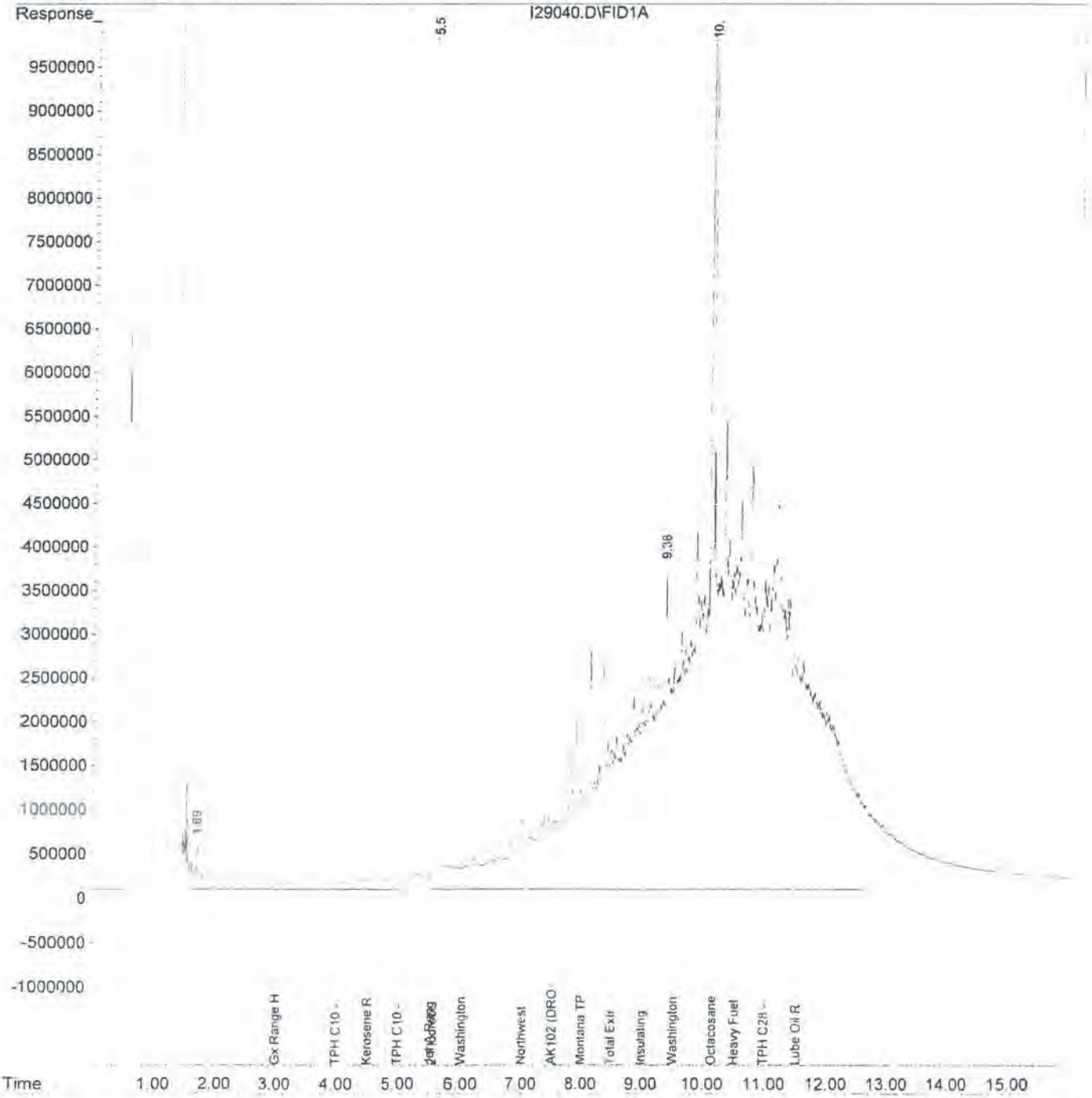
#	Note
1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Quantitation Report

Data File : C:\HPCHEM\4\DATA\I29040.D Vial: 28
Acq On : 9-29-98 4:11:03 PM Operator: lac
Sample : b809647-01 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Sep 29 17:24 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Fri Sep 11 09:20:25 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



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2

CHAIN OF CUSTODY REPORT

Work Order # B809647

REPORT TO: GEO ENGINEERS	INVOICE TO:
ATTENTION: LISA BONA	ATTENTION: SAME
ADDRESS: 8410 154TH AVENE NE REDMOND WA 98052	ADDRESS:
PHONE: (425) 861-6000 FAX: (425) 861-6050	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: FAMILY FUN CENTER	
PROJECT NUMBER: 5425-003-01	
SAMPLED BY: D BAUMGARTEN	

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: St. THT as per client

* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: NWTPH-Dx T	MATRIX (W. S. A. O)	# OF CONTAINERS	COMMENTS
1	GWS-1	9/23/98 615	B809647-01	X	S	2	
2							
3							
4							
5							
6							
7							
8							
9							
10							

B-228

SPDB

RELINQUISHED BY (Signature):	DATE: 9/23/98	RECEIVED BY (Signature): S Wideen	DATE: 9/24/98
PRINT NAME: D BAUMGARTEN FIRM: GEI	TIME: 1900	PRINT NAME: FIRM: NCA	TIME: 1200
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	DATE:
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ADDITIONAL REMARKS:

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PAGE 1 OF 1

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-E1-15.5	B810221-01	Soil	10/8/98
EX-E2-14.0	B810221-02	Soil	10/8/98
EX-I1-5	B810221-03	Soil	10/8/98
EX-H3-1.0	B810221-04	Soil	10/8/98
EX-F13-12	B810221-05	Soil	10/8/98
EX-F14-15	B810221-06	Soil	10/8/98
EX-F15-12	B810221-07	Soil	10/8/98
EX-F16-12	B810221-08	Soil	10/8/98

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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
EX-H3-1.0			**B810221-04**				**Soil**	
Diesel Range Hydrocarbons	1080379	10/11/98	10/12/98		10.0	**54.3**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**171**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*67.2*	*%*	
EX-F16-12			**B810221-08**				**Soil**	
Diesel Range Hydrocarbons	1080379	10/11/98	10/12/98		10.0	**160**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**236**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*108*	*%*	

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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*
EX-E1-15.5			**B810221-01**				**Soil**	
Chromium	1080724	10/20/98	10/22/98	EPA 6020	0.500	**95.5**	mg/kg dry	
EX-E2-14.0			**B810221-02**				**Soil**	
Chromium	1080724	10/20/98	10/22/98	EPA 6020	0.500	**97.1**	mg/kg dry	
EX-I1-5			**B810221-03**				**Soil**	
Antimony	1080724	10/20/98	10/22/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**3.70**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	**0.543**	"	
Chromium	"	"	"	EPA 6020	0.500	**22.9**	"	
Copper	"	"	"	EPA 6020	0.500	**25.3**	"	
Lead	"	"	"	EPA 6020	0.500	**24.5**	"	
Nickel	"	"	10/23/98	EPA 6020	0.500	**25.3**	"	
Selenium	"	"	10/22/98	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**45.5**	"	
Mercury	1080773	10/21/98	"	EPA 7471A	0.100	ND	"	
EX-F13-12			**B810221-05**				**Soil**	
Antimony	1080724	10/20/98	10/22/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**5.82**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**38.4**	"	
Copper	"	"	"	EPA 6020	0.500	**38.0**	"	
Lead	"	"	"	EPA 6020	0.500	**40.8**	"	
Nickel	"	"	10/23/98	EPA 6020	0.500	**37.6**	"	
Selenium	"	"	10/22/98	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**65.7**	"	
Mercury	1080773	10/21/98	"	EPA 7471A	0.100	**0.116**	"	
EX-F14-15			**B810221-06**				**Soil**	
Antimony	1080724	10/20/98	10/22/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**5.45**	"	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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
EX-F14-15 (continued)			**B810221-06**				**Soil**	
Beryllium	1080724	10/20/98	10/22/98	EPA 6020	0.500	ND	mg/kg dry	
Cadmium	"	"	"	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**12.1**	"	
Copper	"	"	"	EPA 6020	0.500	**30.5**	"	
Lead	"	"	"	EPA 6020	0.500	**16.7**	"	
Nickel	"	"	10/23/98	EPA 6020	0.500	**11.3**	"	
Selenium	"	"	10/22/98	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**54.2**	"	
Mercury	1080773	10/21/98	"	EPA 7471A	0.100	**0.103**	"	
EX-F15-12			**B810221-07**				**Soil**	
Antimony	1180159	10/31/98	11/1/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**3.65**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**22.8**	"	
Copper	"	"	"	EPA 6020	0.500	**40.0**	"	
Lead	"	"	"	EPA 6020	0.500	**23.9**	"	
Nickel	"	"	"	EPA 6020	0.500	**25.7**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**46.7**	"	
Mercury	1180005	10/30/98	11/2/98	EPA 7471A	0.100	ND	"	
EX-F16-12			**B810221-08**				**Soil**	
Antimony	1080724	10/20/98	10/22/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**3.14**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**25.2**	"	
Copper	"	"	"	EPA 6020	0.500	**28.9**	"	
Lead	"	"	"	EPA 6020	0.500	**8.66**	"	
Nickel	"	"	10/23/98	EPA 6020	0.500	**24.2**	"	
Selenium	"	"	10/22/98	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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*
EX-F16-12 (continued)			**B810221-08**					**Soil**	
Thallium	1080724	10/20/98	10/22/98	EPA 6020	0.500	_	ND	mg/kg dry	
Zinc	"	"	"	EPA 6020	5.00		**43.0**	"	
Mercury	1080773	10/21/98	"	EPA 7471A	0.100		**0.128**	"	

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
EX-I1-5			**B810221-03**				**Soil**	
Acenaphthene	1080541	10/15/98	10/15/98		0.0500	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0500	ND	"	
Anthracene	"	"	"		0.0500	ND	"	
Benzo (a) anthracene	"	"	"		0.0500	ND	"	
Benzo (a) pyrene	"	"	"		0.0500	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0500	**0.0533**	"	
Benzo (ghi) perylene	"	"	"		0.0500	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0500	ND	"	
Chrysene	"	"	"		0.0500	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0500	ND	"	
Fluoranthene	"	"	"		0.0500	**0.0755**	"	
Fluorene	"	"	"		0.0500	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0500	ND	"	
Naphthalene	"	"	"		0.0500	ND	"	
Phenanthrene	"	"	"		0.0500	**0.0666**	"	
Pyrene	"	"	"		0.0500	**0.102**	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*88.3*	%	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*94.6*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*138*	"	
EX-F13-12			**B810221-05**				**Soil**	
Acenaphthene	1080541	10/15/98	10/16/98		0.0200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0200	ND	"	
Anthracene	"	"	"		0.0200	ND	"	
Benzo (a) anthracene	"	"	"		0.0200	ND	"	
Benzo (a) pyrene	"	"	"		0.0200	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0200	ND	"	
Benzo (ghi) perylene	"	"	"		0.0200	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0200	ND	"	
Chrysene	"	"	"		0.0200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0200	ND	"	
Fluoranthene	"	"	"		0.0200	ND	"	
Fluorene	"	"	"		0.0200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0200	ND	"	
Naphthalene	"	"	"		0.0200	ND	"	
Phenanthrene	"	"	"		0.0200	ND	"	
Pyrene	"	"	"		0.0200	ND	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*82.4*	%	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F13-12 (continued)			**B810221-05**				**Soil**	
Surrogate: Nitrobenzene-d5	*1080541*	*10/15/98*	*10/16/98*	*30.0-150*		*122*	*%*	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*150*	"	
EX-F14-15			**B810221-06**				**Soil**	
Acenaphthene	1080541	10/15/98	10/16/98		0.0200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0200	ND	"	
Anthracene	"	"	"		0.0200	ND	"	
Benzo (a) anthracene	"	"	"		0.0200	ND	"	
Benzo (a) pyrene	"	"	"		0.0200	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0200	ND	"	
Benzo (ghi) perylene	"	"	"		0.0200	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0200	ND	"	
Chrysene	"	"	"		0.0200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0200	ND	"	
Fluoranthene	"	"	"		0.0200	ND	"	
Fluorene	"	"	"		0.0200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0200	ND	"	
Naphthalene	"	"	"		0.0200	ND	"	
Phenanthrene	"	"	"		0.0200	ND	"	
Pyrene	"	"	"		0.0200	ND	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*79.5*	*%*	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*112*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*138*	"	
EX-F15-12			**B810221-07**				**Soil**	
Acenaphthene	1081049	10/30/98	11/8/98		0.0200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0200	ND	"	
Anthracene	"	"	"		0.0200	ND	"	
Benzo (a) anthracene	"	"	"		0.0200	ND	"	
Benzo (a) pyrene	"	"	"		0.0200	**0.0236**	"	1
Benzo (b) fluoranthene	"	"	"		0.0200	**0.0218**	"	1
Benzo (ghi) perylene	"	"	"		0.0200	**0.0291**	"	1
Benzo (k) fluoranthene	"	"	"		0.0200	ND	"	
Chrysene	"	"	"		0.0200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0200	ND	"	
Fluoranthene	"	"	"		0.0200	**0.0200**	"	
Fluorene	"	"	"		0.0200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0200	**0.0218**	"	1

North Creek Analytical - Bothell

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

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
EX-F15-12 (continued)			**B810221-07**				**Soil**	
Naphthalene	1081049	10/30/98	11/8/98		0.0200	ND	mg/kg dry	
Phenanthrene	"	"	"		0.0200	ND	"	
Pyrene	"	"	"		0.0200	**0.0655**	"	1
Surrogate: 2-FBP	"	"	"	*30.0-150*		*69.2*	*%*	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*74.9*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*125*	"	
EX-F16-12			**B810221-08**				**Soil**	
Acenaphthene	1080541	10/15/98	10/15/98		0.100	**0.161**	mg/kg dry	
Acenaphthylene	"	"	"		0.100	**0.834**	"	
Anthracene	"	"	"		0.100	**0.417**	"	
Benzo (a) anthracene	"	"	"		0.100	**1.51**	"	
Benzo (a) pyrene	"	"	"		0.100	**2.41**	"	
Benzo (b) fluoranthene	"	"	"		0.100	**2.82**	"	
Benzo (ghi) perylene	"	"	"		0.100	**1.63**	"	
Benzo (k) fluoranthene	"	"	"		0.100	**0.768**	"	
Chrysene	"	"	"		0.100	**1.50**	"	
Dibenz (a,h) anthracene	"	"	"		0.100	**0.218**	"	
Fluoranthene	"	"	"		0.100	**3.25**	"	
Fluorene	"	"	"		0.100	**0.256**	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.100	**1.73**	"	
Naphthalene	"	"	"		0.100	**0.171**	"	
Phenanthrene	"	"	"		0.100	**1.51**	"	
Pyrene	"	"	"		0.100	**4.77**	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*75.5*	*%*	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*84.8*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*124*	"	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-E1-15.5	B810221-01	Soil	86.0	%
EX-E2-14.0	B810221-02	Soil	77.7	%
EX-I1-5	B810221-03	Soil	75.0	%
EX-H3-1.0	B810221-04	Soil	79.3	%
EX-F13-12	B810221-05	Soil	69.9	%
EX-F14-15	B810221-06	Soil	76.0	%
EX-F15-12	B810221-07	Soil	73.3	%
EX-F16-12	B810221-08	Soil	70.3	%

North Creek Analytical - Bothell

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/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 %	Note
Batch: 1080379	**Date Prepared: 10/11/98**					**Extraction Method: EPA 3550B**				
Blank	**1080379-BLK1**									
Diesel Range Hydrocarbons	10/12/98			**ND**	mg/kg dry	**10.0**				
Lube Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*10.7*		*8.41*	"	*50.0-150*	*78.6*			
LCS	**1080379-BS1**									
Diesel Range Hydrocarbons	10/12/98	66.7		67.0	mg/kg dry	60.0-140	100			
Surrogate: 2-FBP	"	*10.7*		*11.3*	"	*50.0-150*	*106*			
Duplicate	**1080379-DUP1**		**B810221-04**							
Diesel Range Hydrocarbons	10/12/98		54.3	52.7	mg/kg dry			50.0	**2.99**	
Lube Oil Range Hydrocarbons	"		171	172	"			50.0	**0.583**	
Surrogate: 2-FBP	"	*13.5*		*15.7*	"	*50.0-150*	*116*			

North Creek Analytical - Bothell

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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: 1080724	**Date Prepared: 10/20/98**					**Extraction Method: EPA 3050B**				
Blank	**1080724-BLK1**									
Antimony	10/22/98			**ND**	mg/kg dry	**0.500**				
Arsenic	"			**ND**	"	**0.500**				
Beryllium	"			**ND**	"	**0.500**				
Cadmium	"			**ND**	"	**0.500**				
Chromium	"			**ND**	"	**0.500**				
Copper	"			**ND**	"	**0.500**				
Lead	"			**ND**	"	**0.500**				
Nickel	10/23/98			**ND**	"	**0.500**				
Selenium	10/22/98			**ND**	"	**0.500**				
Silver	"			**ND**	"	**0.500**				
Thallium	"			**ND**	"	**0.500**				
Zinc	"			**ND**	"	**5.00**				
LCS	**1080724-BS1**									
Antimony	10/22/98	25.0		21.6	mg/kg dry	80.0-120	86.4			
Arsenic	"	25.0		21.1	"	70.0-130	84.4			
Beryllium	"	25.0		20.1	"	80.0-120	80.4			
Cadmium	"	25.0		21.4	"	70.0-130	85.6			
Chromium	"	25.0		24.8	"	80.0-120	99.2			
Copper	"	25.0		24.7	"	80.0-120	98.8			
Lead	"	25.0		24.0	"	80.0-120	96.0			
Nickel	10/23/98	25.0		23.5	"	80.0-120	94.0			
Selenium	10/22/98	25.0		18.8	"	70.0-130	75.2			
Silver	"	25.0		22.4	"	80.0-120	89.6			
Thallium	"	25.0		24.2	"	80.0-120	96.8			
Zinc	"	25.0		22.1	"	70.0-130	88.4			
Duplicate	**1080724-DUP1**		**B810221-03**							
Antimony	10/22/98		ND	ND	mg/kg dry			20.0		
Arsenic	"		3.70	3.92	"			20.0	**5.77**	
Beryllium	"		ND	ND	"			20.0		
Cadmium	"		0.543	0.629	"			20.0	**14.7**	
Chromium	"		22.9	23.4	"			20.0	**2.16**	
Copper	"		25.3	25.8	"			20.0	**1.96**	
Lead	"		24.5	42.1	"			20.0	**52.9**	2
Nickel	10/23/98		25.3	24.8	"			20.0	**2.00**	
Selenium	10/22/98		ND	ND	"			20.0		

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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 %	Note
Duplicate (continued)	**1080724-DUP1**		**B810221-03**							
Silver	10/22/98		ND	ND	mg/kg dry	-		20.0		
Thallium	"		ND	ND	"			20.0		
Zinc	"		45.5	55.3	"			20.0	19.4	
Matrix Spike	**1080724-MS1**		**B810221-03**							
Antimony	10/22/98	28.5	ND	2.61	mg/kg dry	70.0-130	**9.16**			
Arsenic	"	28.5	3.70	27.8	"	70.0-130	**84.6**			
Beryllium	"	28.5	ND	25.1	"	70.0-130	**88.1**			
Cadmium	"	28.5	0.543	25.9	"	70.0-130	**89.0**			
Chromium	"	28.5	22.9	46.6	"	70.0-130	**83.2**			
Copper	"	28.5	25.3	55.2	"	70.0-130	**105**			
Lead	"	28.5	24.5	59.8	"	70.0-130	**124**			
Nickel	10/23/98	28.5	25.3	46.2	"	70.0-130	**73.3**			
Selenium	10/22/98	28.5	ND	20.7	"	70.0-130	**72.6**			
Silver	"	28.5	ND	22.5	"	70.0-130	**78.9**			
Thallium	"	28.5	ND	28.4	"	70.0-130	**99.6**			
Zinc	"	28.5	45.5	72.3	"	70.0-130	**94.0**			
Matrix Spike	**1080724-MS2**		**B810221-03**							
Antimony	10/22/98	537	ND	578	mg/kg dry	70.0-130	**108**			
Batch: 1080773	**Date Prepared: 10/21/98**					**Extraction Method: EPA 7471A**				
Blank	**1080773-BLK1**									
Mercury	10/22/98			**ND**	mg/kg dry	**0.100**				
LCS	**1080773-BS1**									
Mercury	10/22/98	1.75		1.88	mg/kg dry	80.0-120	107			
Matrix Spike	**1080773-MS1**		**B810221-03**							
Mercury	10/22/98	0.595	ND	0.716	mg/kg dry	80.0-120	**120**			
Matrix Spike Dup	**1080773-MSD1**		**B810221-03**							
Mercury	10/22/98	0.574	ND	0.702	mg/kg dry	80.0-120	**122**	20.0	1.65	
Batch: 1180005	**Date Prepared: 10/30/98**					**Extraction Method: EPA 7471A**				
Blank	**1180005-BLK1**									
Mercury	11/2/98			**ND**	mg/kg dry	**0.100**				

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

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
LCS	**1180005-BS1**									
Mercury	11/2/98	1.75		1.68	mg/kg dry	80.0-120	96.0			
Matrix Spike	**1180005-MS1**		**B810531-16**							
Mercury	11/2/98	0.484	ND	0.524	mg/kg dry	80.0-120	**108**			
Matrix Spike Dup	**1180005-MSD1**		**B810531-16**							
Mercury	11/2/98	0.422	ND	0.459	mg/kg dry	80.0-120	**109**	20.0	**0.922**	
Batch: 1180159	**Date Prepared: 10/31/98**					**Extraction Method: EPA 3050B**				
Blank	**1180159-BLK1**									
Antimony	11/1/98			**ND**	mg/kg dry	**0.500**				
Arsenic	"			**ND**	"	**0.500**				
Beryllium	"			**ND**	"	**0.500**				
Cadmium	"			**ND**	"	**0.500**				
Chromium	"			**ND**	"	**0.500**				
Copper	"			**0.670**	"	**0.500**				
Lead	"			**ND**	"	**0.500**				
Nickel	"			**ND**	"	**0.500**				
Selenium	"			**ND**	"	**0.500**				
Silver	"			**ND**	"	**0.500**				
Thallium	"			**ND**	"	**0.500**				
Zinc	"			**ND**	"	**5.00**				
LCS	**1180159-BS1**									
Antimony	11/1/98	25.0		26.0	mg/kg dry	80.0-120	104			
Arsenic	"	25.0		23.9	"	70.0-130	95.6			
Beryllium	"	25.0		24.4	"	80.0-120	97.6			
Cadmium	"	25.0		24.9	"	70.0-130	99.6			
Chromium	"	25.0		26.7	"	80.0-120	107			
Copper	"	25.0		26.6	"	80.0-120	106			
Lead	"	25.0		28.1	"	80.0-120	112			
Nickel	"	25.0		26.6	"	80.0-120	106			
Selenium	"	25.0		20.6	"	70.0-130	82.4			
Silver	"	25.0		27.0	"	80.0-120	108			
Thallium	"	25.0		27.8	"	80.0-120	111			
Zinc	"	25.0		24.6	"	70.0-130	98.4			

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Geo Engineers - Redmond	Project: Family Fun Center (FFC)	Sampled:	10/8/98
8410 154th Ave NE	Project Number: 5925-003-01	Received:	10/8/98
Redmond, WA 98052	Project Manager: Lisa Bona	Reported:	11/10/98 09:47

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	**1180159-DUP1**		**B810221-07**							
Antimony	11/1/98		ND	ND	mg/kg dry			20.0		
Arsenic	"		3.65	3.95	"			20.0	**7.89**	
Beryllium	"		ND	1.13	"			20.0		
Cadmium	"		ND	1.09	"			20.0		
Chromium	"		22.8	16.7	"			20.0	**30.9**	6
Copper	"		40.0	41.4	"			20.0	**3.44**	
Lead	"		23.9	21.7	"			20.0	**9.65**	
Nickel	"		25.7	19.5	"			20.0	**27.4**	6
Selenium	"		ND	0.975	"			20.0		
Silver	"		ND	0.852	"			20.0		
Thallium	"		ND	1.01	"			20.0		
Zinc	"		46.7	35.3	"			20.0	**27.8**	6
Matrix Spike	**1180159-MS1**		**B810221-07**							
Antimony	11/1/98	32.8	ND	7.80	mg/kg dry	70.0-130	**23.8**			3
Arsenic	"	32.8	3.65	33.0	"	70.0-130	**89.5**			
Beryllium	"	32.8	ND	31.9	"	70.0-130	**97.3**			
Cadmium	"	32.8	ND	32.5	"	70.0-130	**99.1**			
Chromium	"	32.8	22.8	48.9	"	70.0-130	**79.6**			
Copper	"	32.8	40.0	73.4	"	70.0-130	**102**			
Lead	"	32.8	23.9	57.0	"	70.0-130	**101**			
Nickel	"	32.8	25.7	50.1	"	70.0-130	**74.4**			
Selenium	"	32.8	ND	24.7	"	70.0-130	**75.3**			
Silver	"	32.8	ND	33.5	"	70.0-130	**102**			
Thallium	"	32.8	ND	36.3	"	70.0-130	**111**			
Zinc	"	32.8	46.7	66.2	"	70.0-130	**59.5**			6
Matrix Spike	**1180159-MS2**		**B810221-07**							
Antimony	11/1/98	682	ND	638	mg/kg dry	70.0-130	**93.5**			4
Zinc	"	682	46.7	692	"	70.0-130	**94.6**			4

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Note
Batch: 1080541	**Date Prepared: 10/15/98**					**Extraction Method: EPA 3550B**				
Blank	**1080541-BLK1**									
Acenaphthene	10/15/98			**ND**	mg/kg dry	**0.0100**				
Acenaphthylene	"			**ND**	"	**0.0100**				
Anthracene	"			**ND**	"	**0.0100**				
Benzo (a) anthracene	"			**ND**	"	**0.0100**				
Benzo (a) pyrene	"			**ND**	"	**0.0100**				
Benzo (b) fluoranthene	"			**ND**	"	**0.0100**				
Benzo (ghi) perylene	"			**ND**	"	**0.0100**				
Benzo (k) fluoranthene	"			**ND**	"	**0.0100**				
Chrysene	"			**ND**	"	**0.0100**				
Dibenz (a,h) anthracene	"			**ND**	"	**0.0100**				
Fluoranthene	"			**ND**	"	**0.0100**				
Fluorene	"			**ND**	"	**0.0100**				
Indeno (1,2,3-cd) pyrene	"			**ND**	"	**0.0100**				
Naphthalene	"			**ND**	"	**0.0100**				
Phenanthrene	"			**ND**	"	**0.0100**				
Pyrene	"			**ND**	"	**0.0100**				
Surrogate: 2-FBP	"	*1.67*		*1.41*	"	*30.0-150*	*84.4*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*2.07*	"	*30.0-150*	*124*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*2.02*	"	*30.0-150*	*121*			
LCS	**1080541-BS1**									
Chrysene	10/15/98	0.333		0.295	mg/kg dry	10.0-125	88.6			
Fluorene	"	0.333		0.308	"	11.0-116	92.5			
Indeno (1,2,3-cd) pyrene	"	0.333		0.345	"	10.0-147	104			
Surrogate: 2-FBP	"	*1.67*		*1.61*	"	*30.0-150*	*96.4*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*2.16*	"	*30.0-150*	*129*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*2.11*	"	*30.0-150*	*126*			
Matrix Spike	**1080541-MS1**		**B810313-01**							
Chrysene	10/15/98	0.404	ND	0.372	mg/kg dry	10.0-125	**92.1**			
Fluorene	"	0.404	ND	0.364	"	10.0-154	**90.1**			
Indeno (1,2,3-cd) pyrene	"	0.404	ND	0.372	"	10.0-144	**92.1**			
Surrogate: 2-FBP	"	*2.02*		*2.09*	"	*30.0-150*	*103*			
Surrogate: Nitrobenzene-d5	"	*2.02*		*2.23*	"	*30.0-150*	*110*			
Surrogate: p-Terphenyl-d14	"	*2.02*		*2.47*	"	*30.0-150*	*122*			

North Creek Analytical - Bothell

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Geo Engineers - Redmond	Project: Family Fun Center (FFC)	Sampled:	10/8/98
8410 154th Ave NE	Project Number: 5925-003-01	Received:	10/8/98
Redmond, WA 98052	Project Manager: Lisa Bona	Reported:	11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/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 Dup	**1080541-MSD1**		**B810313-01**							
Chrysene	10/15/98	0.404	ND	0.340	mg/kg dry	10.0-125	**84.2**	28.0	**8.96**	
Fluorene	"	0.404	ND	0.340	"	10.0-154	**84.2**	32.0	**6.77**	
Indeno (1,2,3-cd) pyrene	"	0.404	ND	0.332	"	10.0-144	**82.2**	47.0	**11.4**	
Surrogate: 2-FBP	"	*2.02*		*1.82*	"	*30.0-150*	*90.1*			
Surrogate: Nitrobenzene-d5	"	*2.02*		*1.78*	"	*30.0-150*	*88.1*			
Surrogate: p-Terphenyl-d14	"	*2.02*		*2.31*	"	*30.0-150*	*114*			
Batch: 1081049	**Date Prepared: 10/30/98**					**Extraction Method: EPA 3550B**				
Blank	**1081049-BLK1**									
Acenaphthene	11/6/98			**ND**	mg/kg dry	**0.0100**				
Acenaphthylene	"			**ND**	"	**0.0100**				
Anthracene	"			**ND**	"	**0.0100**				
Benzo (a) anthracene	"			**ND**	"	**0.0100**				
Benzo (a) pyrene	"			**ND**	"	**0.0100**				
Benzo (b) fluoranthene	"			**ND**	"	**0.0100**				
Benzo (ghi) perylene	"			**ND**	"	**0.0100**				
Benzo (k) fluoranthene	"			**ND**	"	**0.0100**				
Chrysene	"			**ND**	"	**0.0100**				
Dibenz (a,h) anthracene	"			**ND**	"	**0.0100**				
Fluoranthene	"			**ND**	"	**0.0100**				
Fluorene	"			**ND**	"	**0.0100**				
Indeno (1,2,3-cd) pyrene	"			**ND**	"	**0.0100**				
Naphthalene	"			**ND**	"	**0.0100**				
Phenanthrene	"			**ND**	"	**0.0100**				
Pyrene	"			**ND**	"	**0.0100**				
Surrogate: 2-FBP	"	*1.67*		*1.18*	"	*30.0-150*	*70.7*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.37*	"	*30.0-150*	*82.0*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.77*	"	*30.0-150*	*106*			
LCS	**1081049-BS1**									
Chrysene	11/6/98	0.333		0.220	mg/kg dry	10.0-125	66.1			
Fluorene	"	0.333		0.221	"	11.0-116	66.4			
Indeno (1,2,3-cd) pyrene	"	0.333		0.283	"	10.0-147	85.0			
Surrogate: 2-FBP	"	*1.67*		*1.42*	"	*30.0-150*	*85.0*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.43*	"	*30.0-150*	*85.6*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*2.19*	"	*30.0-150*	*131*			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/8/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 09:47

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
Matrix Spike	1081049-MS1		B810567-01							
Chrysene	11/7/98	0.413	4.50	5.89	mg/kg dry	10.0-125	**NR**			
Fluorene	"	0.413	0.825	1.93	"	10.0-154	**NR**			
Indeno (1,2,3-cd) pyrene	"	0.413	3.10	3.86	"	10.0-144	**184**			
Surrogate: 2-FBP	"	*2.06*		*2.01*	"	*30.0-150*	*97.6*			
Surrogate: Nitrobenzene-d5	"	*2.06*		*1.58*	"	*30.0-150*	*76.7*			
Surrogate: p-Terphenyl-d14	"	*2.06*		*1.95*	"	*30.0-150*	*94.7*			
Matrix Spike Dup	1081049-MSD1		B810567-01							
Chrysene	11/7/98	0.413	4.50	1.22	mg/kg dry	10.0-125	**NR**	28.0	**-495**	
Fluorene	"	0.413	0.825	0.380	"	10.0-154	**NR**	32.0	**NR**	
Indeno (1,2,3-cd) pyrene	"	0.413	3.10	0.858	"	10.0-144	**NR**	47.0	**-405**	
Surrogate: 2-FBP	"	*2.06*		*0.314*	"	*30.0-150*	*15.2*			
Surrogate: Nitrobenzene-d5	"	*2.06*		*0.297*	"	*30.0-150*	*14.4*			
Surrogate: p-Terphenyl-d14	"	*2.06*		*0.429*	"	*30.0-150*	*20.8*			

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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Notes and Definitions

#	Note
1	Due to matrix interference with the internal standard associated with this analyte, the reported value should be considered approximate.
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	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
4	Post-digestion Matrix Spike.
5	The method blank contains analyte at a concentration above the MRL. This concentration is less than 5% of the sample result, which is negligible according to method criteria.
6	Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.
7	The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
8	The recoveries of all surrogate and spike compounds for this QC sample are below the control limits duc to an extraction anamoly This does not represent an out-of-control condition for the batch.
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 - Bothell

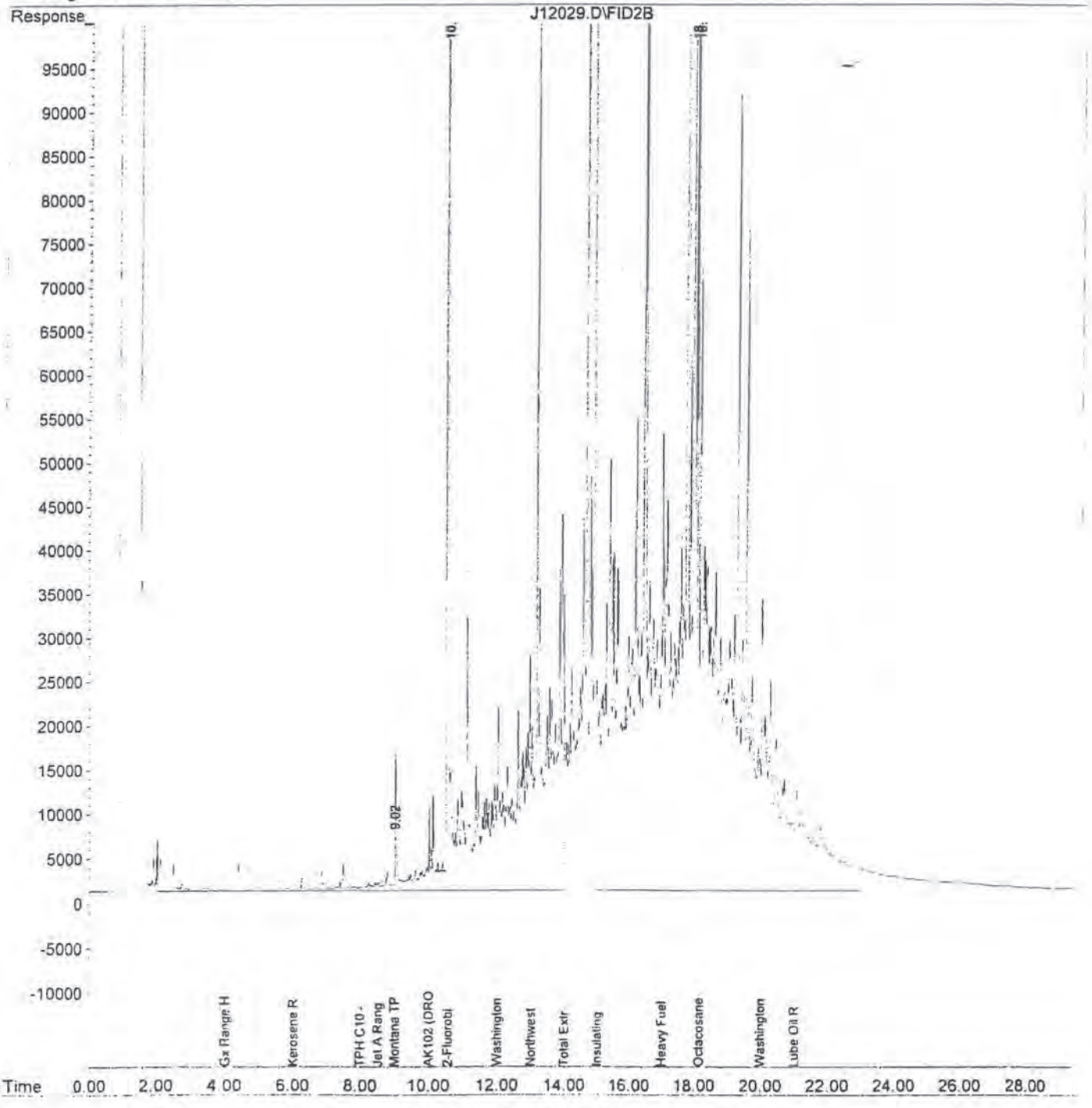
Steve Davis, Project Manager

Quantitation Report

Data File : C:\HPCHEM\3\DATA.SEC\J12029.D Vial: 22
Acq On : 12 Oct 1998 6:15 pm Operator: krl
Sample : b810221-08 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Oct 13 8:45 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Oct 07 15:02:56 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

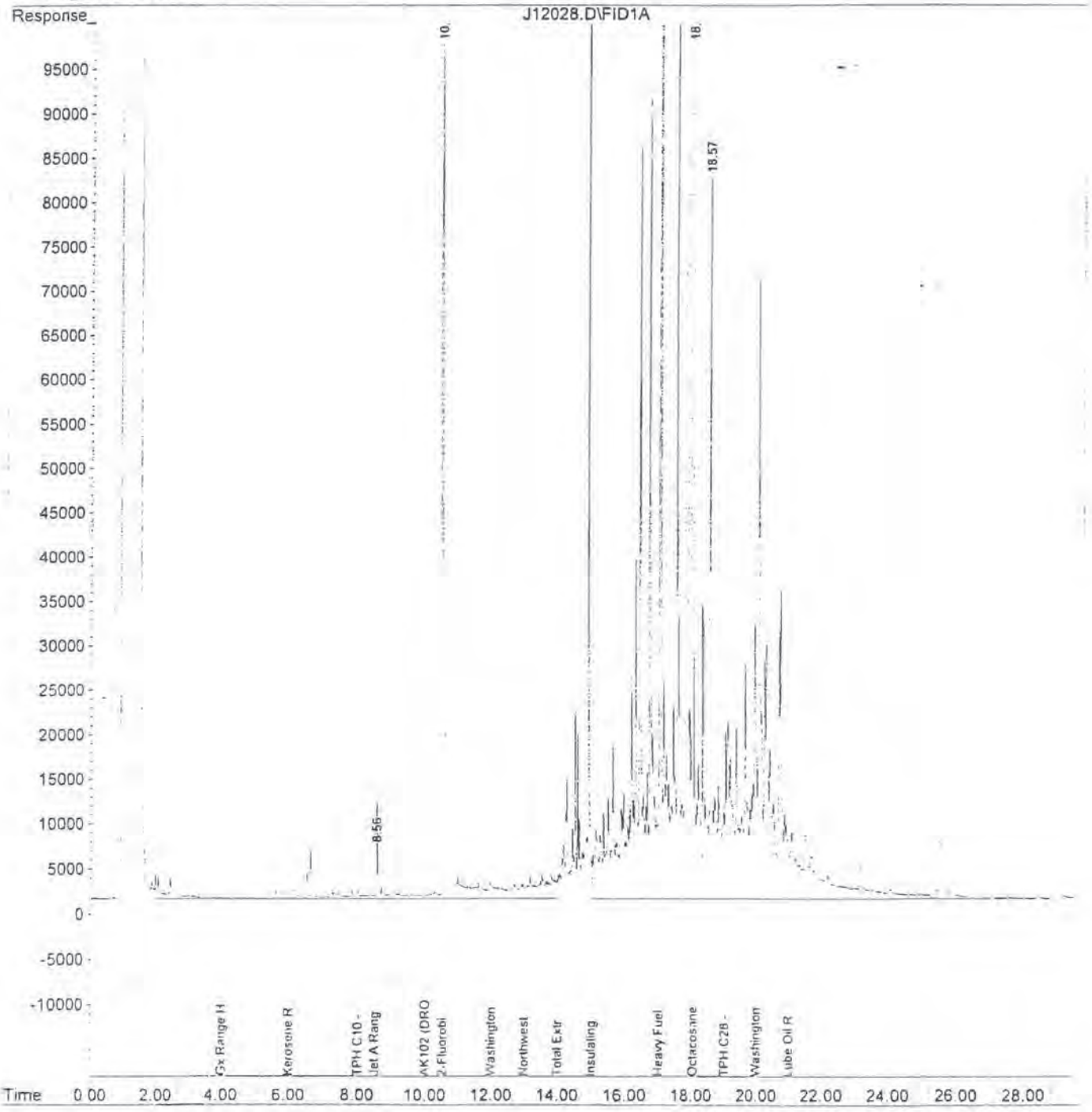


Quantitation Report

Data File : C:\HPCHEM\3\DATA\J12028.D Vial: 21
Acq On : 12 Oct 1998 5:36 pm Operator: krl
Sample : b810221-04 Inst : GC #5
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Oct 12 18:41 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\3\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Mon Sep 28 16:20:24 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



CHAIN OF CUSTODY RECORD

GEOENGINEERS, INC.
8410 154TH AVENUE N.E.
REDMOND, WASHINGTON 98052
(206) 861-6000

Geo Engineers

B810221

DATE 10/8/98
PAGE 1 OF 1
LAB North Creek
LAB NO.

PROJECT NAME/LOCATION FAMILY FUN CENTER / TUKWILA
PROJECT NUMBER 5925-043-01
PROJECT MANAGER LISA BONA
SAMPLED BY D BAUMGARTEN

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED					NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	CHROMIUM	PBHs 8270	PRIORITY POLLUTANT METALS	NW TPH-Dx		(Preserved, filtered, etc.)
	EX-E1-15.5	10/8/98	400	S	2	X					B810221-01
	EX-E2-14.0		415		2	X					02
	EX-I1-5		445		2		X	X			03
	EX-H3-1.0		135		1				X		04
	EX-F13-12		130		2		X	X			05
	EX-F14-15		145		2		X	X			06
	EX-F15-12		200		2		~~X~~	~~X~~		Added 10/9 SD	~~ADD~~ 07
	EX-F16-12		230		2		X	X	X		08
							added 10/26				

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE	GEI	SIGNATURE		SIGNATURE	
PRINTED NAME D BAUMGARTEN		PRINTED NAME		PRINTED NAME	
DATE 10/8/98 TIME 1940		DATE TIME		DATE TIME	
RECEIVED BY S. Wideen	**FIRM** NCA	**RECEIVED BY**	**FIRM**	**RECEIVED BY**	**FIRM**
SIGNATURE		SIGNATURE		SIGNATURE	
PRINTED NAME S. Wideen		PRINTED NAME		PRINTED NAME	
DATE 10/8/98 TIME 13:45		DATE TIME		DATE TIME	

ADDITIONAL COMMENTS:

0.7 D/CS

B - 249

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/22/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
DPSP-2	B810567-01	Soil	10/22/98
DPSP-3	B810567-02	Soil	10/22/98

GeoEngineers

NOV 12 1998

Routing

File

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
DPSP-2			**B810567-01**				**Soil**	
Diesel Range Hydrocarbons	1080932	10/27/98	10/29/98		10.0	**185**	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**157**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*72.4*	*%*	
DPSP-3			**B810567-02**				**Soil**	
Diesel Range Hydrocarbons	1080932	10/27/98	10/28/98		10.0	**29.7**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**139**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*60.6*	*%*	

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

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*
DPSP-2			**B810567-01**				**Soil**	
Antimony	1180184	11/5/98	11/8/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**5.58**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	ND	"	
Chromium	"	"	"	EPA 6020	0.500	**25.7**	"	
Copper	"	"	"	EPA 6020	0.500	**51.3**	"	
Lead	"	"	"	EPA 6020	0.500	**56.9**	"	
Nickel	"	"	"	EPA 6020	0.500	**27.0**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**74.0**	"	
Mercury	1180178	"	11/6/98	EPA 7471A	0.100	**0.103**	"	
DPSP-3			**B810567-02**				**Soil**	
Antimony	1180184	11/5/98	11/8/98	EPA 6020	0.500	ND	mg/kg dry	
Arsenic	"	"	"	EPA 6020	0.500	**5.58**	"	
Beryllium	"	"	"	EPA 6020	0.500	ND	"	
Cadmium	"	"	"	EPA 6020	0.500	**0.624**	"	
Chromium	"	"	"	EPA 6020	0.500	**23.0**	"	
Copper	"	"	"	EPA 6020	0.500	**28.1**	"	
Lead	"	"	"	EPA 6020	0.500	**58.3**	"	
Nickel	"	"	"	EPA 6020	0.500	**24.2**	"	
Selenium	"	"	"	EPA 6020	0.500	ND	"	
Silver	"	"	"	EPA 6020	0.500	ND	"	
Thallium	"	"	"	EPA 6020	0.500	ND	"	
Zinc	"	"	"	EPA 6020	5.00	**68.3**	"	
Mercury	1180178	"	11/6/98	EPA 7471A	0.100	ND	"	

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
DPSP-2			**B810567-01**				**Soil**	
Acenaphthene	1081049	10/30/98	11/7/98		0.200	**1.02**	mg/kg dry	
Acenaphthylene	"	"	"		0.200	**1.45**	"	
Anthracene	"	"	"		0.200	**1.65**	"	2
Benzo (a) anthracene	"	"	"		0.200	**3.93**	"	
Benzo (a) pyrene	"	"	"		0.200	**6.53**	"	2
Benzo (b) fluoranthene	"	"	"		0.200	**6.60**	"	2
Benzo (ghi) perylene	"	"	"		0.200	**3.48**	"	2
Benzo (k) fluoranthene	"	"	"		0.200	**2.05**	"	2
Chrysene	"	"	"		0.200	**4.50**	"	
Dibenz (a,h) anthracene	"	"	"		0.200	**0.495**	"	2
Fluoranthene	"	"	"		0.200	**7.72**	"	2
Fluorene	"	"	"		0.200	**0.825**	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.200	**3.10**	"	2
Naphthalene	"	"	"		0.200	**1.50**	"	
Phenanthrene	"	"	"		0.200	**7.05**	"	2
Pyrene	"	"	"		0.200	**17.1**	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*89.8*	*%*	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*58.3*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*93.7*	"	
DPSP-3			**B810567-02**				**Soil**	
Acenaphthene	1081049	10/30/98	11/8/98		0.100	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.100	ND	"	
Anthracene	"	"	"		0.100	ND	"	
Benzo (a) anthracene	"	"	"		0.100	ND	"	
Benzo (a) pyrene	"	"	"		0.100	ND	"	
Benzo (b) fluoranthene	"	"	"		0.100	ND	"	
Benzo (ghi) perylene	"	"	"		0.100	ND	"	
Benzo (k) fluoranthene	"	"	"		0.100	ND	"	
Chrysene	"	"	"		0.100	**0.104**	"	2
Dibenz (a,h) anthracene	"	"	"		0.100	ND	"	
Fluoranthene	"	"	"		0.100	**0.120**	"	
Fluorene	"	"	"		0.100	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.100	ND	"	
Naphthalene	"	"	"		0.100	ND	"	
Phenanthrene	"	"	"		0.100	**0.192**	"	
Pyrene	"	"	"		0.100	**0.385**	"	2
Surrogate: 2-FBP	"	"	"	*30.0-150*		*61.5*	*%*	

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
DPSP-3 (continued)			**B810567-02**				**Soil**	
Surrogate: Nitrobenzene-d5	*1081049*	*10/30/98*	*11/8/98*	*30.0-150*		*65.5*	*%*	
Surrogate: p-Terphenyl-d14	*"*	*"*	*"*	*30.0-150*		*100*	*"*	

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Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
DPSP-2	B810567-01	Soil	80.8	%
DPSP-3	B810567-02	Soil	83.2	%

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Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Semivolatile Petroleum Products by NWTPH-Dx with Acid/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: 1080932	**Date Prepared: 10/27/98**					**Extraction Method: EPA 3550B**				
Blank	**1080932-BLK1**									
Diesel Range Hydrocarbons	10/28/98			**ND**	mg/kg dry	**10.0**				
Lube Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*10.7*		*6.99*	"	*50.0-150*	*65.3*			
LCS	**1080932-BS1**									
Diesel Range Hydrocarbons	10/28/98	66.7		46.9	mg/kg dry	50.0-150	70.3			
Surrogate: 2-FBP	"	*10.7*		*7.51*	"	*50.0-150*	*70.2*			
Duplicate	**1080932-DUP1**		**B810540-03**							
Diesel Range Hydrocarbons	10/28/98		ND	ND	mg/kg dry			50.0		
Lube Oil Range Hydrocarbons	"		ND	ND	"			50.0		
Surrogate: 2-FBP	"	*11.5*		*7.29*	"	*50.0-150*	*63.4*			

North Creek Analytical - Bothell

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

Steve Davis, Project Manager

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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 %	Note
Batch: 1180178	**Date Prepared: 11/5/98**					**Extraction Method: EPA 7471A**				
Blank	**1180178-BLK1**									
Mercury	11/6/98			ND	mg/kg dry	0.100				
LCS	**1180178-BS1**									
Mercury	11/6/98	1.75		1.50	mg/kg dry	80.0-120	85.7			
Matrix Spike	**1180178-MS1**		**B810567-01**							
Mercury	11/6/98	0.360	0.103	0.476	mg/kg dry	80.0-120	104			
Matrix Spike Dup	**1180178-MSD1**		**B810567-01**							
Mercury	11/6/98	0.345	0.103	0.449	mg/kg dry	80.0-120	100	20.0	3.92	
Batch: 1180184	**Date Prepared: 11/5/98**					**Extraction Method: EPA 3050B**				
Blank	**1180184-BLK1**									
Antimony	11/8/98			ND	mg/kg dry	0.500				
Arsenic	"			ND	"	0.500				
Beryllium	"			ND	"	0.500				
Cadmium	"			ND	"	0.500				
Chromium	"			ND	"	0.500				
Copper	"			ND	"	0.500				
Lead	"			ND	"	0.500				
Nickel	"			ND	"	0.500				
Selenium	"			ND	"	0.500				
Silver	"			ND	"	0.500				
Thallium	"			ND	"	0.500				
Zinc	"			ND	"	5.00				
LCS	**1180184-BS1**									
Antimony	11/8/98	25.0		22.8	mg/kg dry	80.0-120	91.2			
Arsenic	"	25.0		21.6	"	70.0-130	86.4			
Beryllium	"	25.0		22.5	"	80.0-120	90.0			
Cadmium	"	25.0		21.8	"	70.0-130	87.2			
Chromium	"	25.0		23.8	"	80.0-120	95.2			
Copper	"	25.0		23.2	"	80.0-120	92.8			
Lead	"	25.0		24.4	"	80.0-120	97.6			
Nickel	"	25.0		22.1	"	80.0-120	88.4			
Selenium	"	25.0		19.7	"	70.0-130	78.8			
Silver	"	25.0		22.8	"	80.0-120	91.2			

North Creek Analytical - Bothell

Refer to end of report for text of notes and definitions

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/22/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

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*
LCS (continued)	**1180184-BS1**									
Thallium	11/8/98	25.0		25.0	mg/kg dry	80.0-120	100			
Zinc	"	25.0		22.2	"	70.0-130	88.8			
Duplicate	**1180184-DUP1**		**B810730-04**							
Antimony	11/8/98		ND	ND	mg/kg dry			20.0		
Arsenic	"		4.97	4.47	"			20.0	**10.6**	
Beryllium	"		ND	0.866	"			20.0		
Cadmium	"		ND	0.627	"			20.0		
Chromium	"		10.5	9.62	"			20.0	**8.75**	
Copper	"		18.2	15.6	"			20.0	**15.4**	
Lead	"		4.12	3.42	"			20.0	**18.6**	
Nickel	"		12.8	13.7	"			20.0	**6.79**	
Selenium	"		ND	0.807	"			20.0		
Silver	"		ND	ND	"			20.0		
Thallium	"		ND	0.627	"			20.0		
Zinc	"		40.0	38.2	"			20.0	**4.60**	
Matrix Spike	**1180184-MS1**		**B810730-04**							
Antimony	11/8/98	30.2	ND	3.68	mg/kg dry	70.0-130	**12.2**			3
Arsenic	"	30.2	4.97	27.0	"	70.0-130	**72.9**			
Beryllium	"	30.2	ND	25.5	"	70.0-130	**84.4**			
Cadmium	"	30.2	ND	24.4	"	70.0-130	**80.8**			
Chromium	"	30.2	10.5	32.6	"	70.0-130	**73.2**			
Copper	"	30.2	18.2	35.5	"	70.0-130	**57.3**			3
Lead	"	30.2	4.12	30.8	"	70.0-130	**88.3**			
Nickel	"	30.2	12.8	34.3	"	70.0-130	**71.2**			
Selenium	"	30.2	ND	20.6	"	70.0-130	**68.2**			3
Silver	"	30.2	ND	23.7	"	70.0-130	**78.5**			
Thallium	"	30.2	ND	29.0	"	70.0-130	**96.0**			
Zinc	"	30.2	40.0	59.5	"	70.0-130	**64.6**			3
Matrix Spike	**1180184-MS2**		**B810730-04**							
Antimony	11/8/98	581	ND	619	mg/kg dry	70.0-130	**107**			4
Copper	"	581	18.2	569	"	70.0-130	**94.8**			4
Selenium	"	581	ND	593	"	70.0-130	**102**			4
Zinc	"	581	40.0	642	"	70.0-130	**104**			4

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/22/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Note
Batch: 1081049	**Date Prepared: 10/30/98**					**Extraction Method: EPA 3550B**				
Blank	**1081049-BLK1**									
Acenaphthene	11/6/98			ND	mg/kg dry	0.0100				
Acenaphthylene	"			ND	"	0.0100				
Anthracene	"			ND	"	0.0100				
Benzo (a) anthracene	"			ND	"	0.0100				
Benzo (a) pyrene	"			ND	"	0.0100				
Benzo (b) fluoranthene	"			ND	"	0.0100				
Benzo (ghi) perylene	"			ND	"	0.0100				
Benzo (k) fluoranthene	"			ND	"	0.0100				
Chrysene	"			ND	"	0.0100				
Dibenz (a,h) anthracene	"			ND	"	0.0100				
Fluoranthene	"			ND	"	0.0100				
Fluorene	"			ND	"	0.0100				
Indeno (1,2,3-cd) pyrene	"			ND	"	0.0100				
Naphthalene	"			ND	"	0.0100				
Phenanthrene	"			ND	"	0.0100				
Pyrene	"			ND	"	0.0100				
Surrogate: 2-FBP	"	*1.67*		*1.18*	"	*30.0-150*	*70.7*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.37*	"	*30.0-150*	*82.0*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.77*	"	*30.0-150*	*106*			
LCS	**1081049-BS1**									
Chrysene	11/6/98	0.333		0.220	mg/kg dry	10.0-125	66.1			
Fluorene	"	0.333		0.221	"	11.0-116	66.4			
Indeno (1,2,3-cd) pyrene	"	0.333		0.283	"	10.0-147	85.0			
Surrogate: 2-FBP	"	*1.67*		*1.42*	"	*30.0-150*	*85.0*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.43*	"	*30.0-150*	*85.6*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*2.19*	"	*30.0-150*	*131*			
Matrix Spike	**1081049-MS1**		**B810567-01**							
Chrysene	11/7/98	0.413	4.50	5.89	mg/kg dry	10.0-125	**NR**			
Fluorene	"	0.413	0.825	1.93	"	10.0-154	**NR**			
Indeno (1,2,3-cd) pyrene	"	0.413	3.10	3.86	"	10.0-144	**184**			
Surrogate: 2-FBP	"	*2.06*		*2.01*	"	*30.0-150*	*97.6*			
Surrogate: Nitrobenzene-d5	"	*2.06*		*1.58*	"	*30.0-150*	*76.7*			
Surrogate: p-Terphenyl-d14	"	*2.06*		*1.95*	"	*30.0-150*	*94.7*			

North Creek Analytical - Bothell

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

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/22/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/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 Dup	**1081049-MSD1**		**B810567-01**							D
Chrysene	11/7/98	0.413	4.50	1.22	mg/kg dry	10.0-125	**NR**	28.0	**-495**	
Fluorene	"	0.413	0.825	0.380	"	10.0-154	**NR**	32.0	**NR**	
Indeno (1,2,3-cd) pyrene	"	0.413	3.10	0.858	"	10.0-144	**NR**	47.0	**-405**	
Surrogate: 2-FBP	"	*2.06*		*0.314*	"	*30.0-150*	*15.2*			
Surrogate: Nitrobenzene-d5	"	*2.06*		*0.297*	"	*30.0-150*	*14.4*			
Surrogate: p-Terphenyl-d14	"	*2.06*		*0.429*	"	*30.0-150*	*20.8*			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 10/22/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 10/24/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 11/10/98 10:33

Notes and Definitions

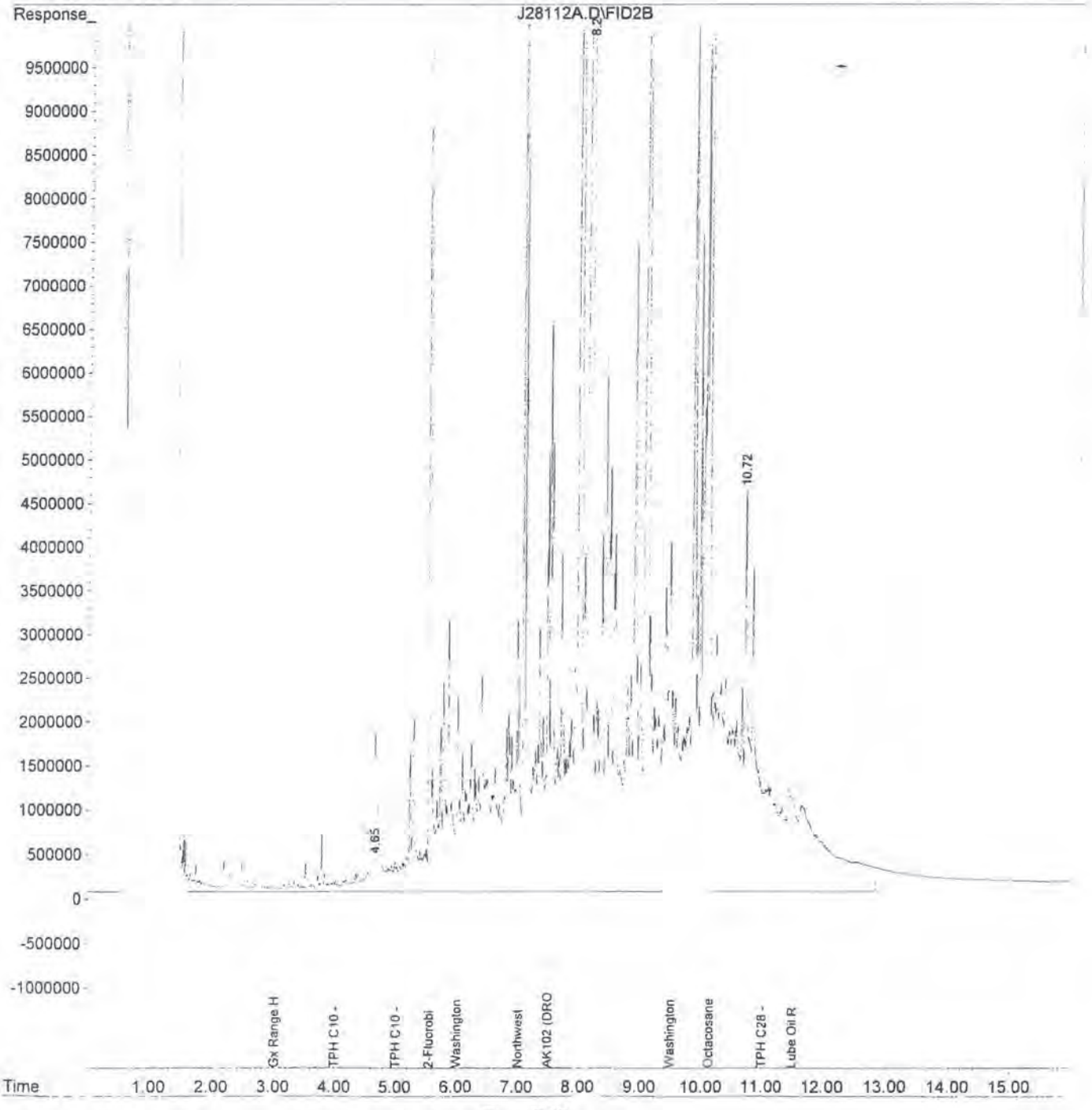
#	Note
1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
2	Due to matrix interference with the internal standard associated with this analyte, the reported value should be considered approximate.
3	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
4	Post-digestion Matrix Spike.
5	The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
6	The recoveries of all surrogate and spike compounds for this QC sample are below the control limits due to an extraction anamoly. This does not represent an out-of-control condition for the batch.
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

Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\J28112A.D Vial: 35
Acq On : 10-29-98 5:10:25 AM Operator: LAC
Sample : b810567-01 r1 Inst : GC #7
Misc : 1x s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Oct 29 8:36 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Oct 28 20:52:36 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

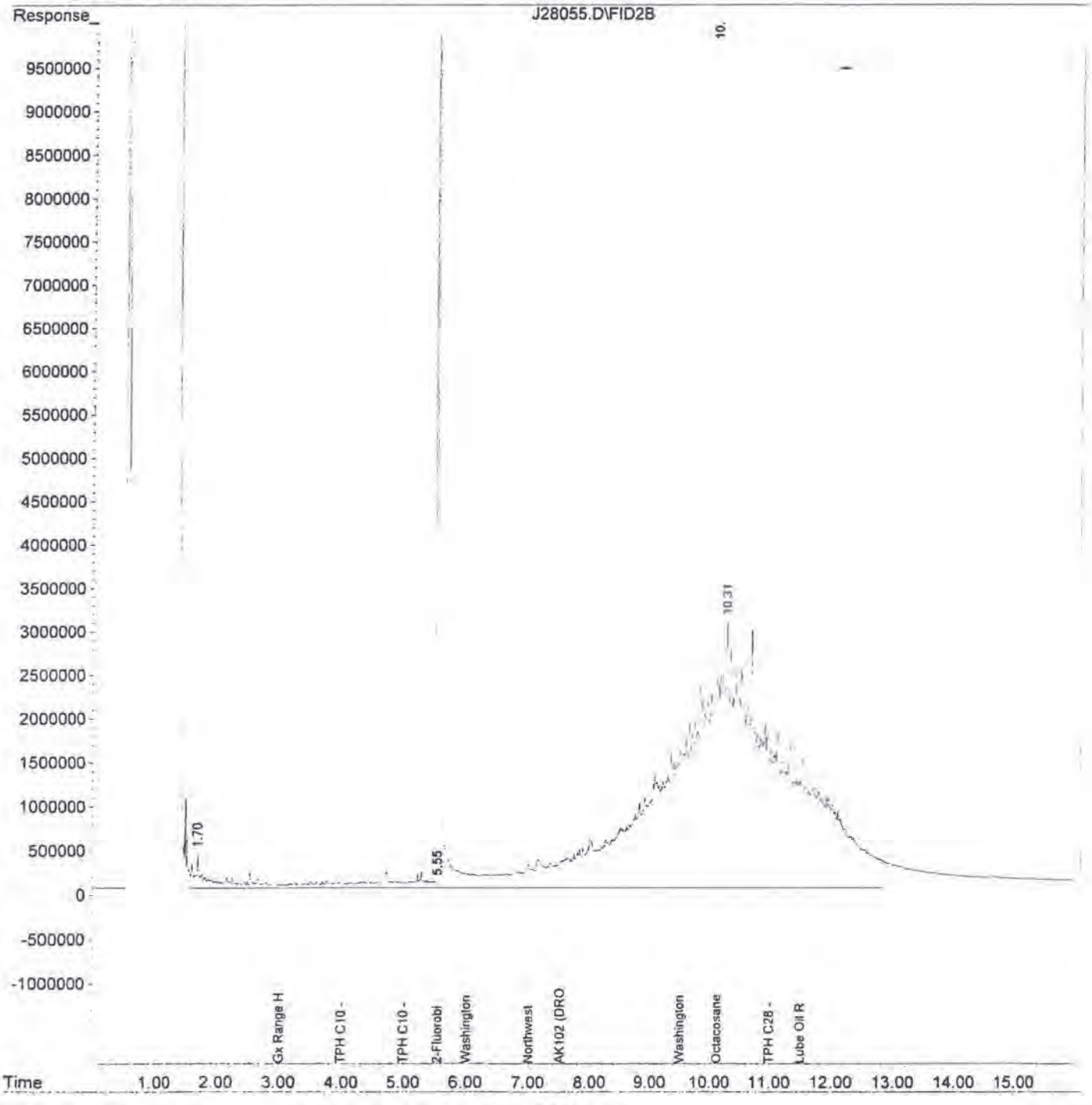


Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\J28055.D Vial: 37
Acq On : 10-28-98 6:04:22 PM Operator: LAC
Sample : b810567-02 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Oct 28 20:59 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Wed Oct 28 20:52:36 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



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~~UNOCAL~~ CHAIN OF CUSTODY REPORT

B810567

~~UNOCAL~~ INFORMATION

Facility Number: Family Fun Center
Site Address:
City, State, ZIP: Tukwila, WA
~~Site Release~~ Number:
~~Unocal~~ Manager:
CERT INFO: (check one) ☐ Evaluation ☐ Remediation ☐ Detection ☐ Demolition ☐ Closure ☐ Miscellaneous

CONSULTANT INFORMATION

Firm: GeoEngineers Project# 5925-003-01
Address: 8410 154th Ave NE
Redmond, WA
Phone: (425) 861-6057 Fax: (425) 861-6100
Project Manager: Lisa Bona
Sample Collection by: Anthony Coyne

Chain of Custody Record #:

Quality Assurance Data Level:
☐ A ☒ B
A: Standard Summary
B: Standard + Chromatograms

Laboratory Turnaround Days:
☒ 10 ☐ 5 ☐ 3 ☐ 2 ☐ 1

○ OR ○ WA ○ AK ☒ NW Series w/ silica gel cleanup

B - 264

SAMPLE INDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CONTAINERS	TPH-HCID	TPH-Gas	BTEX EPA 8021 Mod.	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel Extended	TPH-Diesel-Ext. w/SG Cleanup	Halogen. Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles EPA 8260	GC/MS SemiVols. EPA 8270	PAH's: 8270 SIM or 8310	Lead: Total or Dissolved	TCLP or RCRA Metals (8)	Priority Pollutant metals				NCA SAMPLE NUMBER
1. DPSP-2	10/22/98	S	1						X						X			X				B810567-01
2. DPSP 3	10/22/98	S	1						X						X			X				-02
3.																						
4.																						
5.																						
6.																						
7.																						
8.																	1					
9.																						
10.																						

Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time
1. Anthony Coyne	GeoEngineers	10/22/98 @ 7:00PM	S. Wideen	NCA	10/23/98 13:15
2.					
3.					

Final Report Approval
Were all requested results provided? ☐ yes ☐ no Define
Were results within requested turnaround? ☐ yes ☐ no "No"
Final Approval Signature: 11.9 on back
Firm: Date:

Page 1 of 1
Rev 1/NOV 3 10/97

Comments:

Distribution White - Laboratory Yellow - Consultant Photocopy - Unocal

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-F17-15	B812164-01	Soil	12/7/98
EX-F18-12	B812164-02	Soil	12/7/98

The results in this report apply to the samples analyzed in accordance with the chain of custody document
This analytical report must be reproduced in its entirety

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8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F17-15			**B812164-01**				**Soil**	
Acenaphthene	1280289	12/10/98	12/12/98		0.0500	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0500	**0.178**	"	
Anthracene	"	"	"		0.0500	**0.0914**	"	
Benzo (a) anthracene	"	"	"		0.0500	**0.178**	"	
Benzo (a) pyrene	"	"	"		0.0500	**0.231**	"	
Benzo (b) fluoranthene	"	"	"		0.0500	**0.244**	"	
Benzo (ghi) perylene	"	"	"		0.0500	**0.270**	"	
Benzo (k) fluoranthene	"	"	"		0.0500	**0.0609**	"	
Chrysene	"	"	"		0.0500	**0.144**	"	
Dibenz (a,h) anthracene	"	"	"		0.0500	ND	"	
Fluoranthene	"	"	"		0.0500	**0.235**	"	
Fluorene	"	"	"		0.0500	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0500	**0.270**	"	
Naphthalene	"	"	"		0.0500	**0.0653**	"	
Phenanthrene	"	"	"		0.0500	**0.178**	"	
Pyrene	"	"	"		0.0500	**0.400**	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*75.7*	*%*	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*86.2*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*93.1*	"	
EX-F18-12			**B812164-02**				**Soil**	
Acenaphthene	1280289	12/10/98	12/12/98		0.0500	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0500	ND	"	
Anthracene	"	"	"		0.0500	ND	"	
Benzo (a) anthracene	"	"	"		0.0500	ND	"	
Benzo (a) pyrene	"	"	"		0.0500	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0500	ND	"	
Benzo (ghi) perylene	"	"	"		0.0500	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0500	ND	"	
Chrysene	"	"	"		0.0500	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0500	ND	"	
Fluoranthene	"	"	"		0.0500	ND	"	
Fluorene	"	"	"		0.0500	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0500	ND	"	
Naphthalene	"	"	"		0.0500	ND	"	
Phenanthrene	"	"	"		0.0500	ND	"	
Pyrene	"	"	"		0.0500	ND	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*84.8*	*%*	

North Creek Analytical - Bothell

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

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-F18-12 (continued)			**B812164-02**				**Soil**	
Surrogate: Nitrobenzene-d5	*1280289*	*12/10/98*	*12/12/98*	*30.0-150*		*100*	*%*	
Surrogate: p-Terphenyl-d14	*"*	*"*	*"*	*30.0-150*		*84.0*	*"*	

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled:	12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received:	12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported:	12/23/98 09:56

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX-F17-15	B812164-01	Soil	76.6	%
EX-F18-12	B812164-02	Soil	68.3	%

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Note:
Batch: 1280289	**Date Prepared: 12/10/98**					**Extraction Method: EPA 3550B**				
Blank	**1280289-BLK1**									
Acenaphthene	12/12/98			ND	mg/kg dry	0.0100				
Acenaphthylene	"			ND	"	0.0100				
Anthracene	"			ND	"	0.0100				
Benzo (a) anthracene	"			ND	"	0.0100				
Benzo (a) pyrene	"			ND	"	0.0100				
Benzo (b) fluoranthene	"			ND	"	0.0100				
Benzo (ghi) perylene	"			ND	"	0.0100				
Benzo (k) fluoranthene	"			ND	"	0.0100				
Chrysene	"			ND	"	0.0100				
Dibenz (a,h) anthracene	"			ND	"	0.0100				
Fluoranthene	"			ND	"	0.0100				
Fluorene	"			ND	"	0.0100				
Indeno (1,2,3-cd) pyrene	"			ND	"	0.0100				
Naphthalene	"			ND	"	0.0100				
Phenanthrene	"			ND	"	0.0100				
Pyrene	"			ND	"	0.0100				
Surrogate: 2-FBP	"	*1.67*		*1.16*	"	*30.0-150*	*69.5*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.65*	"	*30.0-150*	*98.8*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.38*	"	*30.0-150*	*82.6*			
LCS	**1280289-BS1**									
Chrysene	12/12/98	0.333		0.230	mg/kg dry	10.0-125	69.1			
Fluorene	"	0.333		0.240	"	11.0-116	72.1			
Indeno (1,2,3-cd) pyrene	"	0.333		0.323	"	10.0-147	97.0			
Surrogate: 2-FBP	"	*1.67*		*1.22*	"	*30.0-150*	*73.1*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.68*	"	*30.0-150*	*101*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.40*	"	*30.0-150*	*83.8*			
Matrix Spike	**1280289-MS1**		**B812166-01**							
Chrysene	12/12/98	0.370	0.389	0.456	mg/kg dry	10.0-125	**18.1**			
Fluorene	"	0.370	ND	0.319	"	10.0-154	**86.2**			
Indeno (1,2,3-cd) pyrene	"	0.370	0.519	0.637	"	10.0-144	**31.9**			
Surrogate: 2-FBP	"	*1.85*		*1.77*	"	*30.0-150*	*95.7*			
Surrogate: Nitrobenzene-d5	"	*1.85*		*1.98*	"	*30.0-150*	*107*			
Surrogate: p-Terphenyl-d14	"	*1.85*		*1.84*	"	*30.0-150*	*99.5*			

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/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 Dup	**1280289-MSD1**		**B812166-01**							
Chrysene	12/12/98	0.370	0.389	0.456	mg/kg dry	10.0-125	**18.1**	28.0	**0**	
Fluorene	"	0.370	ND	0.315	"	10.0-154	**85.1**	32.0	**1.28**	
Indeno (1,2,3-cd) pyrene	"	0.370	0.519	0.637	"	10.0-144	**31.9**	47.0	**0**	
Surrogate: 2-FBP	"	*1.85*		*1.57*	"	*30.0-150*	*84.9*			
Surrogate: Nitrobenzene-d5	"	*1.85*		*1.87*	"	*30.0-150*	*101*			
Surrogate: p-Terphenyl-d14	"	*1.85*		*1.81*	"	*30.0-150*	*97.8*			

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/7/98
8410 154th Ave NE	Project Number:	5925-003-01	Received: 12/8/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/23/98 09:56

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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18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (425) 420-9200 FAX 420-9210
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) 906-9200 FAX 906-9210

CHAIN OF CUSTODY REPORT

Work Order # B812164

REPORT TO: GEOENGINEERS	INVOICE TO:
ATTENTION: LISA BONA	ATTENTION: SAME
ADDRESS: 8410 154th AVE NE	ADDRESS:
REDMOND WA 98052	
PHONE: (425) 861-6000 FAX: (425) 861-6050	P.O. NUMBER: NCA QUOTE #:
PROJECT NAME: FAMILY FUN CENTER	
PROJECT NUMBER: 5925-003-01	
SAMPLED BY: D BAUMGARTEN	

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: NORMAL

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: DAHs 8270	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	EX-F17-15	12/7/98 1045	B812164-01	X	S	2	
2.	EX-F18-12	1100	02	X	S	2	
3.	EX-F19-12	1115	03				HOLD
4.							
5.							
6.							
7.							
8.							
9.							
10							

DOB

RELINQUISHED BY (Signature):	DATE: 12/7/98	RECEIVED BY (Signature): S. Wideen	DATE: 12/8/98
PRINT NAME: D BAUMGARTEN FIRM: GEI	TIME: 1630	PRINT NAME: S. Wideen FIRM: NCA	TIME: 1225
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	DATE:
PRINT NAME: FIRM:	TIME:	PRINT NAME: FIRM:	TIME:

ADDITIONAL REMARKS:

WCS 12.8

NORTH CREEK ANALYTICAL
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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/21/98
8410 154th Ave NE	Project Number:	5925-003-01 Task 8	Received: 12/21/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/30/98 14:17

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
FFC-1	B812439-01	Soil	12/21/98
FFC-2	B812439-02	Soil	12/21/98
FFC-3	B812439-03	Soil	12/21/98
FFC-4	B812439-04	Soil	12/21/98
FFC-5	B812439-05	Soil	12/21/98
FFC-6	B812439-06	Soil	12/21/98

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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/21/98
8410 154th Ave NE	Project Number:	5925-003-01 Task 8	Received: 12/21/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/30/98 14:17

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
FFC-1			**B812439-01**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	**48.2**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**176**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*58.2*	*%*	
FFC-2			**B812439-02**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	**41.7**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**247**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*64.6*	*%*	
FFC-3			**B812439-03**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	**35.0**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**149**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*69.7*	*%*	
FFC-4			**B812439-04**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	**82.2**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**361**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*74.0*	*%*	
FFC-5			**B812439-05**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	ND	mg/kg dry	
Lube Oil Range Hydrocarbons	"	"	"		25.0	**46.2**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*62.7*	*%*	
FFC-6			**B812439-06**				**Soil**	
Diesel Range Hydrocarbons	1280643	12/22/98	12/24/98		10.0	**55.9**	mg/kg dry	1
Lube Oil Range Hydrocarbons	"	"	"		25.0	**256**	"	
Surrogate: 2-FBP	"	"	"	*50.0-150*		*67.6*	*%*	

NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/21/98
8410 154th Ave NE	Project Number:	5925-003-01 Task 8	Received: 12/21/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/30/98 14:17

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
FFC-1	B812439-01	Soil	83.1	%
FFC-2	B812439-02	Soil	86.6	%
FFC-3	B812439-03	Soil	85.1	%
FFC-4	B812439-04	Soil	87.1	%
FFC-5	B812439-05	Soil	92.4	%
FFC-6	B812439-06	Soil	78.9	%

NORTH CREEK ANALYTICAL
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Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/21/98
8410 154th Ave NE	Project Number:	5925-003-01 Task 8	Received: 12/21/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/30/98 14:17

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/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: 1280643	**Date Prepared: 12/22/98**					**Extraction Method: EPA 3550B**				
Blank	**1280643-BLK1**									
Diesel Range Hydrocarbons	12/24/98			**ND**	mg/kg dry	**10.0**				
Lube Oil Range Hydrocarbons	"			**ND**	"	**25.0**				
Surrogate: 2-FBP	"	*11.1*		*6.74*	"	*50.0-150*	*60.7*			
LCS	**1280643-BS1**									
Diesel Range Hydrocarbons	12/24/98	66.7		54.1	mg/kg dry	60.0-140	81.1			
Surrogate: 2-FBP	"	*11.1*		*6.14*	"	*50.0-150*	*55.3*			
Duplicate	**1280643-DUP1**	**B812438-09**								
Diesel Range Hydrocarbons	12/24/98		ND	ND	mg/kg dry			50.0		
Lube Oil Range Hydrocarbons	"		ND	ND	"			50.0		
Surrogate: 2-FBP	"	*14.6*		*9.35*	"	*50.0-150*	*64.0*			
Duplicate	**1280643-DUP2**	**B812439-01**								
Diesel Range Hydrocarbons	12/24/98		48.2	43.2	mg/kg dry			50.0	**10.9**	
Lube Oil Range Hydrocarbons	"		176	184	"			50.0	**4.44**	
Surrogate: 2-FBP	"	*13.3*		*8.31*	"	*50.0-150*	*62.5*			

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PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Geo Engineers - Redmond	Project:	Family Fun Center (FFC)	Sampled: 12/21/98
8410 154th Ave NE	Project Number:	5925-003-01 Task 8	Received: 12/21/98
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 12/30/98 14:17

Notes and Definitions

#	Note
1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
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 - Bothell

Steve Davis, Project Manager

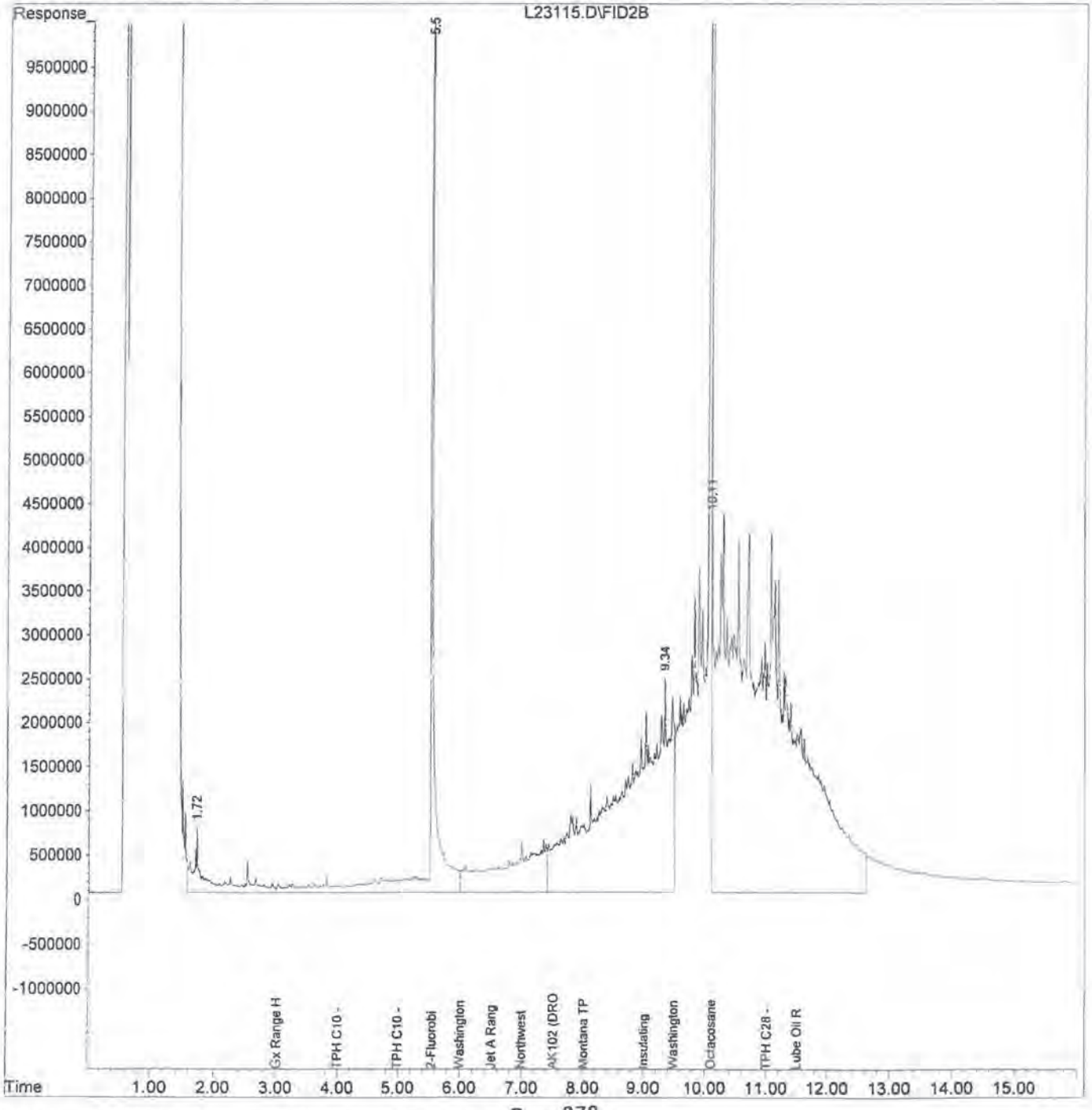
18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\L23115.D Vial: 82
Acq On : 12-24-98 8:05:43 AM Operator: LAC
Sample : b812439-01 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 24 8:38 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Dec 10 12:08:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

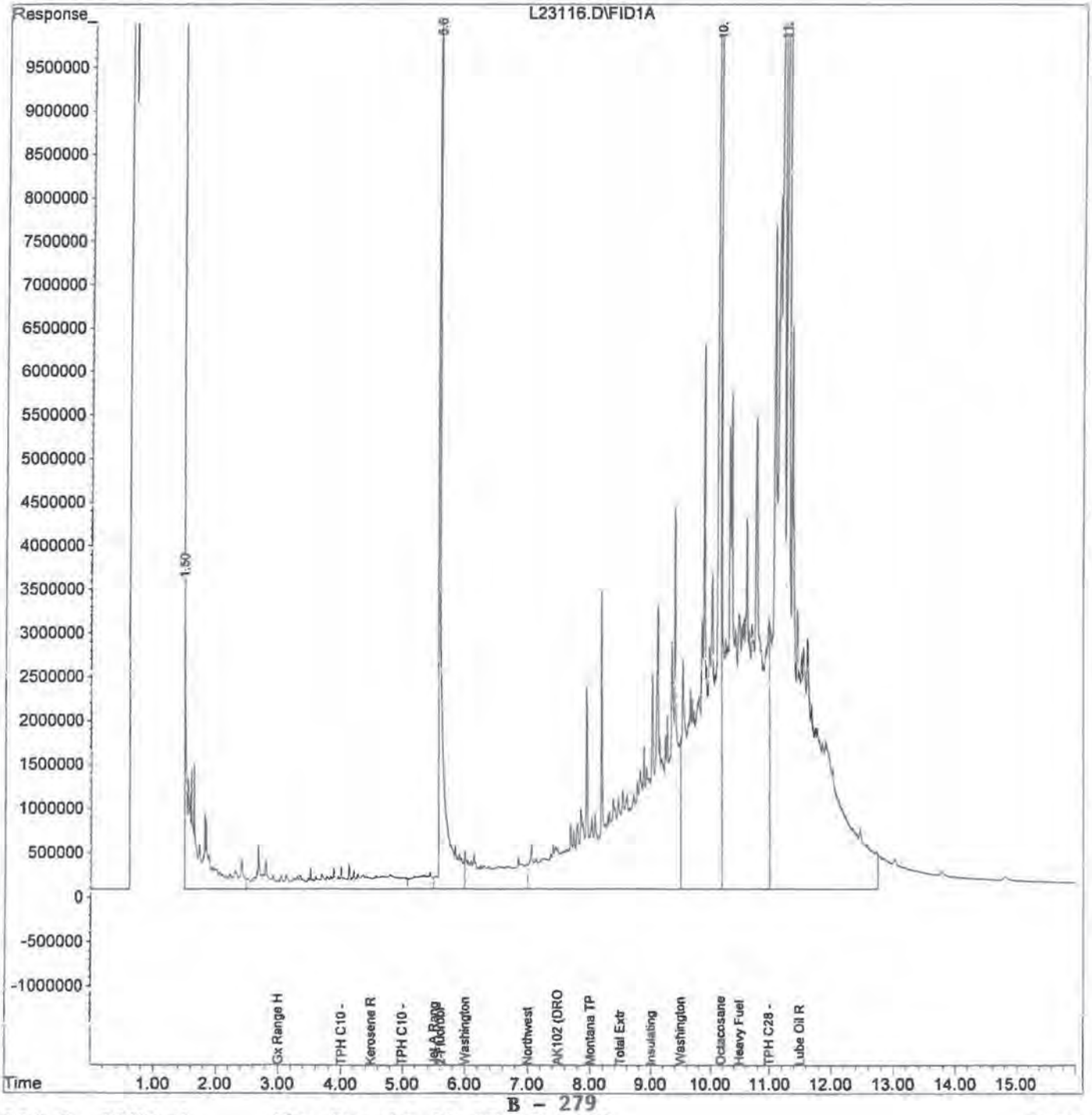


Quantitation Report

Data File : C:\HPCHEM\4\DATA\L23116.D Vial: 83
Acq On : 12-24-98 8:05:43 AM Operator: LAC
Sample : b812439-02 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 24 8:36 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Dec 10 11:44:07 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

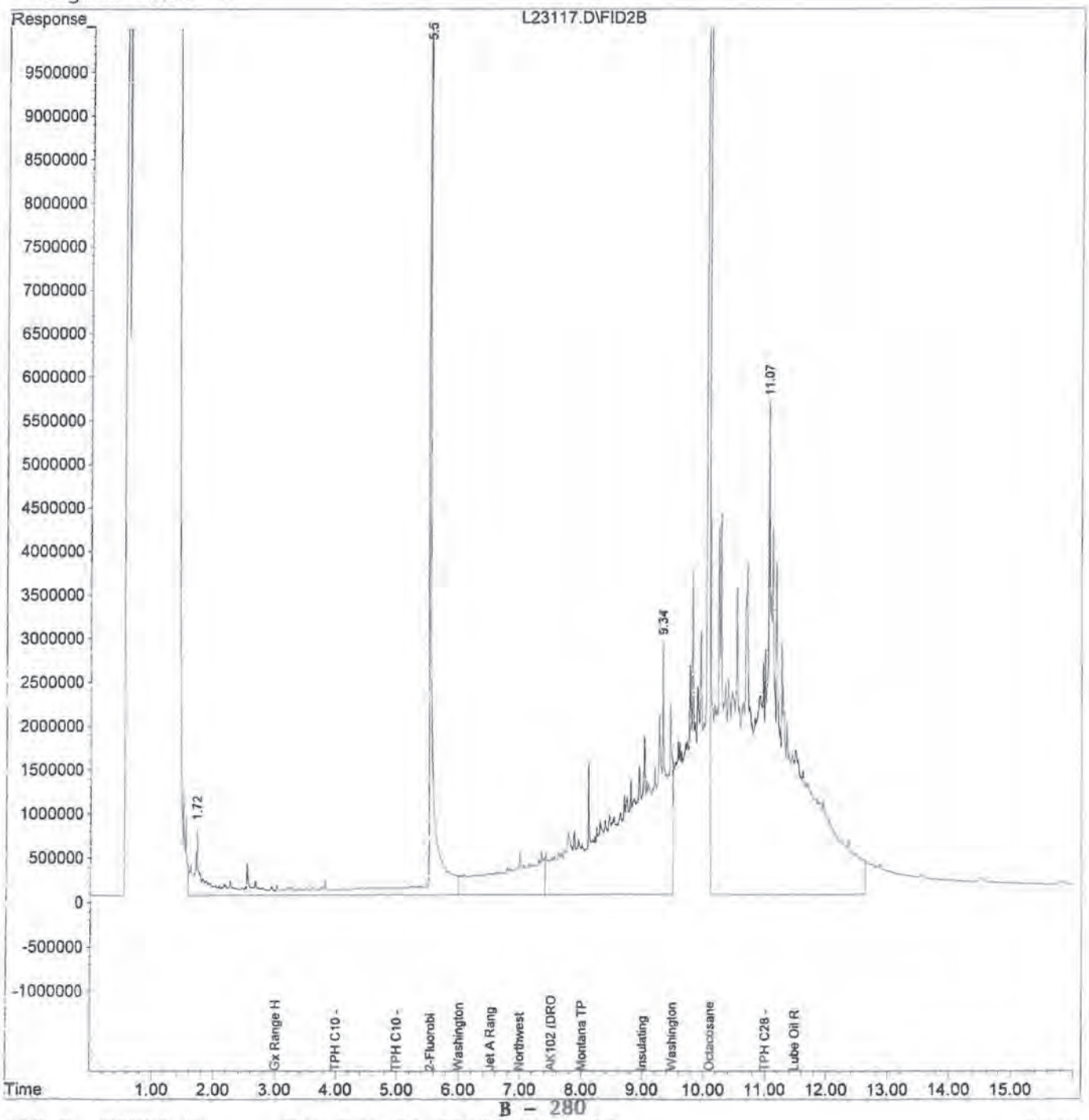


Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\L23117.D Vial: 84
Acq On : 12-24-98 8:28:46 AM Operator: LAC
Sample : b812439-03 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 24 9:01 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Dec 10 12:08:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

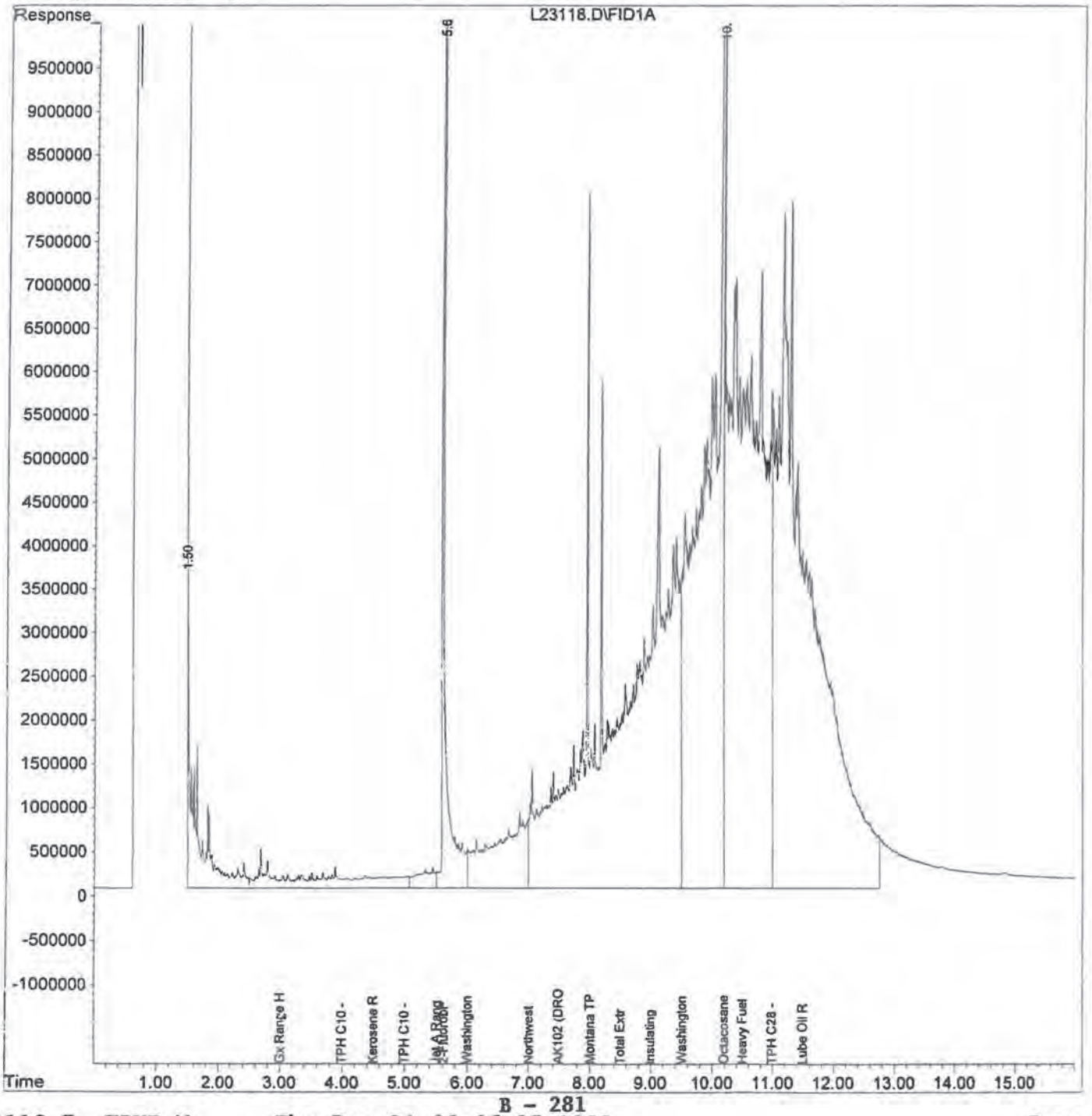


Quantitation Report

Data File : C:\HPCHEM\4\DATA\L23118.D Vial: 85
Acq On : 12-24-98 8:28:46 AM Operator: LAC
Sample : b812439-04 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 24 9:03 1998 Quant Results File: TPHD.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD.M (Chemstation Integrator)
Title : TPH-D Front Method
Last Update : Thu Dec 10 11:44:07 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

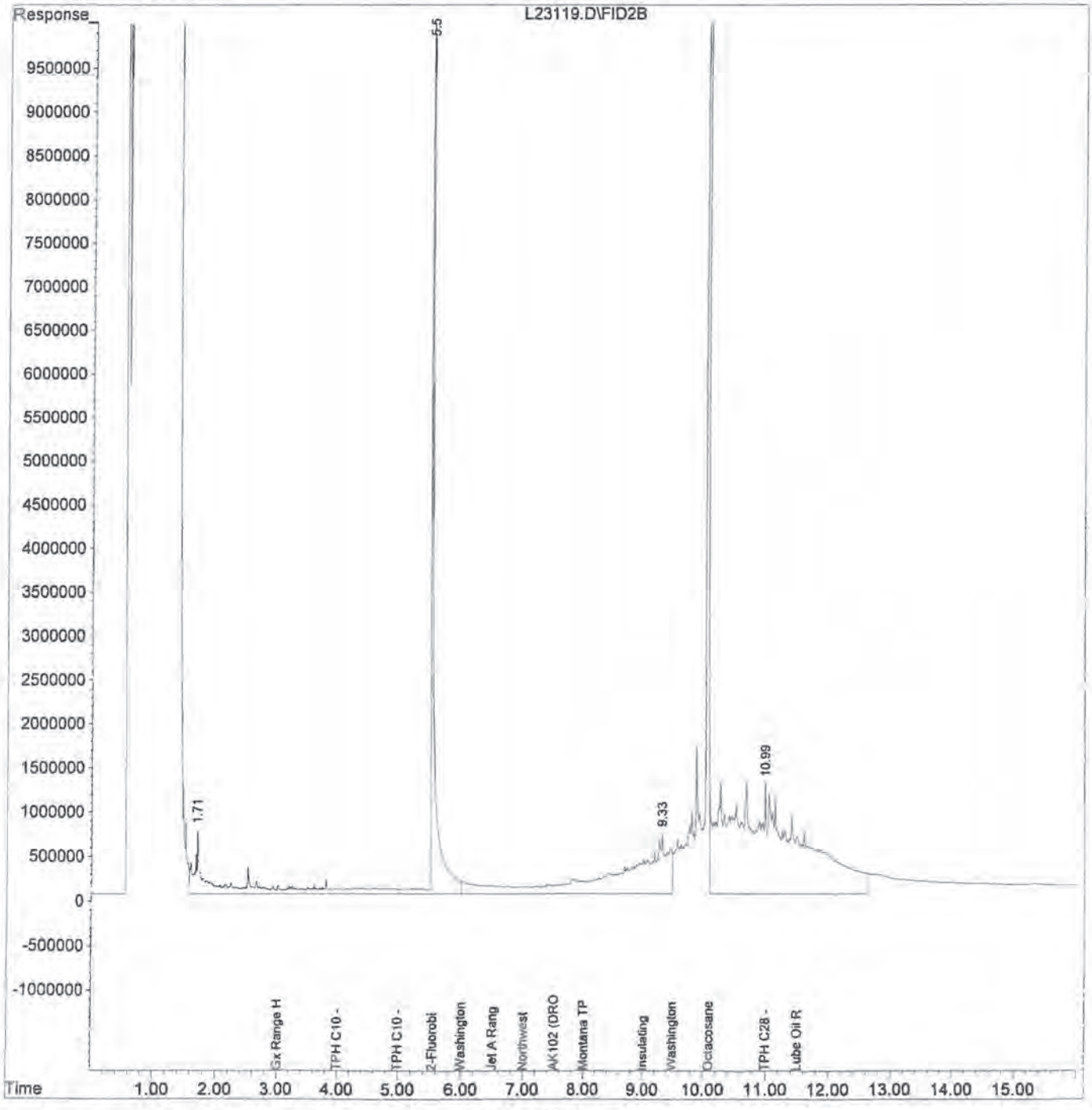


Quantitation Report

Data File : C:\HPCHEM\4\DATA\122398\L23119.D Vial: 86
Acq On : 12-24-98 8:52:07 AM Operator: LAC
Sample : b812439-05 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 24 9:15 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Dec 10 12:08:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :

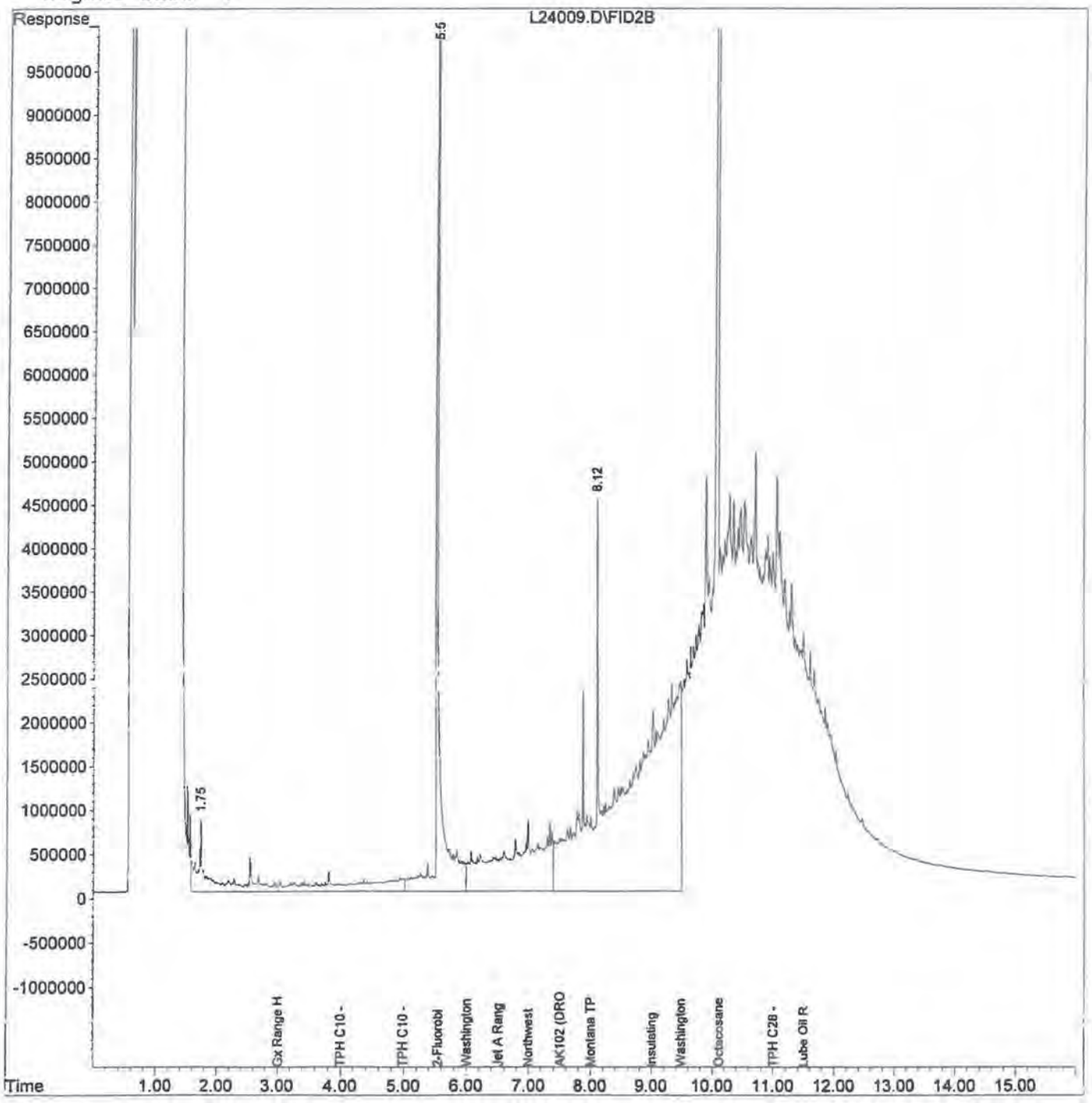


Quantitation Report

Data File : C:\HPCHEM\4\DATA.SEC\L24009.D Vial: 5
Acq On : 12-24-98 12:20:43 PM Operator: lac
Sample : b812439-06 r1 Inst : GC #7
Misc : s Multiplr: 1.00
IntFile : SURR.E
Quant Time: Dec 28 7:55 1998 Quant Results File: TPHD2.RES

Quant Method : C:\HPCHEM\4\METHODS\TPHD2.M (Chemstation Integrator)
Title : TPH-D Rear Method
Last Update : Thu Dec 10 12:08:21 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPHD.M

Volume Inj. :
Signal Phase :
Signal Info :



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CHAIN OF CUSTODY REPORT

Work Order # B812439

REPORT TO:
ATTENTION: Lisa Bona - GeoEngineers
ADDRESS: Redmond, WA
PHONE: 425-861-6057 FAX: 425-861-6050
PROJECT NAME: Family Fun Center
PROJECT NUMBER: 5925-003-01 Task 8
SAMPLED BY: Anthony Coyne

INVOICE TO:
ATTENTION: Lisa Bona - GeoEngineers
ADDRESS:
P.O. NUMBER: NCA QUOTE #:

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: NWTPH-Dx	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	FFC-1	13:08 hrs 12/21/98	B812439-01	✓	S	1	
2.	FFC-2	13:56 hrs 12/21/98	02	✓	S	1	
3.	FFC-3	15:15 hrs 12/21/98	03	✓	S	1	
4.	FFC-4	14:35 hrs 12/21/98	04	✓	S	1	
5.	FFC-5	14:13 hrs 12/21/98	05	✓	S	1	
6.	FFC-6	15:40 hrs 12/21/98	06	✓	S	1	
7.							
8.							
9.							
10.							

RELINQUISHED BY: Anthony Coyne DATE: 12/21/98 TIME: ~~16:31 hrs~~
PRINT NAME: Anthony Coyne FIRM: GeoEngineers TIME: 16:31 hrs

RECEIVED BY: Adar Reed DATE: 12/21/98
PRINT NAME: Adar Reed FIRM: NCA-B TIME: 16:41

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

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

ADDITIONAL REMARKS:

www.ncalabs.com

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Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20354 Empire Avenue, Suite E-9, Bend, OR 97708-1883
541.383.9310 fax 541.382.7588

Geo Engineers - Redmond	Project:	Family Fun Center, Tukwila	Sampled: 1/21/99
8410 154th Ave NE	Project Number:	5925-003-01	Received: 1/22/99
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 2/2/99 08:39

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EXF-19-18	B901377-01	Soil	1/21/99

GeoEngineers

FEB 03 1999

Routing

File

North Creek Analytical - Bothell

Steve Davis, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

www.ncalabs.com

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509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20354 Empire Avenue, Suite E-9, Bend, OR 97708-1883
541.383.9310 fax 541.382.7588

Geo Engineers - Redmond	Project:	Family Fun Center, Tukwila	Sampled: 1/21/99
8410 154th Ave NE	Project Number:	5925-003-01	Received: 1/22/99
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 2/2/99 08:39

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EXF-19-18			**B901377-01**				**Soil**	
Acenaphthene	0190630	1/27/99	1/29/99		0.0100	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0100	ND	"	
Anthracene	"	"	"		0.0100	ND	"	
Benzo (a) anthracene	"	"	"		0.0100	ND	"	
Benzo (a) pyrene	"	"	"		0.0100	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0100	ND	"	
Benzo (ghi) perylene	"	"	"		0.0100	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0100	ND	"	
Chrysene	"	"	"		0.0100	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0100	ND	"	
Fluoranthene	"	"	"		0.0100	ND	"	
Fluorene	"	"	"		0.0100	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0100	ND	"	
Naphthalene	"	"	"		0.0100	ND	"	
Phenanthrene	"	"	"		0.0100	**0.0234**	"	
Pyrene	"	"	"		0.0100	ND	"	
Surrogate: 2-FBP	"	"	"	*30.0-150*		*45.7*	%	
Surrogate: Nitrobenzene-d5	"	"	"	*30.0-150*		*54.7*	"	
Surrogate: p-Terphenyl-d14	"	"	"	*30.0-150*		*73.1*	"	

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

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503.906.9200 fax 503.906.9210
Bend 20354 Empire Avenue, Suite E-5, Bend, OR 97701-1883
541.383.9310 fax 541.382.7588

Geo Engineers - Redmond	Project:	Family Fun Center, Tukwila	Sampled: 1/21/99
8410 154th Ave NE	Project Number:	5925-003-01	Received: 1/22/99
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 2/2/99 08:39

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EXF-19-18	B901377-01	Soil	71.2	%

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Geo Engineers - Redmond	Project:	Family Fun Center, Tukwila	Sampled: 1/21/99
8410 154th Ave NE	Project Number:	5925-003-01	Received: 1/22/99
Redmond, WA 98052	Project Manager:	Lisa Bona	Reported: 2/2/99 08:39

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/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: 0190630	**Date Prepared: 1/27/99**					**Extraction Method: EPA 3550B**				
Blank	**0190630-BLK1**									
Acenaphthene	1/29/99			**ND**	mg/kg dry	**0.0100**				
Acenaphthylene	"			**ND**	"	**0.0100**				
Anthracene	"			**ND**	"	**0.0100**				
Benzo (a) anthracene	"			**ND**	"	**0.0100**				
Benzo (a) pyrene	"			**ND**	"	**0.0100**				
Benzo (b) fluoranthene	"			**ND**	"	**0.0100**				
Benzo (ghi) perylene	"			**ND**	"	**0.0100**				
Benzo (k) fluoranthene	"			**ND**	"	**0.0100**				
Chrysene	"			**ND**	"	**0.0100**				
Dibenz (a,h) anthracene	"			**ND**	"	**0.0100**				
Fluoranthene	"			**ND**	"	**0.0100**				
Fluorene	"			**ND**	"	**0.0100**				
Indeno (1,2,3-cd) pyrene	"			**ND**	"	**0.0100**				
Naphthalene	"			**ND**	"	**0.0100**				
Phenanthrene	"			**ND**	"	**0.0100**				
Pyrene	"			**ND**	"	**0.0100**				
Surrogate: 2-FBP	"	*1.67*		*0.699*	"	*30.0-150*	*41.9*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.56*	"	*30.0-150*	*93.4*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.19*	"	*30.0-150*	*71.3*			
LCS	**0190630-BS1**									
Chrysene	1/29/99	0.333		0.276	mg/kg dry	10.0-125	82.9			
Fluorene	"	0.333		0.425	"	11.0-116	128			1
Indeno (1,2,3-cd) pyrene	"	0.333		0.268	"	10.0-147	80.5			
Surrogate: 2-FBP	"	*1.67*		*1.34*	"	*30.0-150*	*80.2*			
Surrogate: Nitrobenzene-d5	"	*1.67*		*1.49*	"	*30.0-150*	*89.2*			
Surrogate: p-Terphenyl-d14	"	*1.67*		*1.36*	"	*30.0-150*	*81.4*			
Matrix Spike	**0190630-MS1**		**B901377-01**							
Chrysene	1/28/99	0.468	ND	0.389	mg/kg dry	10.0-125	**83.1**			
Fluorene	"	0.468	ND	0.568	"	10.0-154	**121**			
Indeno (1,2,3-cd) pyrene	"	0.468	ND	0.335	"	10.0-144	**71.6**			
Surrogate: 2-FBP	"	*2.34*		*1.99*	"	*30.0-150*	*85.0*			
Surrogate: Nitrobenzene-d5	"	*2.34*		*2.03*	"	*30.0-150*	*86.8*			
Surrogate: p-Terphenyl-d14	"	*2.34*		*1.87*	"	*30.0-150*	*79.9*			

North Creek Analytical - Bothell

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

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Not
Matrix Spike Dup	**0190630-MSD1**		**B901377-01**							
Chrysene	1/28/99	0.468	ND	0.371	mg/kg dry	10.0-125	**79.3**	28.0	**4.68**	
Fluorene	"	0.468	ND	0.462	"	10.0-154	**98.7**	32.0	**20.3**	
Indeno (1,2,3-cd) pyrene	"	0.468	ND	0.320	"	10.0-144	**68.4**	47.0	**4.57**	
Surrogate: 2-FBP	"	*2.34*		*1.65*	"	*30.0-150*	*70.5*			
Surrogate: Nitrobenzene-d5	"	*2.34*		*1.86*	"	*30.0-150*	*79.5*			
Surrogate: p-Terphenyl-d14	"	*2.34*		*1.80*	"	*30.0-150*	*76.9*			

Customer Job Report

Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

Job Number Name	SiteAddress	SiteCity	State	ZipCode
A03 -- 01712 FAMILY FUN CENTER	15034 SO. GRADY WAY	TUKWILLA	WA	00000

Load #	Date & Time Out	Transporter #	Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)
1	05/05/98 09:07	3SHEART	DAVID	79,320M	39,240M	40,080	20.04
2	05/05/98 09:08	3SHEART	SCOTT	78,700M	38,500M	40,200	20.10
3	05/05/98 09:08	3SHEART	TOM	87,860M	39,100M	48,760	24.38
4	05/05/98 09:08	3SHEART	DAVID	102,120M	39,240M	62,880	31.44
5	05/05/98 09:09	3SHEART	SCOTT	101,920M	38,500M	63,420	31.71
6	05/05/98 09:09	3SHEART	TOM	98,960M	39,100M	59,860	29.93
0	05/08/98 14:21	3SHEART		0	0	0	0.00
7	09/23/98 00:00	3SHEART	GREGORY	131,560M	40,420M	91,140	45.57
8	09/24/98 00:00	3SHEART	DAVID	47,940M	25,960M	21,980	10.99
9	10/22/98 05:21	3SHEART	LEE	75,860M	36,300M	39,560	19.78
10	10/22/98 05:21	3SHEART	GREGORY	102,800M	40,200M	62,600	31.30
11	10/22/98 05:22	3SHEART	DAVID	97,500M	40,340M	57,160	28.58
12	10/23/98 12:35	3SHEART	DAVID	62,480M	32,000M	30,480	15.24
13	10/23/98 12:35	3SHEART	DAVID	107,840M	40,340M	67,500	33.75
14	12/11/98 09:13	3SHEART	GREG	69,780M	25,940M	43,840	21.92
15	01/21/99 08:21	3SHEART	DAVID	65,800M	40,140M	25,660	12.83

Completed Loads	Manifests Received	Completed Weight	Estimated Weight	TOTAL Net Wt:
64.00%	16	111.00%	340.00 (tons)	377.56 (tons)

Post-it® Fax Note 7671

To Lisa Bona	Date 7/23 # of pages 1
Co./Dept. GeoEng.	From Lorie Hutchins
Phone #	Co. TPS
Fax # 425/861-6050	Phone # 253/854-8830
	Fax #

TANK SERVICES NORTHWEST, INC.

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Phone (425) 788-8418 • Toll Free 1-800-532-5902
FAX (425) 788-7086

UNDERGROUND STORAGE TANK CLEANING & DISPOSAL CERTIFICATION

DATE: October 28, 1998

CUSTOMER: Custom Backhoe & Dumptruck Service Inc.
13032 Southeast 45th Court
Bellevue, WA 98006

TANK ADDRESS: Family Fun Center
15034 Grady Way South
Renton, WA

CONTENTS:

300-gallon tank	Waste oil
55-gallon barrel	Waste oil
2 barrels	Empty

CERTIFICATION: Tank Services Northwest, Inc. certifies that on the above date the above 300-gallon waste oil tank at the above location ("Tank Address") was properly cleaned and disposed of in accordance with Uniform Fire Code regulations. Three barrels and contents were also properly disposed of.

TANK SERVICES NORTHWEST, INC.

Patricia R. Haglin
President

APPENDIX D

LETTER FROM CITY OF TUKWILA

City of Tukwila

Steven M. Mullet, Mayor

Department of Public Works

James F. Morrow, P.E., Director

March 28, 2001

John Huish
Family Fun Center
7300 Fun Center Way
Tukwila, WA 98188

Re: Placement of Contaminated Fill Material within Grady Way right-of-way

Dear Mr. Huish:

This is to acknowledge receipt of your letter dated January 15, 2001 wherein Family Fun Center has provided a chronology of events leading to the placement of soils containing petroleum hydrocarbons on City property. In the City's December 8, 1998 letter, the placement of the soils was contingent upon the following:

1. Receipt of test result from samples of in-place soils placed on Grady Way.

2. Geo Engineers provide an expanded discussion of the potential hazards associated with the placement of the contaminated soil.

3. A topographic survey indicating the extent, depth, and limits of the contaminated soil placement.

Geo Engineers has determined that the soil contained diesel-range hydrocarbons with concentrations up to 82.2 mg/kg and heavy oil-range hydrocarbons with concentrations up to 361 mg/kg. Geo Engineers feels that the diesel- and heavy oil-range hydrocarbons at the concentrations detected are unlikely to leach to the ground water. Further, it is their opinion that if the soils are not moved from the current locations, the soil is unlikely to pose a risk to humans by either contact with soil or the ground water. Geo Engineers does state that if the soils are moved, special-handling requirements will be required.

Therefore, the City will allow the soils to remain in place and accepts Family Fun Center's commitment that should it become necessary to move/remove the soil for any reason, the movement/removal will be at the full expense of Family Fun Center.

Sincerely,

James F Morrow

James F. Morrow
Director, Public Works

APPENDIX E

FILED DEED RESTRICTION

After Recording Return to:
Attorney's Address

JOHN HUISH
C/O FAMILY FUN CENTERS
7300 FUN CENTER WAY
TUKWILA, WA. 98188

Document Title(s) (or transactions contained therein): 1. Restrictive Covenant 2. 3.
Reference Number(s) of Documents assigned or released: (or page ___ of document(s))
Grantor(s) (Last name first, then first name and initials): 1. Family Fun Center, Tukwila, LLC 2. 3. 4. ☐ Additional names on page ___ of document.
Grantee(s) (Last name first, then first name and initials): 1. Family Fun Center, Tukwila, LLC 2. 3. 4. ☐ Additional names on page ___ of document.
Legal Description (abbreviated: i.e., lot, block, plat or section, township, range) Parcel 3 in the West half of Section 24, Township 23 North, Range 4 East of the Willamette Meridian ☐ Additional legal on page 4 of document.
Assessor's Property Tax Parcel/Account Number 242404-9063

200202120013

RESTRICTIVE COVENANT

Family Fun Center

Family Fun Center Site
7300 Fun Center Way, Tukwila, Washington

This declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Family Fun Center, Tukwila, LLC. Its successors and assigns and the state of Washington Department of Ecology its successors and assigns (hereafter "Ecology").

The undersigned, Family Fun Centers ("Owner"), is the fee owner of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in Exhibit A of this Restrictive Covenant and made a part hereof by reference.

An independent remedial action (hereafter "Remedial Action") occurred at the site that is the subject of this Restrictive Covenant. The Remedial Action is described in the following documents, all prepared by GeoEngineers, Inc. (and documents identified and referenced in such documents):

1. "Phase II Environmental Site Assessment Report, Proposed Family Fun Center, Tukwila, Washington" – November 17, 1997.
2. "Site-specific Method B Soil Cleanup Level for Petroleum Hydrocarbons, Proposed Family Fun Center, Tukwila, Washington" – January 6, 1998.
3. "Report of Environmental Services, Underground Storage Tank Removal Monitoring, Supplemental Subsurface Assessment and Research Findings, Family Fun Centers, Tukwila, Washington" – April 2, 1998.
4. "Cleanup Action Plan and Engineering Report, Proposed Family Fun Center, Tukwila, Washington" – September 14, 1998.
5. "Cleanup Action Report, Family Fun Center Site, Tukwila, Washington" - -May 1, 2000.

These documents, the documents identified and referenced in these documents, and the "No Further Action" letter are on file at Ecology's Northwest Regional Office (NWRO).

This Restrictive Covenant is required because concentrations of petroleum hydrocarbons that exceed site remediation levels are in soil contained beneath a cap under a portion of the site (See figure in Exhibit B of this Restrictive Covenant for location of cap). Dissolved petroleum hydrocarbons, if any, in ground water do not appear to be migrating off site. Arsenic appears to be present in similar concentrations in local ground water throughout the area in the vicinity of the site and is unrelated to historic site activities. Arsenic, nickel, chromium and lead were encountered in soil prior to remediation, the presence in ground water, if any is unknown.

The undersigned, Family Fun Center, Tukwila, LLC is the fee owner of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in Exhibit A of this Restrictive Covenant and made a part hereof by reference.

Family Fun Center, Tukwila, LLC makes the following declaration as to limitations, restrictions, and uses to which the property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the property (hereafter "Owner").

200202120010091

Section 1

The following restrictions apply to the use of the Property:

1. No ground water may be taken for any use from the Property.
2. Owner shall not interfere with, and shall perform or permit performance of, the monitoring and other activities specified in the compliance Monitoring Plan (Appendix E, Document 5, above) or otherwise required under MTCA and , at the appropriate time, decommissioning of the point of compliance monitoring wells installed on the property by abandoning them in accordance with WAC 173-160.
3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited, except for those conditions described in the "Cap Maintenance and Soils Handling Plan" (Appendix F, Document 5, above). Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capabilities, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2

Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3

Any activity on the property that may result in the release or exposure to the environment of a hazardous substance that remains on the property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4

The Owner must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease or other interest in the property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action, as presented in the Compliance Monitoring Plan, appendix E of document 5 above.

200202120010091

Section 5

The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

1. No ground water may be taken for any use from the Property.
2. Owner shall not interfere with, and shall perform or permit performance of, the monitoring and other activities specified in the compliance Monitoring Plan (Appendix E, Document 5. above) or otherwise required under MTCA and , at the appropriate time, decommissioning of the point of compliance monitoring wells installed on the property by abandoning them in accordance with WAC 173-160.
3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited, except for those conditions described in the "Cap Maintenance and Soils Handling Plan" (Appendix F, Document 5, above). Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capabilities, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 6

The Owner must notify and obtain approval from Ecology prior to any proposed use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7

The owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related t the Remedial Action..

Section 8

The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that (1) provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect, or (2) provides that this Restrictive Covenant shall remain in effect only for certain portions of the Property. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Scott Huish

Family Fun Center, Tukwila, LLC

2-11-02

Date

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 11th day of Feb, 2002, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Scott Hush, to me known to be the person who signed as Secretary of Family Fun Centers, the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that he was duly elected, qualified and acting as said officer of the corporation, that he was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

RACHAEL B. KIM
COMM. EXP.
NOTARY
PUBLIC
MAY 18, 2004
STATE OF WASHINGTON

Print Name: _____
Notary Public in and for the State of Washington, residing at Auburn, WA.
My commission expires: 5-18-2004

200202120001091

20020212001091

EXHIBIT A

LEGAL DESCRIPTION:

PARCEL 3:

THAT PORTION OF THE WEST HALF OF SECTION 24, TOWNSHIP 23 NORTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE 2M-LINE OF PRIMARY STATE HIGHWAY NO. 1, GREEN RIVER INTERCHANGE, ALL AS CONVEYED TO OR CONDEMNED BY THE STATE OF WASHINGTON BY DEEDS RECORDED UNDER KING COUNTY RECORDING NOS. 5499612, 5507291, 5510773, 5503778, 5536582, AND PROCEEDINGS UNDER KING COUNTY SUPERIOR COURT CAUSE NO. 596089, STA POC (2M) 134+28.56, WITH THE A-LINE, STA POT (A) 102+00, AS SHOWN ON THAT CERTAIN MAP ON FILE WITH THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION LABELED SR 405 GREEN RIVER INTERCHANGE RIGHT-OF-WAY STA 99+00 TO STA 120+00, SHEET 2 OF 2, APPROVAL DATE OF JANUARY 30, 1962, WITH LAST REVISION DATE OF DECEMBER 31, 1992;
THENCE NORTH 42°30'02" EAST ALONG THE CENTERLINE OF SAID A-LINE, 88.55 FEET TO STA 103+70.67 OF SAID A-LINE:
THENCE NORTH 47°29'58" WEST, 60.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY OF SAID PRIMARY STATE HIGHWAY NO. 1, SAID POINT BEING THE BEGINNING OF A CURVE CONCAVE TO THE SOUTH WHOSE RADIUS POINT BEARS SOUTH 47°30'02" WEST, 163.00 FEET DISTANT;
THENCE NORTHERLY, EASTERLY, AND SOUTHERLY ALONG SAID RIGHT-OF-WAY, ON THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 87°34'23" A DISTANCE OF 249.13 FEET TO THE TRUE POINT OF BEGINNING.
THENCE CONTINUING ON THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°22'20" A DISTANCE OF 3.90 FEET TO A POINT OPPOSITE STA POT (A) 105+30.55 OF SAID A-LINE, AND 60 FEET DISTANT; THENCE CONTINUING ALONG THE NORTHEASTERLY AND NORTHERLY RIGHT-OF-WAY OF SAID A-LINE THE FOLLOWING COURSES AND DISTANCES:

SOUTH 48°33'18" EAST 115.79 FEET;
THENCE NORTH 81°24'26" EAST, 106.02 FEET;
THENCE SOUTH 08°35'34" EAST, 60.00 FEET;
THENCE SOUTH 17°41'53" WEST, 29.84 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE TO THE NORTH, WHOSE RADIUS POINT BEARS NORTH 17°41'53' EAST, 182.00 FEET DISTANT;
THENCE EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 21°38'15" A DISTANCE OF 68.73 FEET;
THENCE NORTH 66°58'45" EAST, 152.75 FEET;
THENCE SOUTH 23°01'15" EAST, 20.00 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY OF SECONDARY STATE HIGHWAY 1-L (FORMERLY KNOWN AS THE BLACK RIVER JUNCTION-RENTON ROAD NO. 1193) AS CONVEYED TO KING COUNTY BY DEED RECORDED UNDER KING COUNTY REC. NO. 2919485;THENCE NORTH 66°58'45" EAST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY, 482.07 FEET, TO ITS INTERSECTION WITH THE WEST MARGIN OF THE 100-FOOT RIGHT-OF-WAY CONVEYED TO CHICAGO, MILWAUKEE, AND ST. PAUL RAILWAY COMPANY BY DEED RECORDED UNDER KING COUNTY RECORDING NOS. 453942 AND 995370;
THENCE NORTHERLY ALONG SAID WEST MARGIN AND SAID WEST MARGIN EXTENDED NORTHWESTERLY PARALLEL TO THE CENTERLINE OF SAID RAILROAD TO ITS INTERSECTION WITH THE EASTERLY EXTENSION OF THE BOUNDARY LINE AS ESTABLISHED BY KING COUNTY SUPERIOR COURT CAUSE NO. 725392;
THENCE SOUTH 48°14'49" WEST ALONG SAID BOUNDARY LINE EXTENSION, 134.07 FEET TO ITS INTERSECTION WITH A LINE THAT LIES 200 FEET SOUTHWESTERLY OF AND PARALLEL WITH THE CENTERLINE OF THE NORTHERN PACIFIC RAILWAY;
THENCE NORTH 33°54'49" WEST ALONG SAID PARALLEL LINE, 26.08 FEET, TO ITS POINT OF INTERSECTION WITH THE ORDINARY HIGH WATER LINE OF THE GREEN (WHITE) RIVER, AS IT WAS MAPPED BY BARGHAUSEN CONSULTING ENGINEERS, INC. ON AUGUST 11, 1997;

THENCE ALONG THE ORDINARY HIGH WATER LINE OF SAID RIVER THE FOLLOWING COURSES AND DISTANCES:
SOUTH 55°20'00" WEST, 51.46 FEET;
THENCE SOUTH 77°30'00 WEST, 55.00 FEET;
THENCE SOUTH 74°00'00" WEST, 50.00 FEET
THENCE SOUTH 77°30'00" WEST, 51.55 FEET;
THENCE LEAVING SAID ORDINARY HIGH WATER LINE AND BEARING SOUTH 17°22'51" EAST, 105.07 FEET;
THENCE NORTH 69°51'38" EAST, 24.62 FEET;
THENCE SOUTH 20°08'22" EAST, 44.35 FEET;
THENCE SOUTH 48°58'55" EAST, 20.06 FEET;
THENCE SOUTH 17°49'32" EAST, 49.22 FEET;
THENCE SOUTH 17°03'48" WEST, 53.44 FEET;
THENCE SOUTH 53°52'52" WEST, 93.41 FEET;
THENCE SOUTH 33°14'15" EAST, 25.64 FEET;
THENCE SOUTH 54°43'56" WEST, 207.60 FEET;
THENCE SOUTH 65°34'09" WEST, 149.44 FEET;
THENCE SOUTH 24°09'32" WEST, 41.99 FEET TO THE POINT OF BEGINNING.

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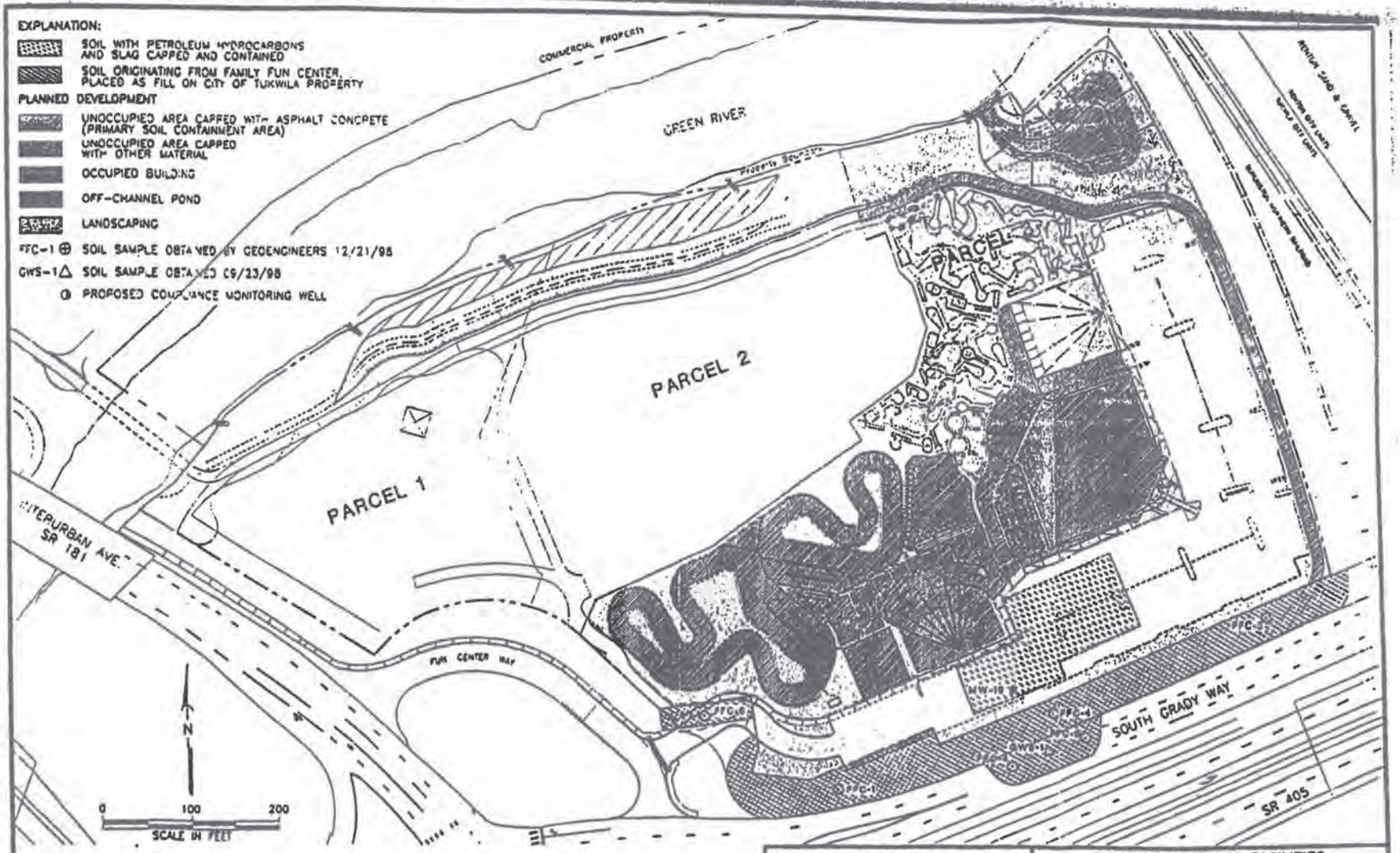
EXHIBIT "B"



Note: The locations of all features shown are approximate.

Reference: Drawing entitled "Overall Site Plan, Family Fun Center" by Mulvanny Partnership Architects, 11/27/99.

Geo Engineers

FAMILY FUN CENTER FACILITIES AND LOCATION OF CAPPED AREA

FIGURE 8

APPENDIX F

COMPLIANCE MONITORING PLAN

APPENDIX F

COMPLIANCE MONITORING PLAN

INTRODUCTION

The purpose of compliance monitoring at the site is to confirm that remediation at the site is protective of adjacent surface water (Green River). All downgradient on-site monitoring wells were removed during construction activities; therefore, three compliance monitoring wells will be installed in the locations shown in Figure 8, which are downgradient of the contained hydrocarbons and areas that were remediated. This plan includes the scopes for monitoring well installation and subsequent ground water sampling.

INSTALLATION OF COMPLIANCE MONITORING WELLS

The following scope will be completed for installation of the compliance monitoring wells:

1. Drill three borings to depths of approximately 25 feet below existing site grade.
2. Install a 2-inch-diameter polyvinyl chloride (PVC) monitoring well casing and screen in each boring. Each well will be completed with a flush-grade lockable monument. The wells will be installed to intercept shallow ground water beneath the site.
3. Survey the monitoring well casing rim elevations of the new wells to the nearest 0.01 foot using an engineer's level relative to an assumed site datum.
4. Develop the monitoring well screens by surging and hand bailing, removing at least five well volumes of water from each well.
5. Compliance monitoring well installation will be summarized in the first ground water monitoring and sampling report.

GROUND WATER MONITORING AND SAMPLING

1. Measure the depths to ground water in the compliance monitoring wells. Calculate a ground water elevation at each well, subtracting the depth to water from the surveyed well casing elevation.
2. Obtain ground water samples from the compliance monitoring wells. Each well will be purged of at least three well volumes of water prior to sampling. The wells will be monitored and sampled on a semiannual basis the first year and annually thereafter for five years. Ecology will conduct a "periodic review" of the ground water monitoring and sampling after five years, and each five years thereafter, as long as sampling is conducted. Changes to and discontinuance of sampling are subject to Ecology approval.
3. Submit the ground water samples for chemical analysis of benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8021B; gasoline-range hydrocarbons by Ecology Method NWTPH-Gx; diesel- and heavy oil-range hydrocarbons by Ecology Method NWTPH-Dx with a silica gel/sulfuric acid cleanup (to prevent result bias from organic material); total and dissolved metals (arsenic, chromium, nickel and lead) by EPA 6000 and 7000 series methods; and total settleable solids by EPA protocol. All samples will be

handled by standard chain-of-custody protocol and will be kept cool for transport to the analytical laboratory. No field or trip blanks will be analyzed; however, standard laboratory blanks will be analyzed. Changes to and discontinuance of analytes are subject to Ecology approval.

4. Obtain a sample annually of purge and decontamination water and submit each sample for chemical analysis of BETX, and fats, oil and grease by EPA Method 413.2. Land-apply water on site if no contaminant concentrations. If contaminants are present but less than the criteria in GeoEngineers' Metro Discharge Authorization 393, dispose of the water at GeoEngineers' Redmond sanitary sewer connection. Arrange for disposal of wastewater by a licensed facility if the Metro water quality criteria are not met.
5. All field activities will be documented in GeoEngineers' field report forms, which will be retained at GeoEngineers' office for archiving.
6. Annual reports, including a ground water gradient map for each sampling event during the reporting period, will be prepared to document ground water conditions for Family Fun Centers and Ecology.

APPENDIX G

CAP MAINTENANCE AND SOILS HANDLING PLAN

APPENDIX G

CAP MAINTENANCE AND SOILS HANDLING PLAN

PURPOSE

The purpose of a cap maintenance plan is to protect humans from direct contact with the petroleum-contaminated soil that was capped on site by (1) maintaining the integrity of the cap and (2) providing a soils handling plan in the event that the cap must be temporarily disturbed, such as during utility installation.

CAP INTEGRITY AND NOTIFICATION PROGRAM (FAMILY FUN CENTERS)

The designated Family Fun Center site facilities manager shall be provided with a site plan indicating the designated capped area (Figure 8).

- The site facilities manager or his/her designee shall examine the capped area outlined on Figure 8 on a monthly basis.
- In the event of a catastrophic ("act of God") break in the pavement in the designated cap area, GeoEngineers shall be notified immediately by the facilities manager.
- Family Fun Center shall repair the asphalt as cracks appear in the pavement.

SOILS HANDLING AND CONSTRUCTION PRACTICES

If construction or maintenance activities are conducted that will break the asphalt pavement in the designated capped area, the following measures will be taken:

- GeoEngineers shall be notified in advance of construction by the facilities manager. The facilities manager should be aware of the project scope, schedule and duration when GeoEngineers is notified.
- Excavation contractor(s) shall be responsible for developing and implementing their own health and safety plan. The contractor(s) shall have access to GeoEngineers' Cleanup Action Report in preparing their health and safety plan.
- Chapter 296-62-3040 (WAC [Washington Administrative Code]) describes the health and safety training requirements for work at contaminated sites. This regulation is administered by the Washington State Department of Labor and Industry (L&I). The excavation contractor(s) shall provide personnel that meet these training requirements.
- Chapter 296-62-300 through –3190 WAC "Part P, Hazardous Waste Operations and Emergency Response" describes other health and safety requirements for work at contaminated sites. These regulations are administered by L&I. The excavation contractor(s) shall be responsible for meeting these health and safety requirements.
- During site construction activities, the contractor must take measures to avoid inhalation, absorption or ingestion of contaminated soil by construction personnel or the public. This should be addressed in the contractor's health and safety plan.
- No excavated soil shall be transported off site if it is removed from the areas of currently capped contaminated soil unless it is disposed or recycled at a licensed facility.
- Soil remaining on the asphalt pavement surface after completion of construction activities shall be scraped and/or swept into the excavation(s) prior to backfilling and repairing of the cap.

- Family Fun Centers shall ensure that the repaired cap is whole and integral when construction activities are completed.