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Limited Phase II Investigation Report

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Bridgeway and Belfor Properties
3876 Bridge Way North and
3826 Woodland Park Avenue North
Seattle, Washington

Prepared For:

Union View Associates, LLC
2256 38th Place East
Seattle, WA 98112

March 14, 2003

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EXECUTIVE SUMMARY

This Limited Phase II Investigation Report for the properties located at 3876 Bridge Way North and 3826 Woodland Park Avenue North located in Seattle, Washington is presented by Kane Environmental, Inc. on behalf of Union View Associates, LLC ("Union View").

The purpose of this Limited Phase II Investigation was to determine whether soil and groundwater on the subject properties are impacted by petroleum hydrocarbons and, if so, whether an on-site source of petroleum product, including but not limited to floating product, still exists on the subject properties. The scope of work for this Limited Phase II Investigation was not designed to determine the full nature and extent of petroleum contaminated soil and groundwater on the subject properties. The work was not intended to be a comprehensive Phase II investigation as to the entire subject properties and/or activities thereon, but was limited to assessing whether there are ongoing sources of contamination on or emanating from the subject properties to other properties. This work was performed in order to further assess impacts to soil and groundwater on the Union View Associates property located at 3831 and 3838 Stone Way Avenue North in Seattle, which is located to the south and east of the subject properties.

Soil analytical results confirm that imported soil in the northeastern portion of the Bridgeway property was not adversely impacted with petroleum hydrocarbons due to the apparent, but not confirmed, removal of the gasoline USTs and associated underground piping from northeastern portion of the Bridgeway property. Soil analytical results also indicate that the extent of the clean fill may have continued as far south as the former waste oil and heating oil USTs in the southern interior Bridgeway building storage area. Soil analytical results reveal that petroleum hydrocarbon contaminated soil is present in the area of the former northern gasoline dispenser island.

Significant concentrations of TPH-Gas above the MTCA Method A Groundwater Cleanup Level was found in the groundwater wells on the Bridgeway property, up-gradient from the Union View property. The elevated TPH-Gas concentrations were found in the area of the former gasoline dispenser islands (D-MW-2), the former gasoline underground storage tank area (D-MW-1), inside the Bridgeway building downgradient from the former gasoline UST locations (D-MW-4),

and in the area of the former waste and fuel oil USTs located in the southern interior storage area (D-GEO-1 and D-GEO-3). Concentrations of Benzene above the MTCA Method A Groundwater Cleanup Levels were found in wells D-MW-2, D-MW-4, D-GEO-1 and D-GEO-3.

TPH-Gas and Benzene were not detected in groundwater south of the Belfor building at well D-MW-5 and geoprobe locations D-GEO-5 and D-GEO-6.

Elevated TPH-Diesel concentrations in groundwater were found at D-GEO-3 and D-GEO-6 south of the Belfor building.

At the time of this Limited Phase II Investigation, floating petroleum product was not encountered in any of the wells or geoprobe borings sampled on the subject properties.

Groundwater analytical results from wells D-MW-1 and D-MW-3 indicate that either the gasoline underground storage tanks were located further to the south than originally estimated and/or the source of the TPH-Gas is from the area of the former gasoline dispenser islands. In either case, downgradient well and geoprobe sampling on the Bridgeway property reveal that petroleum hydrocarbon-contaminated groundwater is migrating off-site onto the Union View property.

1.0 INTRODUCTION

This report describes Limited Phase II investigation activities performed at 3876 Bridge Way North and 3826 Woodland Park Avenue North located in Seattle, Washington (Figure 1). For the purposes of this report, the 3876 Bridge Way North property will be identified as the "Bridgeway" property and the 3826 Woodland Park Avenue North property will be identified as the "Belfor" property.

1.1 Site Background and Physical Setting

Both properties are located within the Fremont neighborhood of Seattle, Washington. According to the King County Assessor's Office, the Bridgeway property consists of 14,300 square feet and the Belfor property consists of 7,150 square feet with the attached vacant parcel consisting of 5,850 square feet.

The topography of the Bridgeway property is primarily flat with a slight downward grade to the south. The Belfor property is also primarily flat with a slight downward grade to the south, but with a steep downward grade leading to the southern vacant lot south of the Belfor building. The nearest surface water body is Lake Union located approximately 2,000 feet south of the properties.

The Bridgeway property contains one large building known as the Bridgeway building. The Bridgeway building foundation is at-grade. The tenants of the building include a supply warehouse for Belfor, Inc. on the first floor, with commercial office space on the second floor and third floor and a residence on the top floor. The Belfor property consists of a renovated residence currently used as an office for Belfor, Inc. The building has a basement and two floors of office space.

Portions of both properties where buildings are not located, are primarily covered with asphalt and concrete, except for some landscaping on the northern portion of the Bridgeway property and a gravel and vegetated parking/storage lot to the south of the Belfor building.

Adjacent properties include the following:

North: Bridge Way North (city-owned street)

East: Union View LLC property

South: Residences

West: Woodland Park Avenue North (city-owned street)

Figure 2 shows the relationship of the subject properties to the surrounding properties.

1.2 Well Survey Results

Kane Environmental retained the services of PACE Engineering of Seattle, WA to perform the groundwater well survey at the subject properties. Survey elevations are provided in Table 5. PACE had also previously conducted the survey of the groundwater monitoring wells for Union View, LLC adjacent property. Geoprobe drilling locations were surveyed and are shown on Figure 2. Figure 3 shows the groundwater flow direction on the properties.

1.3 Site Constituents

Due to the historic use of the Bridgeway and Belfor properties, soil and groundwater are impacted with total petroleum hydrocarbons (TPH). The TPH compounds found on the Bridgeway property are primarily in the gasoline and diesel range and originated from the former Chevron service station #5439 located at 3876 Bridge Way Avenue North. The concentration of TPH-Diesel found in soil and groundwater on the Belfor property may be due to the presence of a heating oil UST located at the residence west and adjacent to the southern parking/storage lot south of the Belfor building. Concentrations of TPH-Gas and TPH-Diesel are above MTCA Method A Soil and Groundwater Cleanup Levels on the properties.

Perimeter groundwater wells (MW-1, MW-2 and MW-3) were previously installed and sampled to the north and west of the Bridgeway and Belfor properties along Bridgeway Avenue N. and Woodland Park Avenue North by Kane Environmental (Figure 2). Groundwater sample analytical results revealed either non-detectable concentrations or concentrations of TPH-Gas/BTEX and TPH-Diesel/Oil below their respective MTCA Method A groundwater cleanup levels. The perimeter groundwater analytical results revealed that concentrations of petroleum products are not migrating onto the Bridgeway and Belfor properties from the north or west from any potential up-gradient sources.

2.0 SAMPLING METHODOLOGY

Areas were selected for field investigation based on surface features, safe distance from underground utilities, and accessibility by the auger rig and Geoprobe sampling rig.

Field methods utilized, including sample collection, field screening, selected analysis and documentation procedures are briefly described in the following subsections. Sample collection and documentation were completed in accordance with Kane Environmental standard operating procedures.

2.1 Utility Locate

Kane Environmental contacted Locate Inc. prior to starting the fieldwork to conduct a general locating survey for telephone, gas, water, sewer and electric service for study areas at the Property. Areas identified as utility corridors by Locate Inc. were marked and no sampling occurred in these areas. An on-property locate survey was also performed by Underground Detection Services, Inc. (UDS) of Seattle, Washington. UDS also performed a limited ground penetrating radar survey inside the southern storage area inside the Bridgeway building to confirm the presence or absence of the waste/heating oil USTs shown on Chevron's 1961 site map. The UDS survey did not reveal any USTs located in the southern Bridgeway storage area (Attachment C).

2.2 Health & Safety Briefing

A health and safety briefing was conducted prior to sampling activities on February 8, 2003. Potential contaminants, hazardous activities and preventative measures were discussed. All field personnel from Kane Environmental and their drilling subcontractors, Cascade Drilling, Inc. and ESN, NW of Lacey, Washington were properly trained and licensed to perform the subsurface investigation work.

2.3 Sample Collection Methods

Soil samples were collected with a stainless steel split-spoon sampling device driven by the auger rig and the truck mounted Geoprobe rig. The split-spoon sampler was cleaned with

alconox and double rinsed between each boring during both drilling activities. Each soil sample was logged by Kane Environmental personnel for physical properties such as grain size, color and moisture. After sample collection, a portion was placed into clean laboratory prepared glass jars with Teflon lids.

Geoprobe groundwater samples were collected through the drill rod using a "hydropunch" sampler and a low-flow peristaltic pump. Groundwater was pumped with the peristaltic pump until the groundwater was clear or contained a small amount of sediment. Groundwater samples were collected from permanent monitoring wells D-MW-1, D-MW-2, D-MW-3, D-MW-4, D-MW-5, and D-GEO-1 using the following procedures:

- A dedicated and disposable 1/4-inch polyethylene tube connected to a peristaltic pump was lowered into each monitoring well.
- Approximately three well volumes of water were removed from each well. Field parameters were measured periodically and included pH, temperature, conductivity and Total Dissolved Solids (TDS) using a Hanna HI 991300 meter. Prior to sampling activities, the meter was calibrated with standard solutions of pH, conductivity and TDS. The field parameter measurements are provided in Table 6.
- Groundwater was placed into appropriate laboratory-supplied cleaned and preserved containers for analysis. Samples were placed into small plastic bags to minimize the potential for cross-contamination, and then placed into an ice-filled cooler for subsequent delivery to OnSite Environmental laboratory in Redmond, Washington.

The soil and groundwater samples were immediately placed into an ice-filled cooler until transported to OnSite Environmental of Redmond, Washington under Kane Environmental chain-of-custody procedures. Analytical data packages are provided in Attachment A.

2.4 Field Screening Methods

Following soil collection, soil was inspected for any indication of contamination (discoloration and/or odor). Selected soil samples were also field screened using a photoionization detector (PID). The field inspection of the soil revealed petroleum odor in some of the samples collected

during the Limited Phase II Investigation as shown in the borehole logs and described in the field notes in Attachments B and C.

2.5 Analytical Methods

Selected soil and groundwater samples collected from the explorations were analyzed for:

(1) Gasoline, diesel and oil range petroleum hydrocarbons by Method NWTPH-Gx/BTEX, NWTPH-Dx;
(2) Volatile Organic Compounds (VOCs), Halogenated Volatile Organic Compounds (HVOCs) and Methyl Tertiary-Butyl Ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 8260B;
(3) Polynuclear Aromatic Hydrocarbons (PAHs) EPA Method 8270C/SIM;
(4) Total Metals by EPA Method 6010B/7471A;
(5) Dissolved Metals by EPA Method 200.8/7470A;
(6) Total Lead by EPA Method 6010B;
(7) Dissolved Lead by EPA Method 200.8; and
(8) PCBs by EPA Method 8082.

OnSite Environmental of Redmond, Washington, in accordance with their in-house Quality Assurance/Quality Control Plan performed the analytical work. Sample analyses were performed in compliance with (EPA) analytical methods and Washington State Department of Ecology (Ecology) guidelines. All TPH-Diesel/Oil soil and groundwater samples extracts were treated with an acid wash/silica gel procedure in the laboratory. Samples were analyzed within specified holding times. The trip blank analysis resulted in non-detectable concentrations of VOCs. All detection limits were within method requirements and no factors appeared to adversely affect data quality.

3.0 PHYSICAL CHARACTERISTICS

3.1 Surface Features and Drainage

The properties are primarily covered with buildings and asphalt. The topography of the properties gently slopes to the south. One storm drain on the Bridgeway property collects rainwater and discharges to the sanitary sewer. A small landscaped area is located on the north end of the Property adjacent to Bridge Way North and a gravel parking/storage area is located south of the Belfor building.

3.2 Geology and Hydrogeology

On Friday, January 31, 2003, prior to the Limited Phase II Investigation sampling activity, Mr. Karl Daviscourt, owner of the Bridgeway property, showed John Kane of Kane Environmental a series of photographs from 1980/1981 of the northern portion of the Bridgeway property prior to the construction of the current Bridgeway building. These photographs showed that soil appeared to be removed approximately 5 to 10 feet below the current grade in the northern portion of the Bridgeway property. Based on a review of these photographs, the former gasoline USTs and their associated piping in the northeastern portion of the site were most likely removed at this time, along with associated petroleum-impacted soil. Mr. Daviscourt stated that clean fill was imported to the site and compacted to the present day final grade. The lateral and vertical extent of soil removal and clean fill replacement was not documented by the photographs, therefore it was not apparent from the photographs if the waste oil and heating oil tanks and their associated piping, the former gasoline dispenser underground piping, and potentially contaminated soil associated in both areas, had been removed in 1980/1981.

Soil samples collected during drilling on the Bridgeway property confirmed the presence of clean fill in the upper seven feet in the northeastern portion of the Bridgeway property. In general, subsurface soil in the northeastern portion of the Bridgeway property consisted brown sandy fill in the upper seven feet, underlain by light gray silty sand to approximately 10 feet below ground surface (bgs) and then a water-bearing gray silty sand to 20 feet bgs. Fill material was present in the borings inside the Bridgeway building from beneath the concrete floor to a depth of 8 feet bgs. Soil beneath this fill material consisted of silty clay and silty sand. Soil

south of the Belfor building appeared to be fill material to a depth of approximately 10 feet bgs on the eastern portion and 6 feet bgs on the western portion of the parking/storage area. Soil beneath this fill consisted of medium brown sand.

The water-bearing soils started to appear 8 feet to 10 feet bgs on the Bridgeway property and 12 feet bgs south and adjacent to the Belfor building.

3.3 Groundwater Flow Direction

Kane Environmental measured depth to groundwater in perimeter groundwater monitoring wells MW-1 through MW-4 and new wells D-MW-1, D-MW-3, D-MW-4, D-MW-5 and D-GEO-1 to determine the groundwater flow direction. Depth to groundwater from the surface ranged from 6.5 feet bgs at MW-1 to 12.75 feet bgs at D-GEO-1. The direction of groundwater flow on the properties is to the southeast (Figure 3).

4.0 LIMITED PHASE II INVESTIGATION RESULTS

Kane Environmental conducted a Limited Phase II Investigation on the Bridgeway and Belfor properties. The investigation was conducted in the northern parking area and inside the Bridgeway building, and in the southern driveway and gravel parking/storage area on the Belfor property. Kane Environmental retained the services of Cascade Drilling of Woodinville, Washington to perform the auger drilling operations and ESN, NW of Lacey, Washington to perform the Geoprobe and hand-held rotohammer drilling.

Four auger borings (D-MW-1, D-MW-2, D-MW-3, D-MW-4) were drilled on the Bridgeway property and one boring, (D-MW-5), was drilled on the Belfor property. Cascade installed four 2-inch groundwater monitoring wells at these locations, with one exception. One of the proposed auger wells (D-MW-4) had to be completed as a 1-inch diameter well using the Geoprobe drill rig because concrete was found at 8.5 feet and 12 feet bgs at this location inside the Bridgeway building. The auger rig was unable to break through the second layer of concrete, but the Geoprobe rig was able to drive through the concrete and a 1-inch diameter PVC well was subsequently installed.

4.1 Soil Sampling Results

Soil analytical results confirm that imported soil in the northeastern portion of the Bridgeway property is not adversely impacted with petroleum hydrocarbons due to the apparent, but not confirmed, removal of the gasoline USTs and associated underground piping from the northeastern portion of the Bridgeway property. Soil analytical results also indicate that the extent of the clean fill may have continued as far south as the former waste oil and heating oil USTs in the southern interior Bridgeway building storage area.

Concentrations of benzene and total xylenes were found above their MTCA Method A Soil Cleanup Level at D-MW-2: 5-6.5 ft.

Concentrations of TPH-Diesel above the MTCA Method A Soil Cleanup Levels was found at D-GEO-3: 8 ft and D-GEO-6: 10-10.5 ft. A concentration of total naphthalene was also found above the MTCA Method A Soil Cleanup Level at D-GEO-3: 8 ft.

4.2 Groundwater Sampling Results

Kane Environmental conducted groundwater sampling from temporary geoprobe drilling locations on February 8, 2003. Depth-to-water measurements and groundwater sampling from the permanent wells was conducted on February 13 and 17, 2003. (No rainfall occurred between these two dates that would have impacted groundwater elevations). A table showing groundwater elevations is presented in Table 5. Measurements to determine the presence of floating product were conducted on February 11, 13 and 17, 2003. Floating product was not encountered in the permanent wells on any of these dates, and floating product was not encountered during the geoprobe sampling.

Permanent Groundwater Monitoring Wells

Groundwater analytical results revealed concentrations of TPH-Gas above the MTCA Method A groundwater cleanup levels in the area of the former gasoline underground storage tanks at D-MW-1, the northernmost gasoline dispenser at D-MW-2 and the down-gradient well location at D-MW-4 (Figure 2; Table 4). Benzene concentrations were above the MTCA Method A Groundwater Cleanup Level at D-MW-2 and D-MW-4. Toluene, Ethylbenzene and Total Xylenes concentrations were above their respective MTCA Method A Groundwater Cleanup Levels at D-MW-4.

TPH-Gas/BTEX and TPH-Diesel/Oil were not detected in up-gradient well D-MW-3 or well D-MW-5 south of the Belfor building. MTBE was not detected in samples from any ofthe five permanent groundwater monitoring wells. (It should be noted that the detection limit for MTBE for the D-MW-4 groundwater sample was adjusted to above the cleanup level of 20 ppb, but no MTBE was detected in this well or in any of the other wells on the properties).

Additionally, it should be noted that the identification of the location of the former USTs and dispensers was based on a drawing provided by Chevron/Texaco to Kane Environmental. This drawing was labeled as a "Ground Plan" dated April 7, 1961. Since the drawing was not an "as-built" drawing, it is possible that the actual location of the former USTs may have been further to the south than shown on the Ground Plan drawing. This may account for the non-detectable

TPH-Gas concentration found at D-MW-3 and the high TPH-Gas concentrations detected at D-MW-1 and down-gradient well D-MW-4.

One concentration of dissolved arsenic above the MTCA Method A Groundwater Cleanup Level was detected at D-MW-4. All remaining dissolved metals were found either at non-detectable concentrations or concentrations below their respective MTCA Method A or B Groundwater Cleanup Levels.

Geoprobe Sampling Locations

Geoprobe sampling was conducted in the southern interior storage area of the Bridgeway building because access to this area was limited to a 3-foot wide doorway. ESN, NW mobilized a portable hydraulic hammer unit to advance the geoprobe borings in the southern storage area at locations D-GEO-1, D-GEO-2, D-GEO-3. A permanent 1-inch diameter PVC well was installed at location D-GEO-1.

Sampling location D-GEO-4 was drilled using a hand-held rotohammer, which could not be advanced any deeper than 5 feet bgs. Groundwater was not collected at D-GEO-4. (It should be noted that sampling location D-GEO-4 appeared to be located on the Union View LLC property based on the survey line established at the corner of North 39th Street and Bridge Way North).

Sampling locations D-GEO-5 and D-GEO-6 on the Belfor property were drilled using the ESN, NW truck-mounted geoprobe drill rig. D-GEO-5 was placed on the northeastern corner of the gravel parking/storage area. D-GEO-6 was drilled adjacent to a metal fence on the west side of the parking/storage area per a request from Mr. Karl Daviscourt at the time of the geoprobe drilling on Saturday, February 8, 2003. Mr. Daviscourt requested the placement of this geoprobe location because of a concern regarding the potential presence of TPH-Gas in the vicinity of the residence located to the west of the parking/storage area.

Groundwater analytical results revealed concentrations of TPH-Gas and Benzene above their respective MTCA Method A Groundwater Cleanup Levels at D-GEO-1 and D-GEO-3, downgradient from the location of the former gasoline underground storage tanks.

Concentrations of Toluene and Total Xylenes above their respective MTCA Method A Groundwater Cleanup Levels were found at D-GEO-1 and total xylenes above the regulatory cleanup level was found at D-GEO-3.

The D-GEO-3 groundwater analyses also resulted in a concentration of TPH-Diesel above the MTCA Method A Groundwater Cleanup Level. TPH-Oil was not detected above the analytical detection limit at D-GEO-1, D-GEO-3, D-GEO-5 or D-GEO-6.

Groundwater was not collected at D-GEO-2. The subsurface soil was moist at 13 to 17 feet bgs at D-GEO-2. A one-inch PVC well was temporarily placed in the D-GEO-2 boring for over one hour, but the well did not produce a sufficient enough volume of groundwater for sampling.

One concentration of dissolved arsenic above the MTCA Method A Groundwater Cleanup Level was detected at D-GEO-1. All remaining dissolved metals were found either at non-detectable concentrations or concentrations below their respective MTCA Method A or B Groundwater Cleanup Levels.

Groundwater was analyzed for MTBE in all five Geoprobe locations resulting in non-detectable concentrations. Detected concentrations of VOCs, other than BTEX, were found below their respective MTCA Method A or B Groundwater Cleanup Levels.

5.0 CONCLUSIONS

Soil analytical results confirm that imported soil in the northeastern portion of the Bridgeway property was not adversely impacted with petroleum hydrocarbons due to the apparent, but not confirmed, removal of the gasoline USTs and associated underground piping from northeastern portion of the Bridgeway property. Soil analytical results also indicate that the extent of the clean fill may have continued as far south as the former location of the waste oil and heating oil USTs which is now the southern interior of the Bridgeway building storage area. Soil analytical results reveal that petroleum hydrocarbon contaminated soil is present in the area identified as the former location of the northern gasoline dispenser island.

At the time of this Limited Phase II Investigation, floating petroleum product was not encountered in any of the wells or geoprobe borings sampled on the subject properties.

Groundwater analytical results from wells D-MW-1 and D-MW-3 indicate that either the gasoline underground storage tanks were located further to the south than originally estimated and/or the source of the TPH-Gas is from the area of the former gasoline dispenser islands. In either case, downgradient wells and geoprobe sampling on the Bridgeway property reveal that petroleum hydrocarbon-contaminated groundwater is migrating off-site onto the Union View property.

Limitations and Exceptions

As applicable and available within the project schedule and budget, we have reviewed readily available documents and public records regarding the site, employing professional standards applicable in the industry today. We cannot guarantee that these reviews have yielded complete or usable information. In addition, we assume no risk for existing conditions on the site.

To the extent that these services have required judgment, there can be no assurance that fully definitive or desired results were obtained, or if any results were obtained, that they were supportive of any given course of action. The services have included the application of judgment to scientific principles; to that extent, certain results of this work have been based on subjective interpretation. We make no warranties, express or implied including without limitation, warranties as to merchantability or fitness for a particular purpose. The information provided in this report is not to be construed as legal advice.

The report was prepared for Union View Associates, LLC and the contents thereof may not be used or relied upon by any other person without the express written consent and authorization of Kane Environmental, Inc.

Tables

Table 1
Bridgeway Property
Soil Sample Results (ppm)
March 14, 2003

	D-MW-1	D-MW-1	D-MW-2	D-MW-3	D-MW-4	D-MW-5	D-MW-5	MTCA Method A
Sample Depth	5-6.5 ft	8-9.5 ft	5-6.5 ft	5-6.5 ft	5-6.5 ft	5-6.5 ft	9.5-11 ft	Soil Cleanup Level
TPH								
Gasoline	< 5.6	< 5.8	< 11	< 5.8	< 5.6	5.5	< 5.6	100
Diesel	< 28	< 29	770	< 29	< 28	< 28	< 28	2,000
Heavy Oil	< 56	< 58	< 56	76	< 56	110	< 56	2,000
BTEX								
Benzene	< 0.011	< 0.012	**0.048**	< 0.012	< 0.011	< 0.011	< 0.011	0.03
Toluene	< 0.056	< 0.058	0.12	< 0.058	< 0.056	< 0.055	< 0.056	7
Ethylbenzene	< 0.056	< 0.058	3.2	< 0.058	< 0.056	< 0.055	< 0.056	6
Total Xylenes	< 0.056	< 0.058	**10.2**	< 0.058	< 0.056	< 0.055	< 0.056	9
TOTAL METALS								
Lead	< 5.6	< 5.8	< 5.6	20	14	40	< 5.6	250

TPH = Total Petroleum Hydrocarbons
MTBE = Methyl Tert Butyl Ether
bold = concentration above the MTCA Method A Soil Cleanup Level
nd = not detected
-- = not analyzed
MTCA = Washington Department of Ecology Model Toxics Control Act
ppm = parts per million

Table 2
Bridgeway Property
Soil Sample Results (ppm)
March 14, 2003

	D-GEO-1	D-GEO-1	D-GEO-2	D-GEO-2	D-GEO-3	D-GEO-3	D-GEO-4	D-GEO-5	D-GEO-6	D-GEO-6	D-GEO-6	MTCA Method A or B Soil Cleanup Level
Sample Depth	4-8 ft	8-12 ft	4-8 ft	15-17 ft	4-7 ft	8 ft	4-5 ft	7-8 ft	10-10.5 ft	7-8 ft	8 ft	
TPH												
Gasoline	< 5.7	< 10	< 5.5	< 12	< 5.3	< 11	< 5.8	< 6.2	< 11	< 5.7	<5.4	100/30
Diesel	< 28	< 29	< 28	330	< 26	4,100	< 29	< 31	14,000	< 28	< 27	2,000
Heavy Oil	< 57	< 58	< 55	< 60	< 53	< 56	< 58	< 62	< 290	< 57	< 54	2,000
MTBE/BTEX												
MTBE	--	--	--	< .0012	--	< .0011	--	--	--	--	--	0.10
Benzene	< 0.011	< 0.021	< 0.011	<.0012	< 0.011	0.0014	< 0.012	< 0.012	< 0.023	< 0.011	< 0.011	0.03
Toluene	< 0.057	< 0.10	< 0.055	0.0049	< 0.053	0.0020	< 0.058	< 0.062	< 0.11	< 0.057	< 0.054	7
Ethylbenzene	< 0.057	< 0.10	< 0.055	0.013	< 0.053	0.37	< 0.058	< 0.062	1.2	< 0.057	< 0.054	6
Total Xylenes	< 0.057	< 0.10	< 0.055	0.057	< 0.053	0.5387	< 0.058	< 0.062	3.66	< 0.057	< 0.054	9
HVOCs	--	nd	--	nd	--	nd	--	--	--	--	--	---
VOCs												
Acetone	--	--	--	< .0060	--	0.037	--	--	--	--	--	8,000*
2-Butanone	--	--	--	< .0060	--	0.014	--	--	--	--	--	nv
Isopropylbenzene	--	--	--	0.0026	--	0.26	--	--	--	--	--	nv
n-Propylbenzene	--	--	--	0.0087	--	0.77	--	--	--	--	--	nv
1,3,5-Trimethylbenzene	--	--	--	0.017	--	1.2	--	--	--	--	--	nv
tert-Butylbenzene	--	--	--	< .0012	--	0.058	--	--	--	--	--	nv
1,2,4-Trimethylbenzene	--	--	--	0.052	--	1.4	--	--	--	--	--	nv
sec-Butylbenzene	--	--	--	0.021	--	0.31	--	--	--	--	--	nv
p-Isopropyltoluene	--	--	--	0.0057	--	0.61	--	--	--	--	--	nv
Naphthalene	--	--	--	< .0012	--	0.93	--	--	--	--	--	nv
Total Metals												
Arsenic	--	--	--	--	--	< 11	--	--	--	--	--	20
Barium	--	--	--	--	--	53	--	--	--	--	--	5,600*
Cadmium	--	--	--	--	--	< 0.56	--	--	--	--	--	2.0
Chromium	--	--	--	--	--	22	--	--	--	--	--	100
Lead	7.1	< 5.8	12	< 6.0	5.4	< 5.6	--	< 6.2	< 5.7	< 5.7	< 5.4	250
Mercury	--	--	--	--	--	< 0.28	--	--	--	--	--	1.0
Selenium	--	--	--	--	--	< 11	--	--	--	--	--	400*
Silver	--	--	--	--	--	< 0.56	--	--	--	--	--	400*
Carcinogenic PAHs												
Benzo(a)pyrene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Chrysene	--	--	--	--	--	0.033	--	--	--	--	--	0.137
Dibenzo(a,h)anthracene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Benzo(k)fluoranthene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Benzo(a)anthracene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Benzo(b)fluoranthene	--	--	--	--	--	< 0.0094	--	--	--	--	--	0.137
Other PAHs												
Naphthalene	--	--	--	--	--	2.1	--	--	--	--	--	---
2-Methylnaphthalene	--	--	--	--	--	13	--	--	--	--	--	---
1-Methylnaphthalene	--	--	--	--	--	8.9	--	--	--	--	--	---
Total Naphthalenes	--	--	--	--	--	24	--	--	--	--	--	5.0
Acenaphthylene	--	--	--	--	--	0.092	--	--	--	--	--	4,800
Acenaphthene	--	--	--	--	--	0.48	--	--	--	--	--	4,800
Fluorene	--	--	--	--	--	1.9	--	--	--	--	--	3,200
Phenanthrene	--	--	--	--	--	3	--	--	--	--	--	nv
Anthracene	--	--	--	--	--	0.22	--	--	--	--	--	24,000
Fluoranthene	--	--	--	--	--	0.067	--	--	--	--	--	3,200
Pyrene	--	--	--	--	--	0.16	--	--	--	--	--	2,400
Benzo(g,h,i)perylene	--	--	--	--	--	< 0.0094	--	--	--	--	--	nv
PCBs	--	--	--	--	--	< 0.056	--	--			--	1.0

TPH = Total Petroleum Hydrocarbons
MTBE = Methyl Tert Butyl Ether
bold = concentration above the MTCA Method A or B* Soil Cleanup Level
nd = not detected nd/nd = sample/sample duplicate not detected
nv = no current published MTCA cleanup level
-- = not analyzed
HVOCs = Halogenated and Aromatic Hydrocarbons by EPA Method 8021B
MTCA = Washington Department of Ecology Model Toxics Control Act
ppm = parts per million
Soil cleanup level for TPH-Gas 100 ppm, unless benzene present & TEX >1% of mixture, then 30 ppm

Table 3
Bridgeway Property
Water Sample Results (ppb)
March 14, 2003

	D-GEO-1	D-GEO-3	D-GEO-5	D-GEO-6	MTCA Method A or B Groundwater Cleanup Level
TPH					
Gasoline	**24,000**	**28,000**	<100	<100	1,000/800
Diesel	<250	**5,600**	<280	**33,000**	500
Heavy Oil	<410	<420	<450	<430	500
MTBE/BTEX/VOCs					
MTBE	<20	--	--	--	20
Benzene	**420**	**26**	<0.20	<0.20	5
Toluene	**2,100**	630	<0.20	<0.20	1,000
Ethylbenzene	680	630	<0.20	5.6	700
Xylene	**2,960**	**2810**	<0.20	26.5	1,000
Isopropylbenzene	32	80	<0.20	3.9	nv
n-Propylbenzene	77	270	<0.20	5.5	nv
1,3,5-Trimethylbenzene	140	490	<0.20	15	nv
1,2,4-Trimethylbenzene	520	1600	<0.20	59	nv
p-Isopropyltoluene	<20	14	<0.20	3.5	nv
2-Butanone	<5	<250	5.3	<5.0	nv
sec-Butylbenzene	<20	<10	<0.20	2.8	nv
Naphthalene	<100	<50	<1.0	23	160
RCRA 8 Dissolved Metals					
Arsenic	**13**	<3	--	--	5
Barium	34	<25	--	--	560*
Cadmium	<4	<4	--	--	5.0
Chromium	<10	<10	--	--	50
Lead	1.5	<1.0	<1.0	<1.0	15
Mercury	<0.5	<0.5	--	--	2.0
Selenium	<5	<5	--	--	80*
Silver	<10	<10	--	--	80*

TPH = Total Petroleum Hydrocarbons
bold = concentration above the MTCA Method A or B* Groundwater Cleanup Level
nd = not detected
nv = no current published MTCA cleanup level
-- = not analyzed
MTBE = Methyl Tert Butyl Ether
MTCA = Washington Department of Ecology Model Toxics Control Act
ppb = parts per billion
TPH-Gas Groundwater cleanup level 1,000 ppb unless benzene detected, then 800 ppb

Table 4
Bridgeway Property
Water Sample Results (ppb)
March 14, 2003

	D-MW-1	D-MW-2	D-MW-3	D-MW-4	D-MW-5	Trip Blank	MTCA Method A or B Groundwater Cleanup Level
TPH							
Gasoline	**1,800**	**6,200**	<100	**63,000**	< 100	<100	1,000/800
Diesel	< 250	< 260	< 260	< 250	< 250	--	500
Heavy Oil	< 400	< 410	< 410	< 400	< 400	--	500
MTBE/BTEX/VOCs							
MTBE	< 0.20	< 4.0	< 0.20	< 40	< 0.20	--	20
Benzene	4.0	**79**	< 1.0	**480**	< 0.20	< 1.0	5
Toluene	< 1.0	570	< 1.0	**5,100**	< 0.20	< 1.0	1,000
Ethylbenzene	24	110	< 1.0	**1,500**	< 0.20	< 1.0	700
Total Xylenes	18.2	660	< 1.0	**7,500**	< 0.20	< 1.0	1,000
Isopropylbenzene	--	--	--	69	--	<0.20	nv
n-Propylbenzene	--	--	--	190	--	<0.20	nv
1,3,5-Trimethylbenzene	--	--	--	290	--	<0.20	nv
1,2,4-Trimethylbenzene	--	--	--	1,300	--	<0.20	nv
HVOCs	nd	nd	nd	nd	nd	nd	none detected
Chloroform	0.24	<4.0	<0.20	<40	<0.2	<.20	7.17*
Dissolved Metals							
Arsenic	--	--	--	**31**	< 3.0	--	5
Barium	--	--	--	39	< 25	--	560*
Cadmium	--	--	--	< 4.0	< 4.0	--	5.0
Chromium	--	--	--	< 10	< 10	--	100*
Lead	< 1.0	1.3	1.3	1.6	< 1.0		15
Mercury	--	--	--	< 0.5	< 0.5	--	2
Selenium	--	--	--	< 5.0	< 5.0	--	80*
Silver	--	--	--	< 10	< 10	--	80*

TPH = Total Petroleum Hydrocarbons
bold = concentration above the MTCA Method A or B* Groundwater Cleanup Level
nd = not detected
nv = no current published MTCA cleanup level
-- = not analyzed
MTBE = Methyl Tert Butyl Ether
HVOCs = Halogenated and Aromatic Hydrocarbons by EPA Method 8021B
MTCA = Washington Department of Ecology Model Toxics Control Act
ppb = parts per billion
TPH-Gas Groundwater cleanup level 1,000 ppb unless benzene detected, then 800 ppb

Table 5
Groundwater Elevation Measurements
February 13 and 17, 2003

Monitoring Well	Total Depth (feet)	Casing Rim Elevation (feet)	Pipe Rim Elevation (feet)	Depth to Water (feet)	Water Elevation (feet msl)
MW-1	15	104.83	104.46	6.50	97.96
MW-2	20	109.01	108.64	6.25	102.39
MW-3	20	109.22	108.98	8.60	100.38
MW-4	30	109.76	109.59	9.67	99.92
D-MW-1	20	109.98	109.69	11.25	98.44
D-MW-2	20	109.59	109.17	8.13	101.04
D-MW-3	20	109.69	109.34	10.41	98.93
D-MW-4	16	110.10	109.72	12.15	97.57
D-MW-5	20	107.37	107.00	12.30	94.70
D-GEO-1	16	110.07	109.76	12.75	97.01

Table 6
Groundwater Purge Parameters
February 13 and 17, 2003

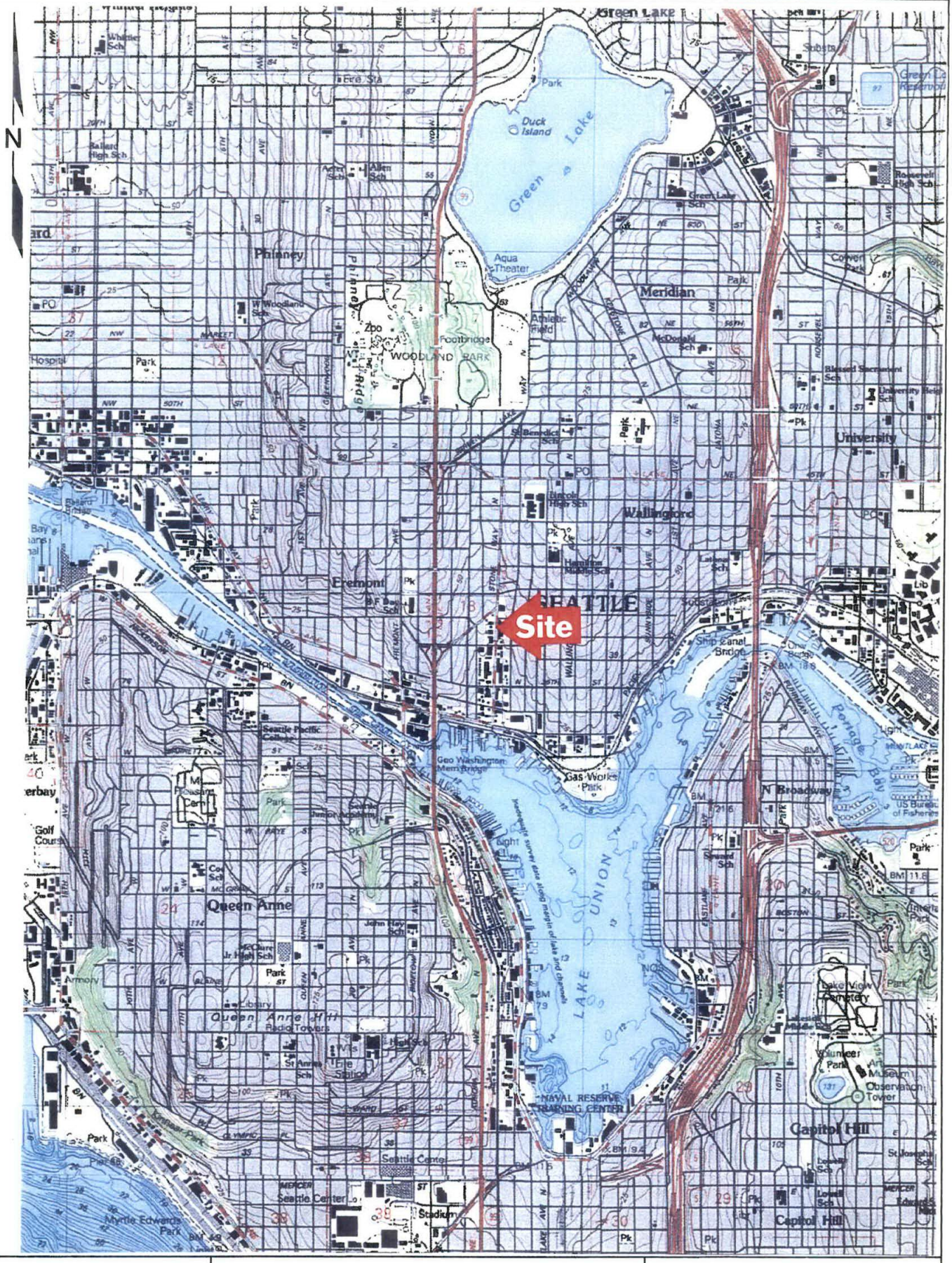
Monitoring Well	Temperature (F)	pH	Conductivity	Total dissolved Solids
D-MW-1				
1	54.5	6.58	1630	813
2	54.7	6.96	1084	538
3	54.9	7.01	1030	516
4	54.2	7.10	967	483
D-MW-2				
1	54.1	7.32	736	367
2	55.2	7.64	706	353
3	55.4	7.74	870	433
D-MW-3				
1	54	7.55	635	325
2	55.7	7.50	568	285
3	55.9	7.18	553	276
4	55.5	7.34	549	274
D-MW-4	54.5	6.89	512	253
D-MW-5	58.6	6.77	383	192
D-GEO-1	54.9	6.99	6.0*	322

Groundwater parameters collected from D-MW-4, D-MW-5 and D-GEO-1 after the 3rd volume was removed from the well.

Numbers 1,2,3,4 are purge volumes from each well.

* = Conductivity reading was low compared to other wells.

Figures



KANE Environmental, Inc.	Bridgeway Property Seattle, Washington	Figure 1 Vicinity Map

N. 39TH STREET

LEGEND

Monitoring Well Location

D–MW–1 Monitoring Well Designation

mg/kg = milligrams/kilogram (ppm) (SOIL) ug/L = micrograms/kilogram (ppb) (WATER)
B = benzene
T = toluene
E = ethylbenzene
X = xylenes
MTBE = methyl tert–butyl ether
TPH–G = TPH as gasoline
TPH–D = TPH as diesel
TPH–O = TPH as oil
Lead = total for soil, dissolved for water

NA Not analyzed

Notes: The location of the Former Service Station #5439 provided by Chevron/ Texaco "Ground Plan", dated April 7, 1961.

Additional analytical compounds may also have been analyzed and/or detected. Refer to the tables included in the report.

Data in red exceeds MTCA cleanup level.

0 20 40

Scale in Feet

D–MW–3

5–6.5 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.012	B =<1.0
T = <0.058	T = <1.0
E = <0.058	E = <1.0
X = <0.058	X = <1.0
MTBE = NA	MTBE = <0.20
TPH–G = <5.8	TPH–G = <100
TPH–D = <29	TPH–D = <260
TPH–O = 76	TPH–O = <410
Lead = 20	Lead = 1.3

D–MW–2

5–6.5 FT SOIL (mg/kg)	WATER (ug/L)
B = 0.048	B = 79
T = 0.12	T = 570
E = 3.2	E = 110
X = 10.2	X = 660
MTBE = NA	MTBE = <4.0
TPH–G = <11	TPH–G = 6200
TPH–D = 770	TPH–D = <260
TPH–O = <56	TPH–O = <410
Lead = <5.6	Lead = 1.3

D–MW–1

5–6.5 FT SOIL (mg/kg)	8–9.5 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = <0.012	B = 4.0
T = <0.056	T = <0.058	T = <1.0
E = <0.056	E = <0.058	E = 24
X = <0.056	X = <0.058	X = 18.2
MTBE = NA	MTBE = NA	MTBE = <0.20
TPH–G = <5.6	TPH–G = <5.8	TPH–G = 1800
TPH–D = <28	TPH–D = <29	TPH–D = <250
TPH–O = <56	TPH–O = <58	TPH–O = <400
Lead = <5.6	Lead = <5.8	Lead = <1.0

D–MW–4

5–6.5 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = 480
T = <0.056	T = 5100
E = <0.056	E = 1500
X = <0.056	X = 7500
MTBE = NA	MTBE = <40
TPH–G = <5.6	TPH–G = 63000
TPH–D = <28	TPH–D = <250
TPH–O = <56	TPH–O = <400
Lead = 14	Lead = 1.6

D–GEO–1

4–8 FT SOIL (mg/kg)	8–12 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = <0.021	B = 420
T = <0.057	T = <0.10	T = 2100
E = <0.057	E = <0.10	E = 680
X = <0.057	X = <0.10	X = 2960
MTBE = NA	MTBE = NA	MTBE = <20
TPH–G = <5.7	TPH–G = <10	TPH–G = 24000
TPH–D = <28	TPH–D = <29	TPH–D = <250
TPH–O = <57	TPH–O = <58	TPH–O = <410
Lead = 7.1	Lead = <5.8	Lead = 1.5

D–GEO–3

4–7 FT SOIL (mg/kg)	8 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = 0.0014	B = 26
T = <0.053	T = 0.0020	T = 630
E = <0.053	E = 0.37	E = 630
X = <0.053	X = 0.5387	X = 2810
MTBE = NA	MTBE = <0.011	MTBE = <10
TPH–G = <5.3	TPH–G = <11	TPH–G = 28000
TPH–D = <26	TPH–D = 4100	TPH–D = 5600
TPH–O = <53	TPH–O = <56	TPH–O = <420
Lead = 5.4	Lead = <5.6	Lead = <1.0

D–GEO–2

4–8 FT SOIL (mg/kg)	15–17 FT SOIL (mg/kg)
B = <0.011	B = <0.0012
T = <0.055	T = 0.0049
E = <0.055	E = 0.013
X = <0.055	X = 0.057
MTBE = NA	MTBE = <0.0012
TPH–G = <5.5	TPH–G = <12
TPH–D = <28	TPH–D = 330
TPH–O = <55	TPH–O = <60
Lead = 12	Lead = <6.0

D–GEO–4

4–5 FT SOIL (mg/kg)
B = <0.012
T = <0.058
E = <0.058
X = <0.058
MTBE = NA
TPH–G = <5.8
TPH–D = <29
TPH–O = <58
Lead = NA

D–MW–5

5–6.5 FT SOIL (mg/kg)	9.5–11 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = <0.011	B = <0.20
T = <0.055	T = <0.056	T = <0.20
E = <0.055	E = <0.056	E = <0.20
X = <0.055	X = <0.056	X = <0.40
MTBE = NA	MTBE = NA	MTBE = <0.20
TPH–G = 5.5	TPH–G = <5.6	TPH–G = <100
TPH–D = <28	TPH–D = <28	TPH–D = <250
TPH–O = 110	TPH–O = <56	TPH–O = <400
Lead = 40	Lead = <5.6	Lead = <1.0

D–GEO–5

7–8 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.012	B = <0.20
T = <0.062	T = <0.20
E = <0.062	E = <0.20
X = <0.062	X = <0.40
MTBE = NA	MTBE = <0.20
TPH–G = <6.2	TPH–G = <100
TPH–D = <31	TPH–D = <280
TPH–O = <62	TPH–O = <450
Lead = <6.2	Lead = <1.0

D–GEO–6

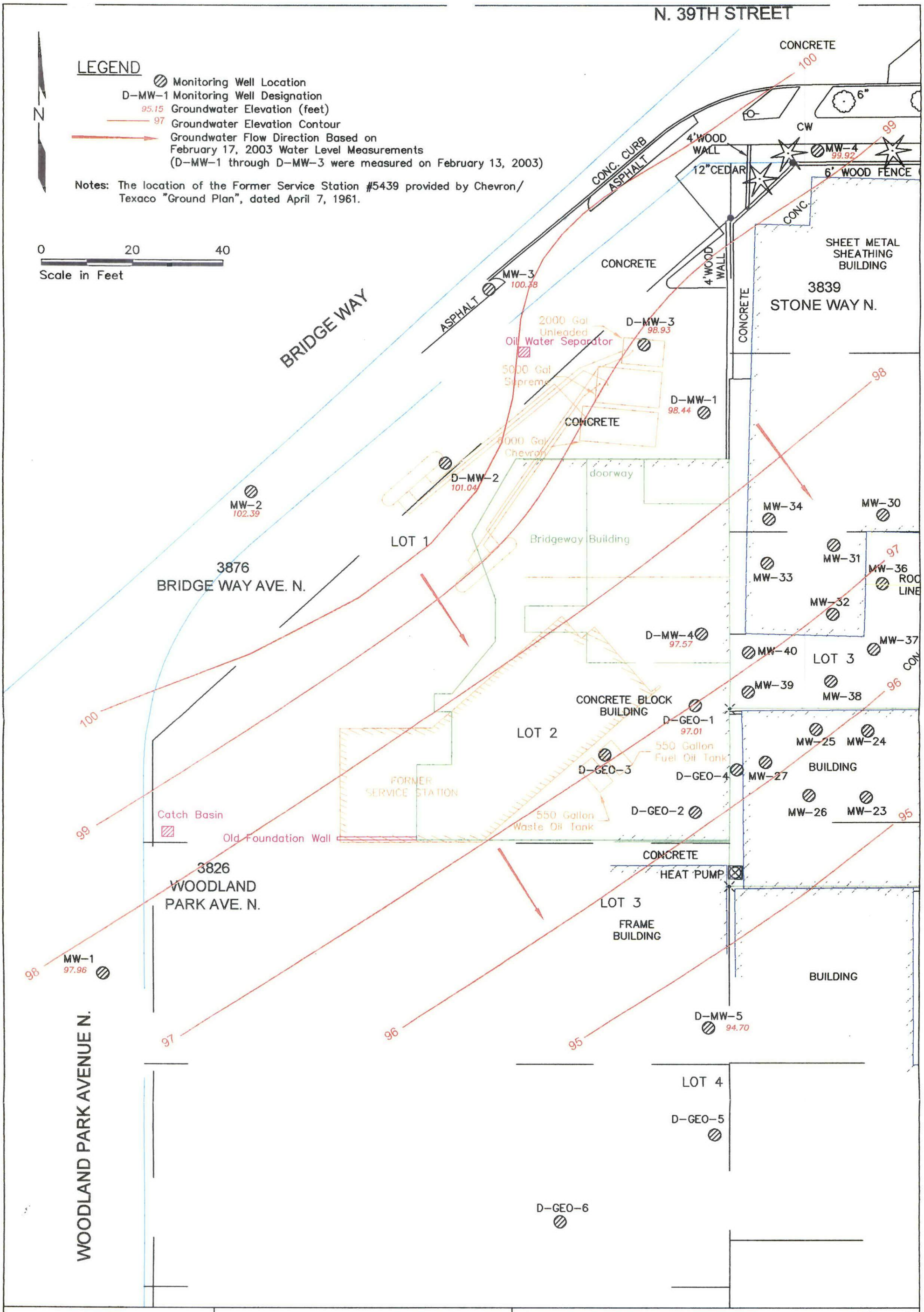
7–8 FT SOIL (mg/kg)	8 FT SOIL (mg/kg)	10–10.5 FT SOIL (mg/kg)	WATER (ug/L)
B = <0.011	B = <0.011	B = <0.023	B = <0.20
T = <0.057	T = <0.054	T = <0.11	T = <0.20
E = <0.057	E = <0.054	E = <0.11	E = 5.6
X = <0.057	X = <0.054	X = <0.22	X = 26.5
MTBE = NA	MTBE = NA	MTBE = NA	MTBE = <0.20
TPH–G = <5.7	TPH–G = <5.4	TPH–G = <11	TPH–G = <100
TPH–D = <28	TPH–D = <27	TPH–D = 14000	TPH–D = 33000
TPH–O = <57	TPH–O = <54	TPH–O = <290	TPH–O = <430
Lead = <5.7	Lead = <5.4	Lead = <5.7	Lead = <1.0

CONCRETE
CONC. CURB
ASPHALT
4'WOOD WALL
12"CEDAR
CW
MW–4
6"
6' WOOD FENCE
CONC.
SHEET METAL SHEATHING BUILDING
3839 STONE WAY N.
CONCRETE
BRIDGE WAY
ASPHALT
MW–3
2000 Gal Unleaded Oil Water Separator
5000 Gal Supreme
6000 Gal Chevron
D–MW–3
D–MW–1
D–MW–2
MW–2
doorway
LOT 1
3876 BRIDGE WAY N.
Bridgeway Building
MW–34
MW–30
MW–31
MW–33
MW–36
MW–32
D–MW–4
MW–40
LOT 3
MW–39
MW–38
D–GEO–1
FORMER SERVICE STATION
LOT 2
MW–25
MW–24
BUILDING
D–GEO–3
550 Gallon Fuel Oil Tank
D–GEO–4
MW–27
MW–26
MW–23
Old Foundation Wall
Catch Basin
550 Gallon Waste Oil Tank
D–GEO–2
CONCRETE
HEAT PUMP
LOT 3
FRAME BUILDING
BUILDING
MW–1
WOODLAND PARK AVENUE N.
3826 WOODLAND PARK AVE. N.
D–MW–5
LOT 4
D–GEO–5
D–GEO–6

KANE Environmental, Inc.

Bridgeway Property
Limited Phase II Investigation
Seattle, Washington

Figure 2
Soil and Groundwater Analytical Results - Petroleum Hydrocarbons - February 2003



KANE Environmental, Inc.	Bridgeway Property Limited Phase II Investigation Seattle, Washington	Figure 3 Groundwater Elevation and Contour Map February 2003

Attachment A

Analytical Data Packages

RECEIVED
Date 2-27-03

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

February 26, 2003

John Kane
Kane Environmental, Inc.
3831 Stone Way Avenue N
Seattle, WA 98103

Re: Analytical Data for Project 02902
Laboratory Reference No. 0302-071

Dear John:

Enclosed are the analytical results and associated quality control data for samples submitted on February 14, 2003.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

Case Narrative

Samples were collected on February 13, 2003. Samples were maintained at the laboratory at 4°C and followed SW846 analysis and extraction methods.

NWTPH Gx/BTEX Analysis

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

NWTPH Dx Analysis

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

Halogenated Volatiles EPA 8260B Analysis

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

Dissolved Lead EPA 200.8 Analysis

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

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-18&19-03
Date Analyzed: 2-18&19-03

Matrix: Water
Units: ug/L (ppb)

Client ID:	**D-MW-1**			**D-MW-2**		
Lab ID:	02-071-01			02-071-02		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**4.0**		1.0	**79**		1.0
Toluene	**ND**		1.0	**570**		50
Ethyl Benzene	**24**		1.0	**110**		1.0
m,p-Xylene	**17**		1.0	**420**		50
o-Xylene	**1.2**		1.0	**240**		50
TPH-Gas	**1800**		100	**6200**		100
Surrogate Recovery:						
Fluorobenzene	110%			93%		

Date of Report: February 26, 2003.
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-18-03
Date Analyzed: 2-18-03

Matrix: Water
Units: ug/L (ppb)

Client ID:	D-MW-3			Trip Blank		
Lab ID:	02-071-03			02-071-04		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		1.0	**ND**		1.0
Toluene	**ND**		1.0	**ND**		1.0
Ethyl Benzene	**ND**		1.0	**ND**		1.0
m,p-Xylene	**ND**		1.0	**ND**		1.0
o-Xylene	**ND**		1.0	**ND**		1.0
TPH-Gas	**ND**		100	**ND**		100
Surrogate Recovery:						
Fluorobenzene	106%			108%		

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-18-03
Date Analyzed: 2-18-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0218W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 109%

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-19-03
Date Analyzed: 2-19-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0219W1

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 94%

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 2-18-03
Date Analyzed: 2-18-03

Matrix: Water
Units: ug/L (ppb)

Lab ID:	02-075-01 Original	02-075-01 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	1.67	1.55	7.1	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	105%	105%		

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 2-18-03
Date Analyzed: 2-18-03

Matrix: Water
Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	02-075-01 MS	Percent Recovery	02-075-01 MSD	Percent Recovery	RPD	Flags
Benzene	48.2	96	48.6	97	0.74	
Toluene	48.9	98	49.4	99	0.92	
Ethyl Benzene	50.0	100	50.3	101	0.68	
m,p-Xylene	51.3	99	51.6	100	0.70	
o-Xylene	49.8	100	50.2	100	0.82	

Surrogate Recovery:

Fluorobenzene	106%	107%

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Dx

Date Extracted:	2-20-03
Date Analyzed:	2-20&21-03
Matrix:	Water
Units:	mg/L (ppm)

Client ID:	D-MW-1	D-MW-2	D-MW-3
Lab ID:	02-071-01	02-071-02	02-071-03
Diesel Range:	ND	ND	ND
PQL:	0.25	0.26	0.26
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	0.40	0.41	0.41
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	102%	106%	107%
Flags:	Y	Y	Y

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0220W1
Diesel Range:	ND
PQL:	0.25
Identification:	---
Lube Oil Range:	ND
PQL:	0.40
Identification:	---
Surrogate Recovery	
o-Terphenyl:	108%
Flags:	Y

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	02-110-01	02-110-01 DUP
Diesel Range:	ND	ND
PQL:	0.25	0.26
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	74%	85%
Flags:	Y	Y

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Page 1 of 2

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-071-01
Client ID:	**D-MW-1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
Methyl t-Butyl Ether	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	0.24		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 02-071-01
Client ID: D-MW-1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-133
Toluene, d8	94	80-151
4-Bromofluorobenzene	94	75-139

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-071-02
Client ID:	**D-MW-2**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		4.0
Chloromethane	ND		4.0
Vinyl Chloride	ND		4.0
Bromomethane	ND		4.0
Chloroethane	ND		4.0
Trichlorofluoromethane	ND		4.0
1,1-Dichloroethene	ND		4.0
Iodomethane	ND		20
Methylene Chloride	ND		20
(trans) 1,2-Dichloroethene	ND		4.0
Methyl t-Butyl Ether	ND		4.0
1,1-Dichloroethane	ND		4.0
2,2-Dichloropropane	ND		4.0
(cis) 1,2-Dichloroethene	ND		4.0
Bromochloromethane	ND		4.0
Chloroform	ND		4.0
1,1,1-Trichloroethane	ND		4.0
Carbon Tetrachloride	ND		4.0
1,1-Dichloropropene	ND		4.0
1,2-Dichloroethane	ND		4.0
Trichloroethene	ND		4.0
1,2-Dichloropropane	ND		4.0
Dibromomethane	ND		4.0
Bromodichloromethane	ND		4.0
2-Chloroethyl Vinyl Ether	ND		20
(cis) 1,3-Dichloropropene	ND		4.0
(trans) 1,3-Dichloropropene	ND		4.0

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 02-071-02
Client ID: D-MW-2

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		4.0
Tetrachloroethene	ND		4.0
1,3-Dichloropropane	ND		4.0
Dibromochloromethane	ND		4.0
1,2-Dibromoethane	ND		4.0
Chlorobenzene	ND		4.0
1,1,1,2-Tetrachloroethane	ND		4.0
Bromoform	ND		20
Bromobenzene	ND		4.0
1,1,2,2-Tetrachloroethane	ND		4.0
1,2,3-Trichloropropane	ND		4.0
2-Chlorotoluene	ND		4.0
4-Chlorotoluene	ND		4.0
1,3-Dichlorobenzene	ND		4.0
1,4-Dichlorobenzene	ND		4.0
1,2-Dichlorobenzene	ND		4.0
1,2-Dibromo-3-chloropropane	ND		20
1,2,4-Trichlorobenzene	ND		4.0
Hexachlorobutadiene	ND		4.0
1,2,3-Trichlorobenzene	ND		4.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	90	75-139

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-071-03
Client ID:	**D-MW-3**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 02-071-03
Client ID: D-MW-3

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	89	75-139

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0220W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB0220W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	88	75-139

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0220W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	9.61	96	10.1	101	69-113	
Benzene	10.0	9.36	94	9.91	99	71-128	
Trichloroethene	10.0	9.13	91	9.46	95	82-122	
Toluene	10.0	9.43	94	9.76	98	54-118	
Chlorobenzene	10.0	9.20	92	9.74	97	85-103	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	5.2	15	
Benzene	5.7	9.6	
Trichloroethene	3.5	12	
Toluene	3.4	15	
Chlorobenzene	5.8	5.8	

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

DISSOLVED LEAD
EPA 200.8

Date Filtered:	2-14-03
Date Analyzed:	2-19-03
Matrix:	Water
Units:	ug/L (ppb)

Client ID	Lab ID	Result	PQL
D-MW-1	02-071-01	**ND**	1.0
D-MW-2	02-071-02	**1.3**	1.0
D-MW-3	02-071-03	**1.3**	1.0

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

DISSOLVED LEAD
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-14-03
Date Analyzed:	2-19-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0214D1

Analyte	Method	Result	PQL
Lead	200.8	**ND**	1.0

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

DISSOLVED LEAD
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Filtered: 2-14-03
Date Analyzed: 2-19-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-083-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Lead	ND	ND	NA	1.0	

Date of Report: February 26, 2003
Samples Submitted: February 14, 2003
Lab Reference: 02-071
Project: 02902

DISSOLVED LEAD
EPA 200.8
MS/MSD QUALITY CONTROL

Date Filtered: 2-14-03
Date Analyzed: 2-19-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-083-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	100	**101**	101	**101**	101	0	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

D - Data from 1:____ dilution.

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

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

G - Insufficient sample quantity for duplicate analysis.

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

O - Hydrocarbons outside the defined gasoline range are present in the sample.

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

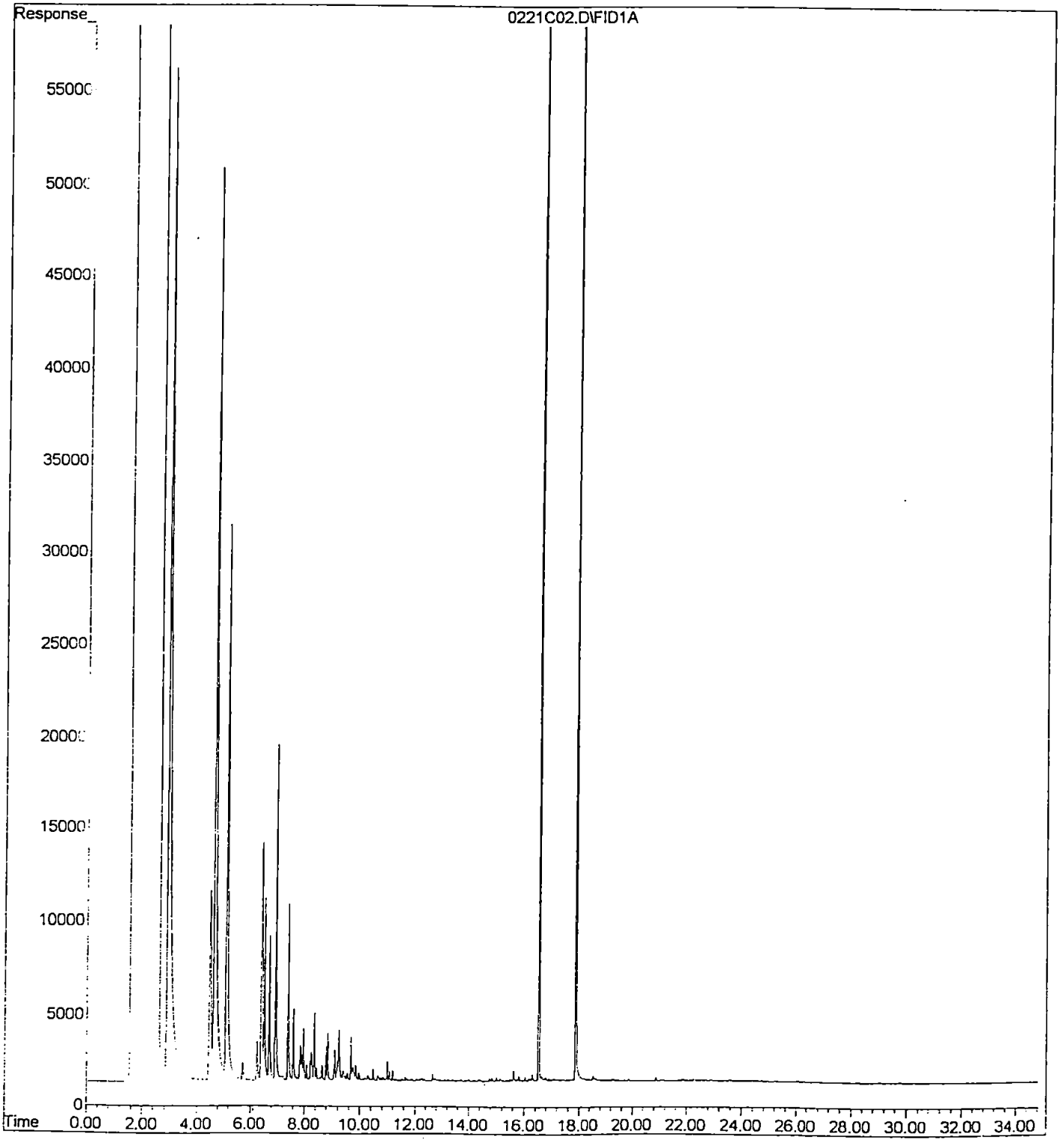
X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

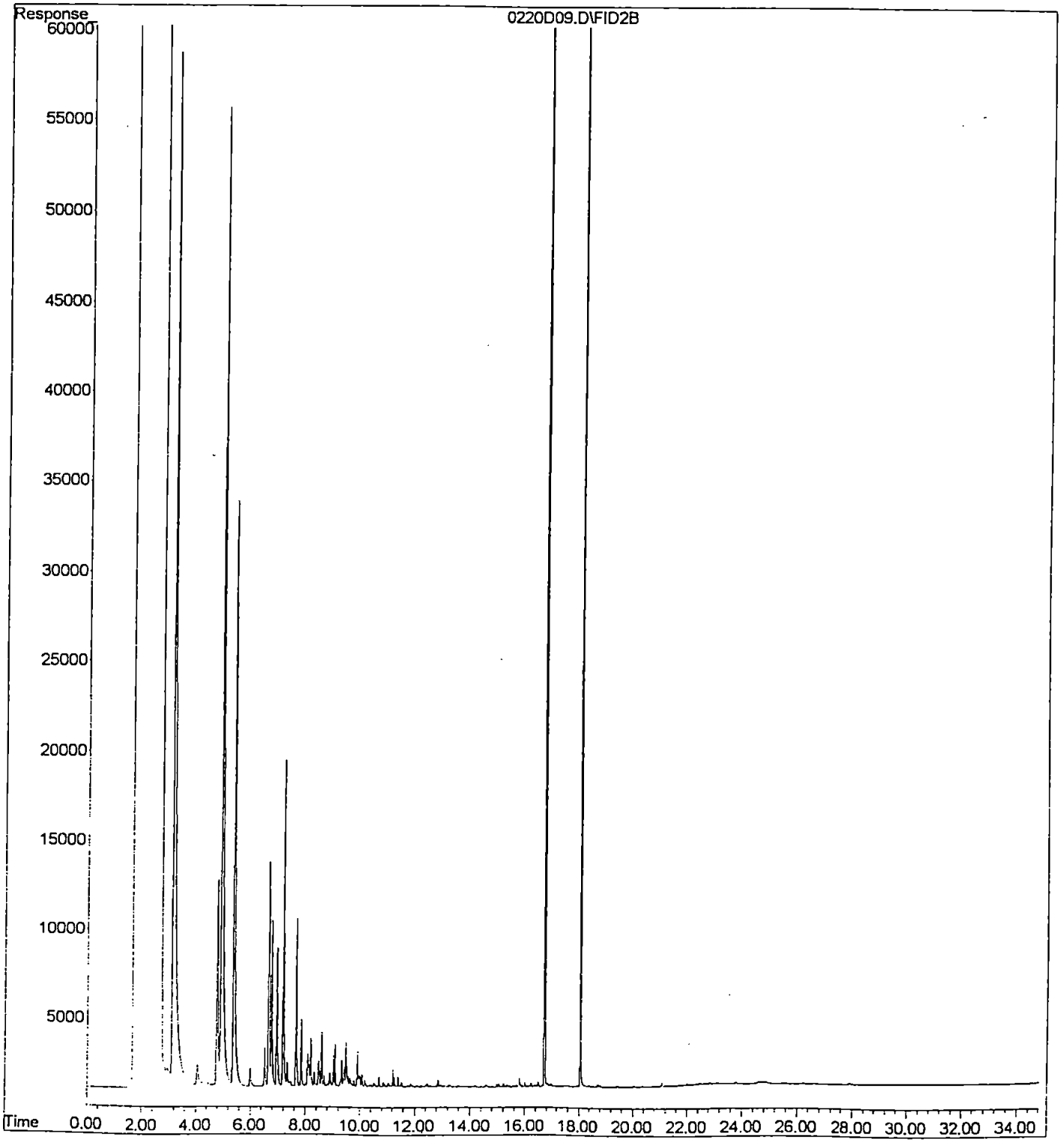
Z -

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

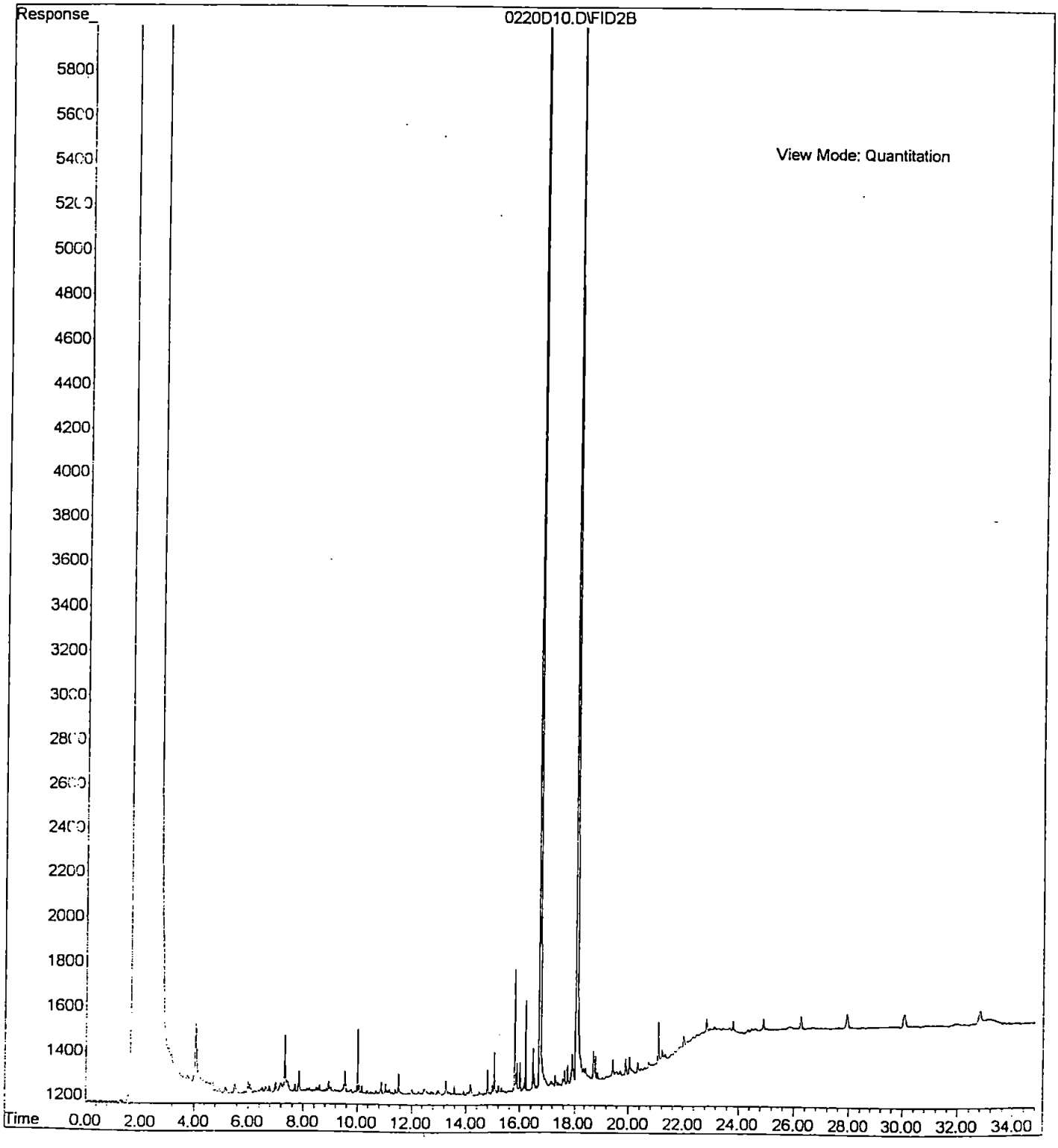
File : D:\HPCHEM\2\DATA\I030221\0221C02.D
Operator : TK
Acquired : 21 Feb 2003 10:09 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-071-01 ACU rr
Misc Info : 3
Vial Number: 2



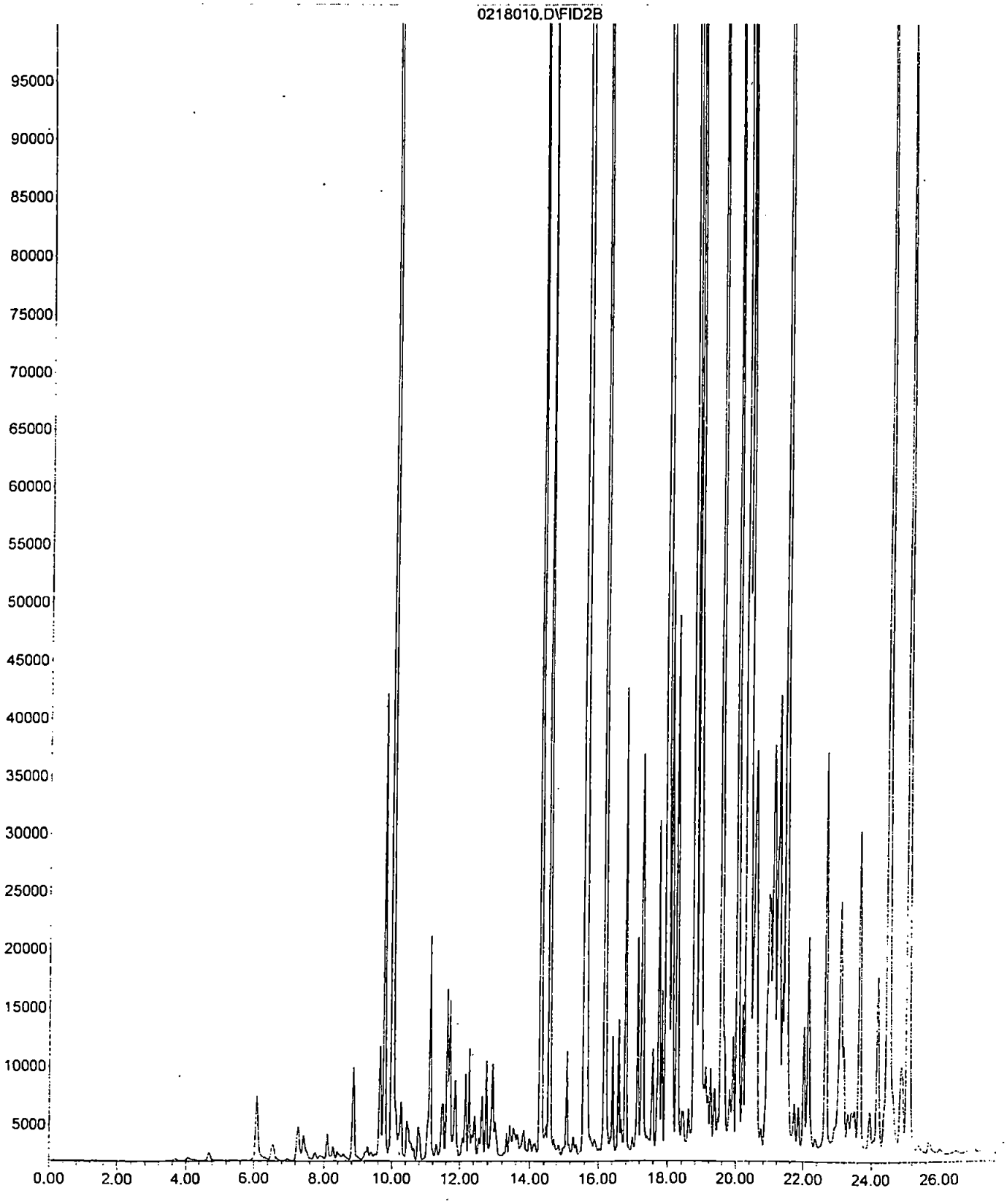
File : D:\HPCHEM\2\DATA\I030220\0220D09.D
Operator : TK
Acquired : 20 Feb 2003 19:24 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-071-02a ACU
Misc Info : 4
Vial Number: 59



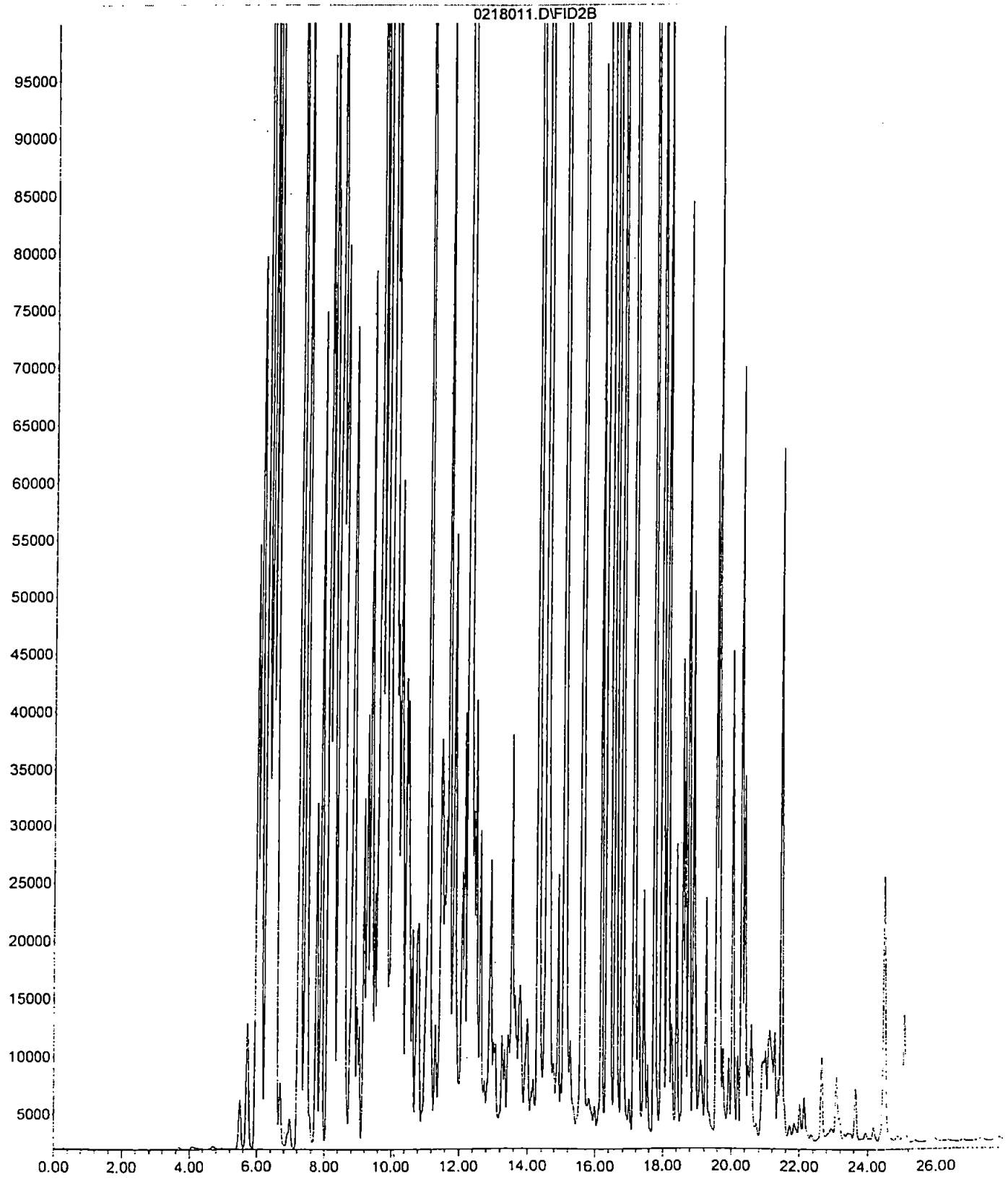
File : D:\HPCHEM\2\DATA\I030220\0220D10.D
Operator : TK
Acquired : 20 Feb 2003 20:06 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-071-03a ACU
Misc Info : 4
Vial Number: 60



File : D:\ARCHON\DATA\H030218\0218010.D
Operator :
Acquired : 18 Feb 2003 17:37 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-071-01dW
Misc Info :
Vial Number: 10



File : D:\ARCHON\DATA\H030218\0218011.D
Operator :
Acquired : 18 Feb 2003 18:12 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-071-02dW
Misc Info :
Vial Number: 11



Chain of Custody

Page 1 of 1

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

Company: Kane Environmental
Project Number: 02902
Project Name: Bridgeway
Project Manager: John Kane
Sampled by: John Kane

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☑ Standard (7 working days)
☐ _____ (other)

Laboratory Number: 02-071

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	1 Diss/Total Lead	MTBE			% Moisture
1	D-MW-1	2-13-03	13:00	W	8		X	X		X											X	X			
2	D-MW-2	"	16:00	W	8		X	X		X											X	X			
3	D-MW-3	"	14:30	W	8		X	X		X											X	X			
4	Trip Blank						X																		

	Signature	Company	Date	Time
Relinquished by	John Kane	Kane Env.	2-14-03	12:00
Received by		OSE	2-14-03	1:45
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by		Reviewed by/Date		

Comments/Special Instructions:

Silica gel/acid wash on TPH-Dx

Chromatograms with final report ☑

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

RECEIVED
Date 2-27-03

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

February 26, 2003

John Kane
Kane Environmental, Inc.
3831 Stone Way Avenue N
Seattle, WA 98103

Re: Analytical Data for Project 02902
Laboratory Reference No. 0302-089

Dear John:

Enclosed are the analytical results and associated quality control data for samples submitted on February 18, 2003.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881 • Fax (425) 885-4603

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

Case Narrative

Samples were collected on February 17, 2003. Samples were maintained at the laboratory at 4°C and followed SW846 analysis and extraction methods.

NWTPH Gx Analysis

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

NWTPH Dx Analysis

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

Volatiles EPA 8260B Analysis

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

Dissolved Metals by EPA 200.8/7470A Analysis

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

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Gx

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Client ID:	**D-MW-5**			**D-MW-4**		
Lab ID:	02-089-01			02-089-02		
	Result	Flags	PQL	**Result**	Flags	PQL
TPH-Gas	**ND**		100	**63000**		10000
Surrogate Recovery:						
Fluorobenzene	107%			111%		

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Gx

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix: Water	
Units: ug/L (ppb)	
Client ID:	**D-Geo-1**
Lab ID:	02-089-03

	Result	Flags	PQL
TPH-Gas	**24000**		5000
Surrogate Recovery:			
Fluorobenzene	110%		

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Gx
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0220W1

	Result	Flags	PQL
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 111%

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Gx
DUPLICATE QUALITY CONTROL

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID:	02-089-01 Original	02-089-01 Duplicate	RPD	Flags
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	107%	108%		

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Dx

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	mg/L (ppm)

Client ID:	D-MW-5	D-MW-4	D-Geo-1
Lab ID:	02-089-01	02-089-02	02-089-03
Diesel Range:	ND	ND	ND
PQL:	0.25	0.25	0.25
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	0.40	0.40	0.41
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	113%	102%	63%
Flags:	Y	M,Y	M,Y

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0220W1
Diesel Range:	ND
PQL:	0.25
Identification:	---
Lube Oil Range:	ND
PQL:	0.40
Identification:	---
Surrogate Recovery	
o-Terphenyl:	108%
Flags:	Y

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	02-110-01	02-110-01 DUP
Diesel Range:	ND	ND
PQL:	0.25	0.26
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	74%	85%
Flags:	Y	Y

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

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Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-089-01
Client ID:	**D-MW-5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

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Lab ID: 02-089-01
Client ID: D-MW-5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	88	75-139

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

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Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-089-02
Client ID:	**D-MW-4**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		40
Chloromethane	ND		40
Vinyl Chloride	ND		40
Bromomethane	ND		40
Chloroethane	ND		40
Trichlorofluoromethane	ND		40
1,1-Dichloroethene	ND		40
Acetone	ND		1000
Iodomethane	ND		200
Carbon Disulfide	ND		40
Methylene Chloride	ND		200
(trans) 1,2-Dichloroethene	ND		40
Methyl t-Butyl Ether	ND		40
1,1-Dichloroethane	ND		40
Vinyl Acetate	ND		200
2,2-Dichloropropane	ND		40
(cis) 1,2-Dichloroethene	ND		40
2-Butanone	ND		1000
Bromochloromethane	ND		40
Chloroform	ND		40
1,1,1-Trichloroethane	ND		40
Carbon Tetrachloride	ND		40
1,1-Dichloropropene	ND		40
Benzene	480		40
1,2-Dichloroethane	ND		40
Trichloroethene	ND		40
1,2-Dichloropropane	ND		40
Dibromomethane	ND		40
Bromodichloromethane	ND		40
2-Chloroethyl Vinyl Ether	ND		200
(cis) 1,3-Dichloropropene	ND		40
Methyl Isobutyl Ketone	ND		400
Toluene	5100		40
(trans) 1,3-Dichloropropene	ND		40

Date of Report: February 26, 2003
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Lab ID: 02-089-02
Client ID: D-MW-4

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		40
Tetrachloroethene	ND		40
1,3-Dichloropropane	ND		40
2-Hexanone	ND		400
Dibromochloromethane	ND		40
1,2-Dibromoethane	ND		40
Chlorobenzene	ND		40
1,1,1,2-Tetrachloroethane	ND		40
Ethylbenzene	1500		40
m,p-Xylene	5400		80
o-Xylene	2100		40
Styrene	ND		40
Bromoform	ND		200
Isopropylbenzene	69		40
Bromobenzene	ND		40
1,1,2,2-Tetrachloroethane	ND		40
1,2,3-Trichloropropane	ND		40
n-Propylbenzene	190		40
2-Chlorotoluene	ND		40
4-Chlorotoluene	ND		40
1,3,5-Trimethylbenzene	290		40
tert-Butylbenzene	ND		40
1,2,4-Trimethylbenzene	1300		40
sec-Butylbenzene	ND		40
1,3-Dichlorobenzene	ND		40
p-Isopropyltoluene	ND		40
1,4-Dichlorobenzene	ND		40
1,2-Dichlorobenzene	ND		40
n-Butylbenzene	ND		40
1,2-Dibromo-3-chloropropane	ND		200
1,2,4-Trichlorobenzene	ND		40
Hexachlorobutadiene	ND		40
Naphthalene	ND		200
1,2,3-Trichlorobenzene	ND		40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-133
Toluene, d8	92	80-151
4-Bromofluorobenzene	93	75-139

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

VOLATILES by EPA 8260B

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-089-03
Client ID:	**D-Geo-1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		20
Chloromethane	ND		20
Vinyl Chloride	ND		20
Bromomethane	ND		20
Chloroethane	ND		20
Trichlorofluoromethane	ND		20
1,1-Dichloroethene	ND		20
Acetone	ND		500
Iodomethane	ND		100
Carbon Disulfide	ND		20
Methylene Chloride	ND		100
(trans) 1,2-Dichloroethene	ND		20
Methyl t-Butyl Ether	ND		20
1,1-Dichloroethane	ND		20
Vinyl Acetate	ND		100
2,2-Dichloropropane	ND		20
(cis) 1,2-Dichloroethene	ND		20
2-Butanone	ND		500
Bromochloromethane	ND		20
Chloroform	ND		20
1,1,1-Trichloroethane	ND		20
Carbon Tetrachloride	ND		20
1,1-Dichloropropene	ND		20
Benzene	420		20
1,2-Dichloroethane	ND		20
Trichloroethene	ND		20
1,2-Dichloropropane	ND		20
Dibromomethane	ND		20
Bromodichloromethane	ND		20
2-Chloroethyl Vinyl Ether	ND		100
(cis) 1,3-Dichloropropene	ND		20
Methyl Isobutyl Ketone	ND		200
Toluene	2100		20
(trans) 1,3-Dichloropropene	ND		20

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Lab ID: 02-089-03
Client ID: D-Geo-1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		20
Tetrachloroethene	ND		20
1,3-Dichloropropane	ND		20
2-Hexanone	ND		200
Dibromochloromethane	ND		20
1,2-Dibromoethane	ND		20
Chlorobenzene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
Ethylbenzene	680		20
m,p-Xylene	2100		40
o-Xylene	860		20
Styrene	ND		20
Bromoform	ND		100
Isopropylbenzene	32		20
Bromobenzene	ND		20
1,1,2,2-Tetrachloroethane	ND		20
1,2,3-Trichloropropane	ND		20
n-Propylbenzene	77		20
2-Chlorotoluene	ND		20
4-Chlorotoluene	ND		20
1,3,5-Trimethylbenzene	140		20
tert-Butylbenzene	ND		20
1,2,4-Trimethylbenzene	520		20
sec-Butylbenzene	ND		20
1,3-Dichlorobenzene	ND		20
p-Isopropyltoluene	ND		20
1,4-Dichlorobenzene	ND		20
1,2-Dichlorobenzene	ND		20
n-Butylbenzene	ND		20
1,2-Dibromo-3-chloropropane	ND		100
1,2,4-Trichlorobenzene	ND		20
Hexachlorobutadiene	ND		20
Naphthalene	ND		100
1,2,3-Trichlorobenzene	ND		20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-133
Toluene, d8	92	80-151
4-Bromofluorobenzene	93	75-139

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

VOLATILES by EPA 8260B

Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-089-04
Client ID:	**Trip Blank**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

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Lab ID: 02-089-04
Client ID: Trip Blank

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-133
Toluene, d8	92	80-151
4-Bromofluorobenzene	89	75-139

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Date Extracted:	2-20-03
Date Analyzed:	2-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0220W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0220W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	88	75-139

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 2-20-03
Date Analyzed: 2-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0220W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	9.61	96	10.1	101	69-113	
Benzene	10.0	9.36	94	9.91	99	71-128	
Trichloroethene	10.0	9.13	91	9.46	95	82-122	
Toluene	10.0	9.43	94	9.76	98	54-118	
Chlorobenzene	10.0	9.20	92	9.74	97	85-103	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	5.2	15	
Benzene	5.7	9.6	
Trichloroethene	3.5	12	
Toluene	3.4	15	
Chlorobenzene	5.8	5.8	

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 2-18-03
Date Analyzed: 2-20&21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-089-01
Client ID: D-MW-5

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.0
Barium	200.8	ND	25
Cadmium	200.8	ND	4.0
Chromium	200.8	ND	10
Lead	200.8	ND	1.0
Mercury	7470A	ND	.50
Selenium	200.8	ND	5.0
Silver	200.8	ND	10

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 2-18-03
Date Analyzed: 2-20&21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-089-02
Client ID: D-MW-4

Analyte	Method	Result	PQL
Arsenic	200.8	**31**	3.0
Barium	200.8	**39**	25
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Lead	200.8	**1.6**	1.0
Mercury	7470A	**ND**	.50
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 2-18-03
Date Analyzed: 2-20&21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-089-03
Client ID: D-Geo-1

Analyte	Method	Result	PQL
Arsenic	200.8	13	3.0
Barium	200.8	34	25
Cadmium	200.8	ND	4.0
Chromium	200.8	ND	10
Lead	200.8	1.5	1.0
Mercury	7470A	ND	.50
Selenium	200.8	ND	5.0
Silver	200.8	ND	10

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-18-03
Date Analyzed:	2-20&21-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0218D1

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.0
Barium	200.8	**ND**	25
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-18-03
Date Analyzed:	2-21-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0221D1

Analyte	Method	Result	PQL
Mercury	7470A	ND	0.50

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Filtered: 2-18-03
Date Analyzed: 2-20&21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-083-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	3.0	
Barium	**41.6**	**41.5**	0.14	25	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 2-18-03
Date Analyzed: 2-21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-089-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.50	

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Filtered: 2-18-03
Date Analyzed: 2-20&21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-083-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**98.8**	99	**101**	101	2.1	
Barium	100	**143**	101	**139**	98	2.2	
Cadmium	100	**100**	100	**99.4**	99	0.70	
Chromium	100	**100**	100	**99.7**	100	0.80	
Lead	100	**106**	106	**104**	104	2.1	
Selenium	100	**97.2**	97	**102**	102	4.9	
Silver	100	**97.1**	97	**101**	101	4.2	

Date of Report: February 26, 2003
Samples Submitted: February 18, 2003
Lab Reference: 02-089
Project: 02902

DISSOLVED METALS
EPA 7470A
MS/MSD QUALITY CONTROL

Date Filtered: 2-18-03
Date Analyzed: 2-21-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-089-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	5.0	4.63	93	4.76	95	2.8	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

D - Data from 1:____ dilution.

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

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

G - Insufficient sample quantity for duplicate analysis.

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

O - Hydrocarbons outside the defined gasoline range are present in the sample.

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

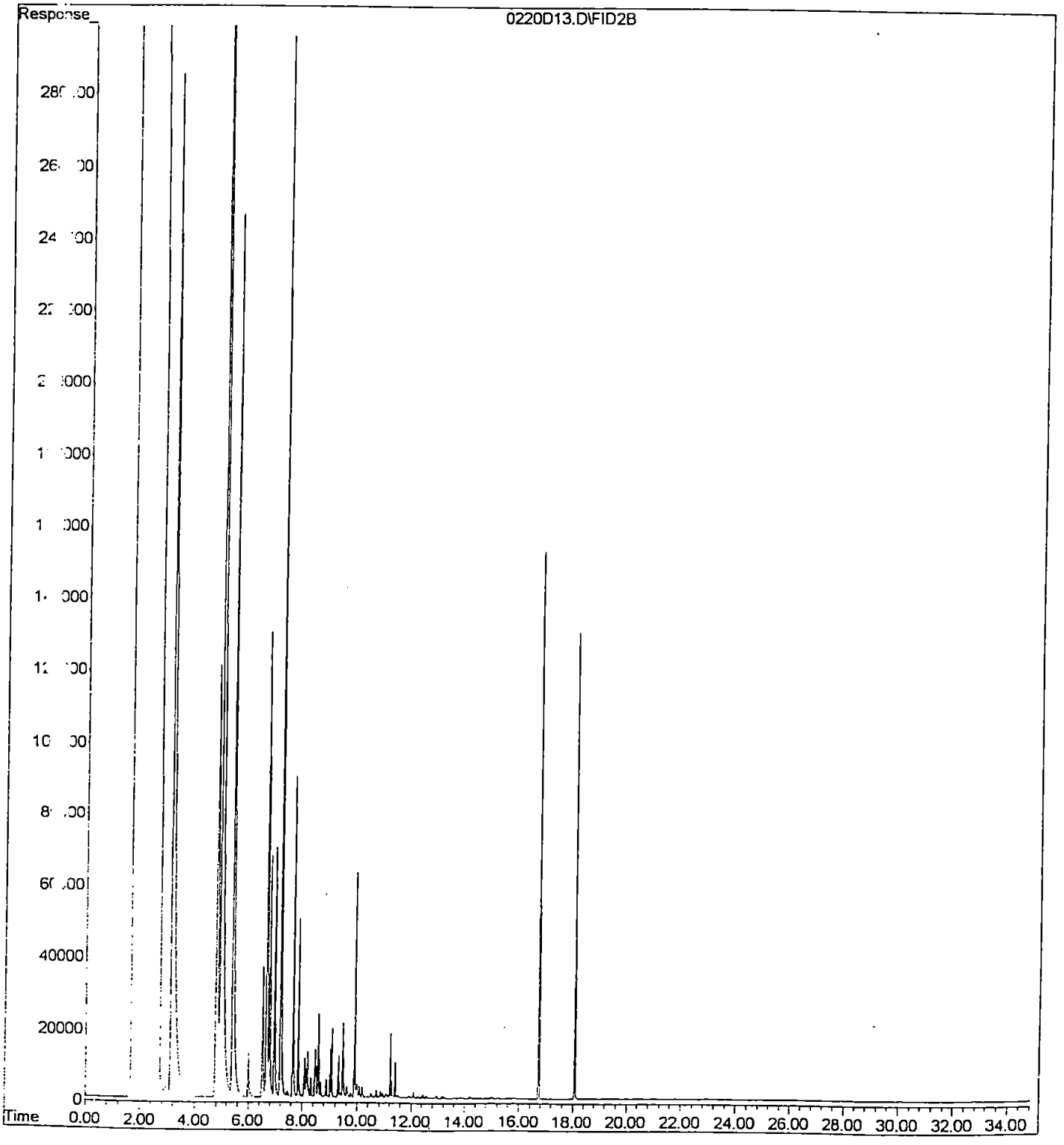
X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

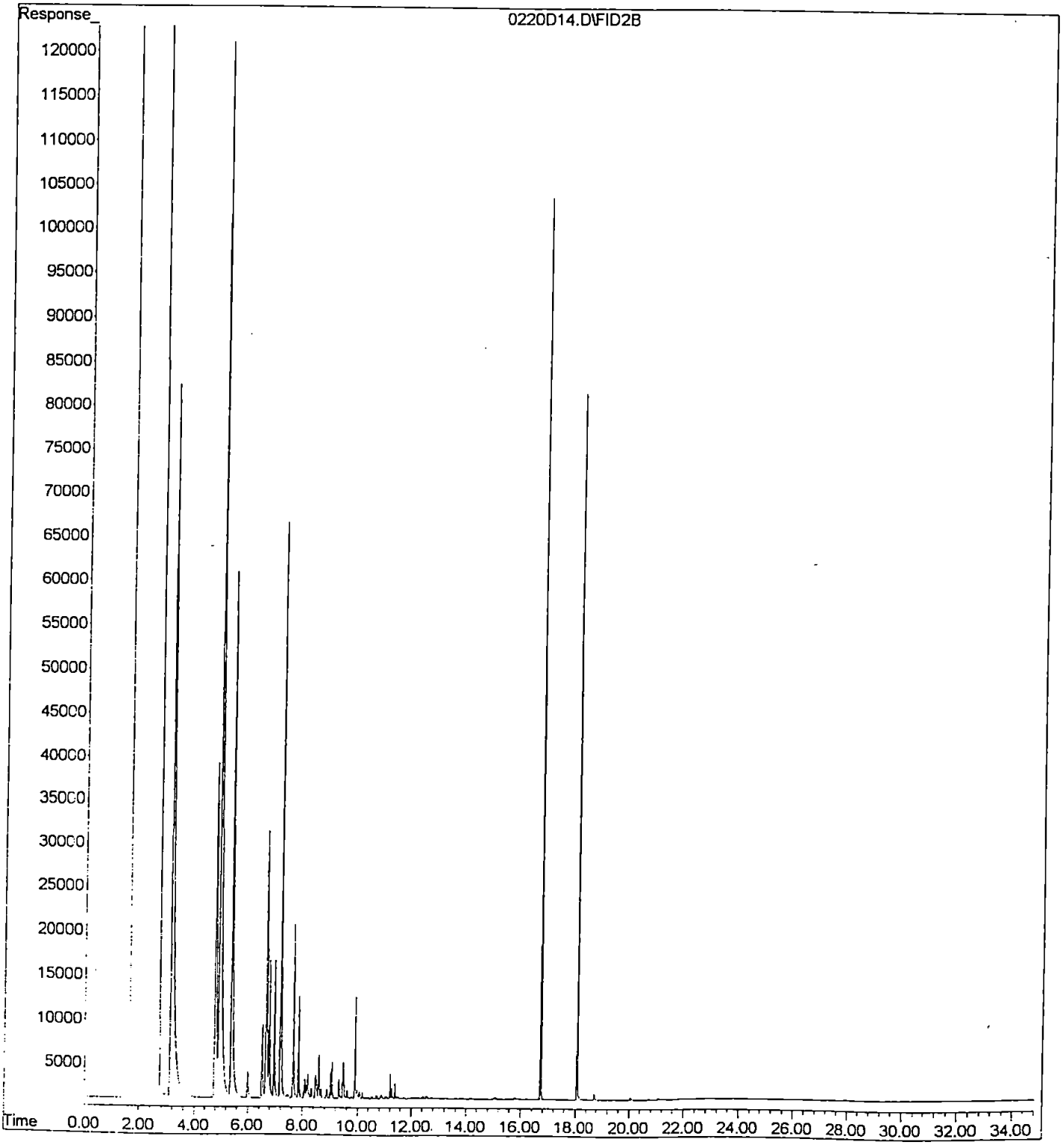
Z -

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

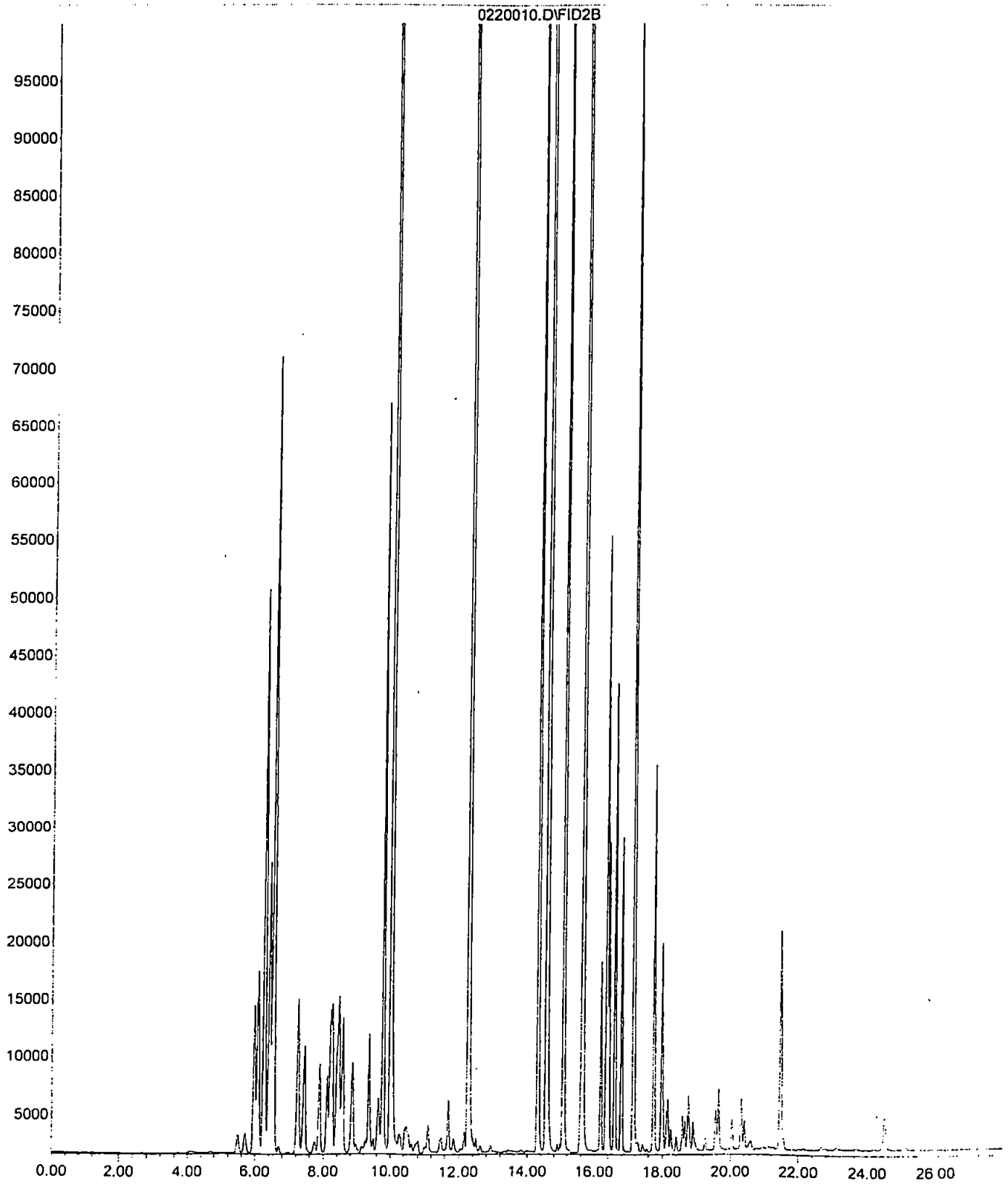
File : D:\HPCHEM\2\DATA\I030220\0220D13.D
Operator : TK
Acquired : 20 Feb 2003 22:11 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-089-02a ACU
Misc Info : 4
Vial Number: 63



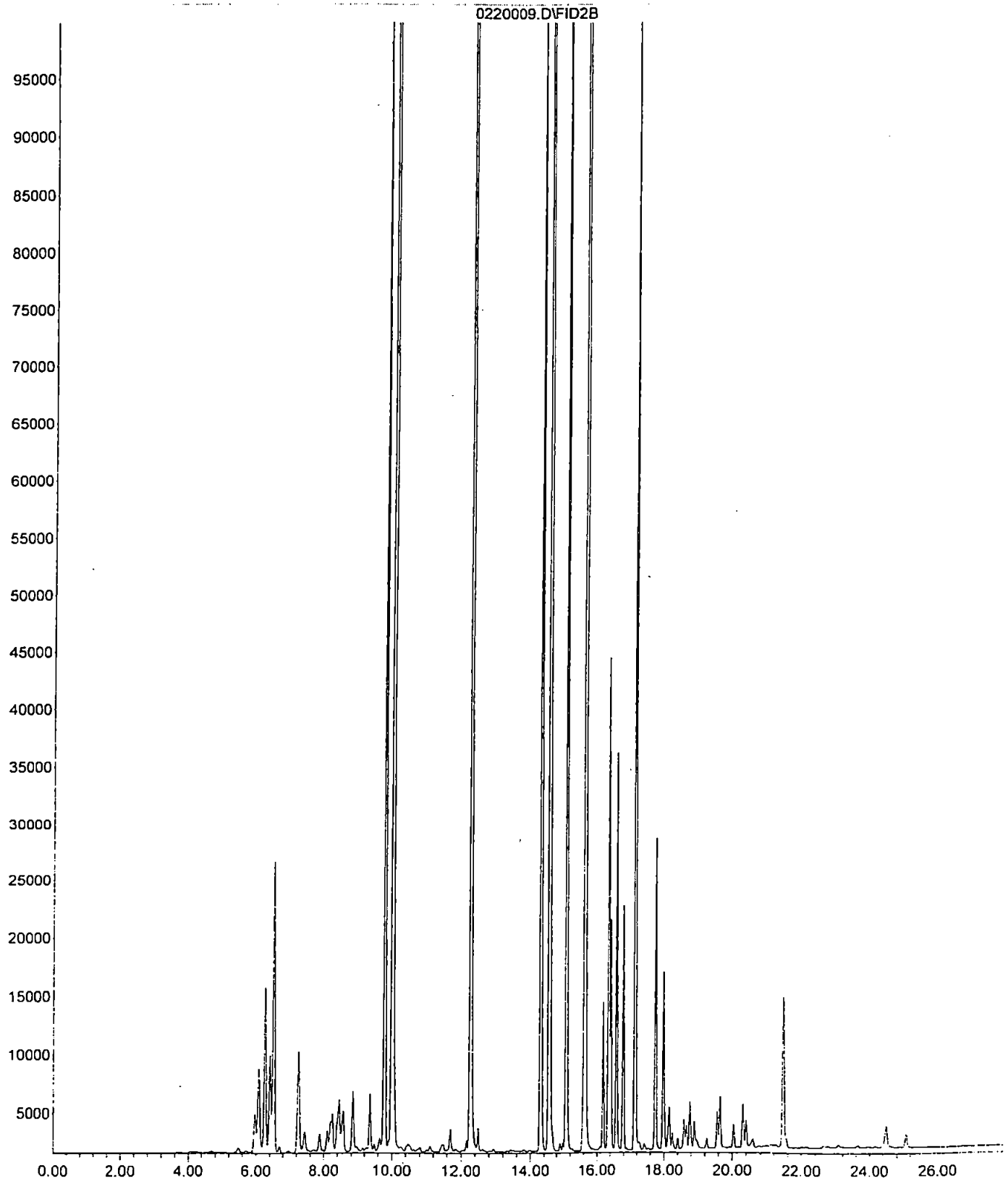
File : D:\HPCHEM\2\DATA\I030220\0220D14.D
Operator : TK
Acquired : 20 Feb 2003 22:52 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-089-03a ACU
Misc Info : 4
Vial Number: 64



File : D:\ARCHON\DATA\H030220\0220010.D
Operator :
Acquired : 20 Feb 2003 17:15 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-089-02eW 1:100
Misc Info :
Vial Number: 10



File : D:\ARCHON\DATA\H030220\0220009.D
Operator :
Acquired : 20 Feb 2003 16:39 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-089-03eW 1:50
Misc Info :
Vial Number: 9



Chain of Custody

Page _____ of _____

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

Laboratory Number: ~~02-087~~ 02-089

Company:	Kane Environmental, Inc.
Project Number:	02902
Project Name:	Bridgeway
Project Manager:	John Kane
Sampled by:	Ian Young

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Day ☐ 3 Day

☑ Standard (7 working days)

☐ _____ (other)

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx w/ silica gel cleanup	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8) Dissolved	TCLP Metals	HEM by 1664	VPH	EPH	Filtered	Dissolved Lead			% Moisture
1	D-MW-5	2/17/03	12:10p	W	8		O	X	X	X						X						X			
2	D-MW-4		1:40p	W	8		O	X	X	X						X						X			
3	D-Geo-1		2:30p	W	8		O	X	X	X						X						X			
4	Trip Blank	↓	—	W	1				O																

	Signature	Company	Date	Time
Relinquished by		Kane Environmental	2-18-03	12:00pm
Received by	Julie Bleuer	Kane Environmental	2-18-03	1:30pm
Relinquished by				
Received by		OSE	2-18-03	2:45pm
Relinquished by				
Received by				
Reviewed by		Reviewed by/Date		

Comments/Special Instructions:

O- Added 2/20/03. DB.

Chromatograms with final report ☐

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

RECEIVED
Date 2-21-03

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

February 20, 2003

John Kane
Kane Environmental, Inc.
3831 Stone Way Avenue N
Seattle, WA 98103

Re: Analytical Data for Project 02902
Laboratory Reference No. 0302-039

Dear John:

Enclosed are the analytical results and associated quality control data for samples submitted on February 10, 2003.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

Case Narrative
Page 1 of 2

Samples were collected on February 8, 2003. Samples were maintained at the laboratory at 4°C and followed SW846 analysis and extraction methods.

NWTPH Gx/BTEX Analysis

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

NWTPH-Gx (Soil) Analysis

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

NWTPH Gx (Water) Analysis

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

NWTPH Dx (Soil) Analysis

The diesel fuel result for sample D-MW-2: 5-6.5ft is being impacted by the presence of gasoline range hydrocarbons.

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

NWTPH Dx (Water) Analysis

The diesel fuel result for sample D-Geo-3 is being impacted by the presence of gasoline range hydrocarbons.

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

Volatiles (Soil) EPA 8260B Analysis

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

Volatiles (Water) EPA 8260B Analysis

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

Halogenated Volatiles EPA 8260B Analysis

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

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

Case Narrative
Page 2 of 2

PAHs EPA 8270C/SIM Analysis

Spike blank and spike blank duplicate were used for quality control because of insufficient sample volume.

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

PCBs EPA 8082 Analysis

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

Total Metals EPA 6010B/7471A Analysis

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

Total Lead EPA 6010B Analysis

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

Dissolved Metals by EPA 200.8/7470A Analysis

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

Dissolved Lead by EPA 200.8 Analysis

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

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	D-Geo-1: 4-8 ft			D-Geo-1: 8-12 ft		
Lab ID:	02-039-01			02-039-02		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.011	**ND**		0.021
Toluene	**ND**		0.057	**ND**		0.10
Ethyl Benzene	**ND**		0.057	**ND**		0.10
m,p-Xylene	**ND**		0.057	**ND**		0.10
o-Xylene	**ND**		0.057	**ND**		0.10
TPH-Gas	**ND**		5.7	**ND**		10
Surrogate Recovery:						
Fluorobenzene	85%			85%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-Geo-2: 4-8 ft**	**D-Geo-2: 15-17 ft**
Lab ID:	02-039-05	02-039-08

	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.011	---		---
Toluene	**ND**		0.055	---		---
Ethyl Benzene	**ND**		0.055	---		---
m,p-Xylene	**ND**		0.055	---		---
o-Xylene	**ND**		0.055	---		---
TPH-Gas	**ND**		5.5	**ND**		12
Surrogate Recovery:						
Fluorobenzene	78%			82%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-Geo-3: 4-7 ft**			**D-Geo-3: 8 ft**		
Lab ID:	02-039-09			02-039-10		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.011	---		---
Toluene	**ND**		0.053	---		---
Ethyl Benzene	**ND**		0.053	---		---
m,p-Xylene	**ND**		0.053	---		---
o-Xylene	**ND**		0.053	---		---
TPH-Gas	**ND**		5.3	**ND**		11
Surrogate Recovery:						
Fluorobenzene	88%			86%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-Geo-4: 4-5 ft**			**D-Geo-5: 7-8 ft**		
Lab ID:	02-039-13			02-039-14		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.012	**ND**		0.012
Toluene	**ND**		0.058	**ND**		0.062
Ethyl Benzene	**ND**		0.058	**ND**		0.062
m,p-Xylene	**ND**		0.058	**ND**		0.062
o-Xylene	**ND**		0.058	**ND**		0.062
TPH-Gas	**ND**		5.8	**ND**		6.2
Surrogate Recovery:						
Fluorobenzene	80%			73%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-Geo-6: 10-10.5 ft**			**D-Geo-6: 7-8 ft**		
Lab ID:	02-039-16			02-039-17		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.023	**ND**		0.011
Toluene	**ND**		0.11	**ND**		0.057
Ethyl Benzene	**1.2**		0.11	**ND**		0.057
m,p-Xylene	**2.8**		0.11	**ND**		0.057
o-Xylene	**0.86**		0.11	**ND**		0.057
TPH-Gas	**ND**		11	**ND**		5.7
Surrogate Recovery: Fluorobenzene	85%			77%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-Geo-6: 8 ft**			**D-MW-1: 5-6.5 ft**		
Lab ID:	02-039-19			02-039-20		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.011	**ND**		0.011
Toluene	**ND**		0.054	**ND**		0.056
Ethyl Benzene	**ND**		0.054	**ND**		0.056
m,p-Xylene	**ND**		0.054	**ND**		0.056
o-Xylene	**ND**		0.054	**ND**		0.056
TPH-Gas	**ND**		5.4	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	82%			83%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-MW-1: 8-9.5 ft**			**D-MW-2: 5-6.5 ft**		
Lab ID:	02-039-21			02-039-22		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.012	**0.048**		0.022
Toluene	**ND**		0.058	**0.12**		0.11
Ethyl Benzene	**ND**		0.058	**3.2**		0.11
m,p-Xylene	**ND**		0.058	**8.0**		0.11
o-Xylene	**ND**		0.058	**2.2**		0.11
TPH-Gas	**ND**		5.8	**ND**		11
Surrogate Recovery: Fluorobenzene	77%			85%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-MW-3: 5-6.5 ft**			**D-MW-4: 5-6.5 ft**		
Lab ID:	02-039-23			02-039-24		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.012	**ND**		0.011
Toluene	**ND**		0.058	**ND**		0.056
Ethyl Benzene	**ND**		0.058	**ND**		0.056
m,p-Xylene	**ND**		0.058	**ND**		0.056
o-Xylene	**ND**		0.058	**ND**		0.056
TPH-Gas	**ND**		5.8	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	71%			80%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**D-MW-5: 5-6.5 ft**			**D-MW-5: 9.5-11 ft**		
Lab ID:	02-039-25			02-039-26		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.011	**ND**		0.011
Toluene	**ND**		0.055	**ND**		0.056
Ethyl Benzene	**ND**		0.055	**ND**		0.056
m,p-Xylene	**ND**		0.055	**ND**		0.056
o-Xylene	**ND**		0.055	**ND**		0.056
TPH-Gas	**ND**		5.5	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	84%			82%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0214S1

	Result	Flags	PQL
Benzene	ND		0.010
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 87%

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0214S2

	Result	Flags	PQL
Benzene	ND		0.010
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 89%

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	02-039-09 Original	02-039-09 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	88%	89%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	02-039-20 Original	02-039-20 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	83%	83%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14-03

Matrix: Soil
Units: mg/kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	02-039-09 **MS**	Percent Recovery	02-039-09 **MSD**	Percent Recovery	**RPD**	**Flags**
Benzene	**0.841**	**84**	**0.831**	**83**	1.2	
Toluene	**0.860**	**86**	**0.847**	**85**	1.6	
Ethyl Benzene	**0.867**	**87**	**0.855**	**86**	1.4	
m,p-Xylene	**0.869**	**87**	**0.855**	**86**	1.7	
o-Xylene	**0.873**	**87**	**0.858**	**86**	1.7	

Surrogate Recovery:

Fluorobenzene	87%	86%

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx

Date Extracted:	2-11&12-03	
Date Analyzed:	2-11&12-03	
Matrix: Water		
Units: ug/L (ppb)		
Client ID:	**D-Geo-3**	**D-Geo-5**
Lab ID:	02-039-12	02-039-15

	Result	Flags	PQL	**Result**	Flags	PQL
TPH-Gas	**28000**		10000	**ND**		100
Surrogate Recovery:						
Fluorobenzene	109%			108%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx

Date Extracted:	2-11-03
Date Analyzed:	2-11-03
Matrix: Water	
Units: ug/L (ppb)	
Client ID:	**D-Geo-6**
Lab ID:	02-039-18

	Result	Flags	PQL
TPH-Gas	**ND**		100
Surrogate Recovery:			
Fluorobenzene	108%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-11-03
Date Analyzed: 2-11-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0211W1

	Result	Flags	PQL
TPH-Gas	**ND**		100

Surrogate Recovery:
Fluorobenzene 110%

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx
METHOD BLANK QUALITY CONTROL

Date Extracted: 2-12-03
Date Analyzed: 2-12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0212W1

	Result	Flags	PQL
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 106%

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Gx
DUPLICATE QUALITY CONTROL

Date Extracted: 2-11-03
Date Analyzed: 2-11-03

Matrix: Water
Units: ug/L (ppb)

Lab ID:	02-035-46 Original	02-035-46 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	107%	108%		

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-Geo-1: 4-8ft	D-Geo-1: 8-12ft	D-Geo-2: 4-8ft
Lab ID:	02-039-01	02-039-02	02-039-05
Diesel Range:	ND	ND	ND
PQL:	28	29	28
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	57	58	55
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	71%	79%	84%
Flags:	Y	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-Geo-2: 15-17ft	D-Geo-3: 4-7ft	D-Geo-3: 8ft
Lab ID:	02-039-08	02-039-09	02-039-10
Diesel Range:	330	ND	4100
PQL:	30	26	28
Identification:	Diesel Fuel#2	---	Diesel Fuel#2
Lube Oil Range:	ND	ND	ND
PQL:	60	53	56
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	85%	102%	97%
Flags:	Y	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13&14-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-Geo-4: 4-5ft	D-Geo-5: 7-8ft	D-Geo-6: 10-10.5ft
Lab ID:	02-039-13	02-039-14	02-039-16
Diesel Range:	ND	ND	14000
PQL:	29	31	140
Identification:	---	---	Diesel Fuel#2
Lube Oil Range:	ND	ND	ND
PQL:	58	62	290
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	90%	88%	76%
Flags:	Y	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-Geo-6: 7-8ft	D-Geo-6: 8ft	D-MW-1: 5-6.5ft
Lab ID:	02-039-17	02-039-19	02-039-20
Diesel Range:	ND	ND	ND
PQL:	28	27	28
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	57	54	56
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	78%	102%	80%
Flags:	Y	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-MW-1: 8-9.5ft	D-MW-2: 5-6.5ft	D-MW-3: 5-6.5ft
Lab ID:	02-039-21	02-039-22	02-039-23
Diesel Range:	ND	770	ND
PQL:	29	28	29
Identification:	---	Diesel Fuel#2	---
Lube Oil Range:	ND	ND	76
PQL:	58	56	58
Identification:	---	---	Lube Oil
Surrogate Recovery			
o-Terphenyl:	84%	87%	85%
Flags:	Y	Y,Z	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	D-MW-4: 5-6.5ft	D-MW-5: 5-6.5ft	D-MW-5: 9.5-11ft
Lab ID:	02-039-24	02-039-25	02-039-26
Diesel Range:	ND	ND	ND
PQL:	28	28	28
Identification:	---	---	---
Lube Oil Range:	ND	110	ND
PQL:	56	55	56
Identification:	---	Lube Oil	---
Surrogate Recovery			
o-Terphenyl:	89%	81%	91%
Flags:	Y	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0213S1
Diesel Range:	ND
PQL:	25
Identification:	---
Lube Oil Range:	ND
PQL:	50
Identification:	---
Surrogate Recovery	
o-Terphenyl:	97%
Flags:	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	2-13-03	
Date Analyzed:	2-13-03	
Matrix:	Soil	
Units:	mg/Kg (ppm)	
Lab ID:	02-039-25	02-039-25 DUP
Diesel Range:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	81%	91%
Flags:	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	02-039-26	02-039-26 DUP
Diesel Range:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	91%	82%
Flags:	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Water
Units:	mg/L (ppm)

Client ID:	D-Geo-3	D-Geo-5	D-Geo-6
Lab ID:	02-039-12	02-039-15	02-039-18
Diesel Range:	5.6	ND	33
PQL:	0.26	0.28	0.27
Identification:	Diesel Fuel#2	---	Diesel Fuel#2
Lube Oil Range:	ND	ND	ND
PQL:	0.42	0.45	0.43
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	98%	101%	114%
Flags:	M,Y,Z	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-13-03
Date Analyzed:	2-14-03
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0213W1
Diesel Range:	ND
PQL:	0.25
Identification:	---
Lube Oil Range:	ND
PQL:	0.40
Identification:	---
Surrogate Recovery	
o-Terphenyl:	81%
Flags:	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	02-048-02	02-048-02 DUP
Diesel Range:	ND	ND
PQL:	0.28	0.25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	102%	97%
Flags:	Y	Y

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

HALOGENATED VOLATILES
by EPA 8260B
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Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	02-039-02
Client ID:	**D-Geo-1:8-12ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
Chloroethane	ND		0.0012
Trichlorofluoromethane	ND		0.0012
1,1-Dichloroethene	ND		0.0012
Iodomethane	ND		0.0058
Methylene Chloride	ND		0.0058
(trans) 1,2-Dichloroethene	ND		0.0012
1,1-Dichloroethane	ND		0.0012
2,2-Dichloropropane	ND		0.0012
(cis) 1,2-Dichloroethene	ND		0.0012
Bromochloromethane	ND		0.0012
Chloroform	ND		0.0012
1,1,1-Trichloroethane	ND		0.0012
Carbon Tetrachloride	ND		0.0012
1,1-Dichloropropene	ND		0.0012
1,2-Dichloroethane	ND		0.0012
Trichloroethene	ND		0.0012
1,2-Dichloropropane	ND		0.0012
Dibromomethane	ND		0.0012
Bromodichloromethane	ND		0.0012
2-Chloroethyl Vinyl Ether	ND		0.0058
(cis) 1,3-Dichloropropene	ND		0.0012
(trans) 1,3-Dichloropropene	ND		0.0012

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

HALOGENATED VOLATILES
by EPA 8260B
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Lab ID: 02-039-02
Client ID: D-Geo-1:8-12ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	ND		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0012
Chlorobenzene	ND		0.0012
1,1,1,2-Tetrachloroethane	ND		0.0012
Bromoform	ND		0.0012
Bromobenzene	ND		0.0012
1,1,2,2-Tetrachloroethane	ND		0.0012
1,2,3-Trichloropropane	ND		0.0012
2-Chlorotoluene	ND		0.0012
4-Chlorotoluene	ND		0.0012
1,3-Dichlorobenzene	ND		0.0012
1,4-Dichlorobenzene	ND		0.0012
1,2-Dichlorobenzene	ND		0.0012
1,2-Dibromo-3-chloropropane	ND		0.0058
1,2,4-Trichlorobenzene	ND		0.0012
Hexachlorobutadiene	ND		0.0058
1,2,3-Trichlorobenzene	ND		0.0012

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	75	65-125
Toluene, d8	91	77-116
4-Bromofluorobenzene	101	67-133

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
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Project: 02902

VOLATILES by EPA 8260B
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Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	02-039-08
Client ID:	**D-Geo-2:15-17ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
Chloroethane	ND		0.0012
Trichlorofluoromethane	ND		0.0012
1,1-Dichloroethene	ND		0.0012
Acetone	ND		0.0060
Iodomethane	ND		0.0060
Carbon Disulfide	ND		0.0012
Methylene Chloride	ND		0.0060
(trans) 1,2-Dichloroethene	ND		0.0012
Methyl t-Butyl Ether	ND		0.0012
1,1-Dichloroethane	ND		0.0012
Vinyl Acetate	ND		0.0060
2,2-Dichloropropane	ND		0.0012
(cis) 1,2-Dichloroethene	ND		0.0012
2-Butanone	ND		0.0060
Bromochloromethane	ND		0.0012
Chloroform	ND		0.0012
1,1,1-Trichloroethane	ND		0.0012
Carbon Tetrachloride	ND		0.0012
1,1-Dichloropropene	ND		0.0012
Benzene	ND		0.0012
1,2-Dichloroethane	ND		0.0012
Trichloroethene	ND		0.0012
1,2-Dichloropropane	ND		0.0012
Dibromomethane	ND		0.0012
Bromodichloromethane	ND		0.0012
2-Chloroethyl Vinyl Ether	ND		0.0060
(cis) 1,3-Dichloropropene	ND		0.0012
Methyl Isobutyl Ketone	ND		0.0060
Toluene	0.0049		0.0012
(trans) 1,3-Dichloropropene	ND		0.0012

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B

Lab ID: 02-039-08
Client ID: D-Geo-2:15-17ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	ND		0.0012
1,3-Dichloropropane	ND		0.0012
2-Hexanone	ND		0.0060
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0012
Chlorobenzene	ND		0.0012
1,1,1,2-Tetrachloroethane	ND		0.0012
Ethylbenzene	0.013		0.0012
m,p-Xylene	0.038		0.0024
o-Xylene	0.019		0.0012
Styrene	ND		0.0012
Bromoform	ND		0.0012
Isopropylbenzene	0.0026		0.0012
Bromobenzene	ND		0.0012
1,1,2,2-Tetrachloroethane	ND		0.0012
1,2,3-Trichloropropane	ND		0.0012
n-Propylbenzene	0.0087		0.0012
2-Chlorotoluene	ND		0.0012
4-Chlorotoluene	ND		0.0012
1,3,5-Trimethylbenzene	0.017		0.0012
tert-Butylbenzene	ND		0.0012
1,2,4-Trimethylbenzene	0.052		0.0012
sec-Butylbenzene	0.021		0.0012
1,3-Dichlorobenzene	ND		0.0012
p-Isopropyltoluene	0.0057		0.0012
1,4-Dichlorobenzene	ND		0.0012
1,2-Dichlorobenzene	ND		0.0012
n-Butylbenzene	ND		0.0012
1,2-Dibromo-3-chloropropane	ND		0.0060
1,2,4-Trichlorobenzene	ND		0.0012
Hexachlorobutadiene	ND		0.0060
Naphthalene	ND		0.0012
1,2,3-Trichlorobenzene	ND		0.0012

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	72	65-125
Toluene, d8	97	77-116
4-Bromofluorobenzene	108	67-133

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B
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Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	02-039-10
Client ID:	**D-Geo-3:8ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.037		0.0056
Iodomethane	ND		0.0056
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0056
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0056
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	0.014		0.0056
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	0.0014		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0056
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0056
Toluene	0.0020		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
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Project: 02902

VOLATILES by EPA 8260B

Lab ID: 02-039-10
Client ID: D-Geo-3:8ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0056
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	0.37		0.011
m,p-Xylene	0.53		0.022
o-Xylene	0.0087		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	0.26		0.011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	0.77		0.011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	1.2		0.11
tert-Butylbenzene	0.058		0.0011
1,2,4-Trimethylbenzene	1.4		0.11
sec-Butylbenzene	0.31		0.011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	0.61		0.011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0056
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0056
Naphthalene	0.93		0.11
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	65	65-125
Toluene, d8	93	77-116
4-Bromofluorobenzene	67	67-133

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Date Extracted:	2-13-03
Date Analyzed:	2-13-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0213S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: February 20, 2003
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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0213S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	72	65-125
Toluene, d8	88	77-116
4-Bromofluorobenzene	105	67-133

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 2-13-03
Date Analyzed: 2-13-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-08

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	0.0500	0.0234	47	0.0220	44	22-136	
Benzene	ND	0.0500	0.0361	72	0.0357	71	67-137	
Trichloroethene	ND	0.0500	0.0492	98	0.0510	102	48-149	
Toluene	0.00413	0.0500	0.0463	84	0.0454	83	48-143	
Chlorobenzene	ND	0.0500	0.0414	83	0.0460	92	69-135	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	6.2	23	
Benzene	1.2	15	
Trichloroethene	3.6	18	
Toluene	1.9	13	
Chlorobenzene	11	12	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B
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Date Extracted:	2-18-03
Date Analyzed:	2-18-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-039-12
Client ID:	**D-Geo-3**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		10
Chloromethane	ND		10
Vinyl Chloride	ND		10
Bromomethane	ND		10
Chloroethane	ND		10
Trichlorofluoromethane	ND		10
1,1-Dichloroethene	ND		10
Acetone	ND		250
Iodomethane	ND		50
Carbon Disulfide	ND		10
Methylene Chloride	ND		50
(trans) 1,2-Dichloroethene	ND		10
Methyl t-Butyl Ether	ND		10
1,1-Dichloroethane	ND		10
Vinyl Acetate	ND		50
2,2-Dichloropropane	ND		10
(cis) 1,2-Dichloroethene	ND		10
2-Butanone	ND		250
Bromochloromethane	ND		10
Chloroform	ND		10
1,1,1-Trichloroethane	ND		10
Carbon Tetrachloride	ND		10
1,1-Dichloropropene	ND		10
Benzene	26		10
1,2-Dichloroethane	ND		10
Trichloroethene	ND		10
1,2-Dichloropropane	ND		10
Dibromomethane	ND		10
Bromodichloromethane	ND		10
2-Chloroethyl Vinyl Ether	ND		50
(cis) 1,3-Dichloropropene	ND		10
Methyl Isobutyl Ketone	ND		100
Toluene	630		10
(trans) 1,3-Dichloropropene	ND		10

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B

Lab ID: 02-039-12
Client ID: D-Geo-3

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		10
Tetrachloroethene	ND		10
1,3-Dichloropropane	ND		10
2-Hexanone	ND		100
Dibromochloromethane	ND		10
1,2-Dibromoethane	ND		10
Chlorobenzene	ND		10
1,1,1,2-Tetrachloroethane	ND		10
Ethylbenzene	630		10
m,p-Xylene	2100		20
o-Xylene	710		10
Styrene	ND		10
Bromoform	ND		50
Isopropylbenzene	80		10
Bromobenzene	ND		10
1,1,2,2-Tetrachloroethane	ND		10
1,2,3-Trichloropropane	ND		10
n-Propylbenzene	270		10
2-Chlorotoluene	ND		10
4-Chlorotoluene	ND		10
1,3,5-Trimethylbenzene	490		10
tert-Butylbenzene	ND		10
1,2,4-Trimethylbenzene	1600		10
sec-Butylbenzene	ND		10
1,3-Dichlorobenzene	ND		10
p-Isopropyltoluene	14		10
1,4-Dichlorobenzene	ND		10
1,2-Dichlorobenzene	ND		10
n-Butylbenzene	ND		10
1,2-Dibromo-3-chloropropane	ND		50
1,2,4-Trichlorobenzene	ND		10
Hexachlorobutadiene	ND		10
Naphthalene	ND		50
1,2,3-Trichlorobenzene	ND		10

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	76	71-133
Toluene, d8	91	80-151
4-Bromofluorobenzene	90	75-139

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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Date Extracted:	2-18-03
Date Analyzed:	2-19-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-039-15
Client ID:	**D-Geo-5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	5.3		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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Lab ID: 02-039-15
Client ID: D-Geo-5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	78	71-133
Toluene, d8	89	80-151
4-Bromofluorobenzene	84	75-139

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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Date Extracted:	2-18-03
Date Analyzed:	2-19-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	02-039-18
Client ID:	**D-Geo-6**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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Lab ID: 02-039-18
Client ID: D-Geo-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	5.6		0.20
m,p-Xylene	25		0.40
o-Xylene	1.5		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	3.9		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	5.5		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	15		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	59		2.0
sec-Butylbenzene	2.8		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	3.5		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	23		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	74	71-133
Toluene, d8	92	80-151
4-Bromofluorobenzene	91	75-139

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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METHOD BLANK QUALITY CONTROL
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Date Extracted:	2-18-03
Date Analyzed:	2-18-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0218W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		2.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0218W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		2.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	71-133
Toluene, d8	90	80-151
4-Bromofluorobenzene	85	75-139

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 2-18-03
Date Analyzed: 2-18-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-028-01

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	10.0	8.05	80	8.50	85	69-113	
Benzene	ND	10.0	7.96	80	8.31	83	71-128	
Trichloroethene	ND	10.0	9.04	90	9.53	95	82-122	
Toluene	ND	10.0	9.05	90	9.49	95	54-118	
Chlorobenzene	ND	10.0	8.55	85	8.94	89	85-103	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	5.5	15	
Benzene	4.3	9.6	
Trichloroethene	5.3	12	
Toluene	4.8	15	
Chlorobenzene	4.6	5.8	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PAHs by EPA 8270C/SIM

Date Extracted:	2-14-03
Date Analyzed:	2-20-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	02-039-10
Client ID:	**D-Geo-3: 8 ft**

Compound:	Results	Flags	PQL
Naphthalene	2.1		0.094
2-Methylnaphthalene	13		0.094
1-Methylnaphthalene	8.9		0.094
Acenaphthylene	0.092		0.0094
Acenaphthene	0.48		0.0094
Fluorene	1.9		0.094
Phenanthrene	3.0		0.094
Anthracene	0.22		0.0094
Fluoranthene	0.067		0.0094
Pyrene	0.16		0.0094
Benzo[a]anthracene	ND		0.0094
Chrysene	0.033		0.0094
Benzo[b]fluoranthene	ND		0.0094
Benzo[k]fluoranthene	ND		0.0094
Benzo[a]pyrene	ND		0.0094
Indeno[1,2,3-c,d]pyrene	ND		0.0094
Dibenz[a,h]anthracene	ND		0.0094
Benzo[g,h,i]perylene	ND		0.0094

Surrogate :	Percent Recovery	Control Limits
Nitrobenzene-d5	87	10 - 110
2-Fluorobiphenyl	62	54 - 98
Terphenyl-d14	90	55 - 127

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PAHs by EPA 8270C/SIM
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-14-03
Date Analyzed:	2-20-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0214S1

Compound:	Results	Flags	PQL
Naphthalene	ND		0.0083
2-Methylnaphthalene	ND		0.0083
1-Methylnaphthalene	ND		0.0083
Acenaphthylene	ND		0.0083
Acenaphthene	ND		0.0083
Fluorene	ND		0.0083
Phenanthrene	ND		0.0083
Anthracene	ND		0.0083
Fluoranthene	ND		0.0083
Pyrene	ND		0.0083
Benzo[a]anthracene	ND		0.0083
Chrysene	ND		0.0083
Benzo[b]fluoranthene	ND		0.0083
Benzo[k]fluoranthene	ND		0.0083
Benzo[a]pyrene	ND		0.0083
Indeno[1,2,3-c,d]pyrene	ND		0.0083
Dibenz[a,h]anthracene	ND		0.0083
Benzo[g,h,i]perylene	ND		0.0083

Surrogate :	Percent Recovery	Control Limits
Nitrobenzene-d5	67	10 - 110
2-Fluorobiphenyl	66	54 - 98
Terphenyl-d14	90	55 - 127

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PAHs by EPA 8270C/SIM
SB/SBD QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-20-03

Matrix: Soil
Units: mg/kg (ppm)
Lab ID: SB0214S1

Compound:	MB Amount	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
Naphthalene	ND	0.667	0.372	56	0.387	58	38-113	
Acenaphthylene	ND	0.667	0.388	58	0.402	60	35-126	
Acenaphthene	ND	0.667	0.390	59	0.401	60	31-121	
Fluorene	ND	0.667	0.421	63	0.430	64	42-125	
Phenanthrene	ND	0.667	0.443	66	0.444	67	38-122	
Anthracene	ND	0.667	0.450	67	0.465	70	46-135	
Fluoranthene	ND	0.667	0.483	72	0.495	74	50-132	
Pyrene	ND	0.667	0.471	71	0.506	76	53-126	
Benzo[a]anthracene	ND	0.667	0.459	69	0.464	70	42-139	
Chrysene	ND	0.667	0.478	72	0.485	73	46-136	
Benzo[b]fluoranthene	ND	0.667	0.465	70	0.477	72	48-137	
Benzo[k]fluoranthene	ND	0.667	0.492	74	0.477	71	45-144	
Benzo[a]pyrene	ND	0.667	0.460	69	0.463	69	51-139	
Indeno(1,2,3-c,d)pyrene	ND	0.667	0.452	68	0.470	71	32-153	
Dibenz[a,h]anthracene	ND	0.667	0.410	61	0.428	64	40-131	
Benzo[g,h,i]perylene	ND	0.667	0.452	68	0.462	69	30-138	

	RPD	RPD Limit	Flags
Naphthalene	3.9	33	
Acenaphthylene	3.5	24	
Acenaphthene	2.7	27	
Fluorene	2.0	26	
Phenanthrene	0.12	32	
Anthracene	3.4	20	
Fluoranthene	2.4	43	
Pyrene	7.1	31	
Benzo[a]anthracene	1.2	22	
Chrysene	1.3	24	
Benzo[b]fluoranthene	2.5	23	
Benzo[k]fluoranthene	3.1	23	
Benzo[a]pyrene	0.57	24	
Indeno(1,2,3-c,d)pyrene	3.9	21	
Dibenz[a,h]anthracene	4.3	14	
Benzo[g,h,i]perylene	2.3	18	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PCBs by EPA 8082

Date Extracted:	2-14-03
Date Analyzed:	2-14-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	02-039-10
Client ID:	**D-Geo-3: 8 ft**

	Result	**PQL**
Aroclor 1016:	**ND**	0.056
Aroclor 1221:	**ND**	0.056
Aroclor 1232:	**ND**	0.056
Aroclor 1242:	**ND**	0.056
Aroclor 1248:	**ND**	0.056
Aroclor 1254:	**ND**	0.056
Aroclor 1260:	**ND**	0.056

Surrogate	**Percent Recovery**	**Control Limits**
Decachlorobiphenyl	69	41-128

Flags:

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PCBs by EPA 8082
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-14-03
Date Analyzed:	2-14-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0214S1

	Result	PQL
Aroclor 1016:	ND	0.050
Aroclor 1221:	ND	0.050
Aroclor 1232:	ND	0.050
Aroclor 1242:	ND	0.050
Aroclor 1248:	ND	0.050
Aroclor 1254:	ND	0.050
Aroclor 1260:	ND	0.050

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	85	41-128

Flags:

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PCBs by EPA 8082
MS/MSD QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-15-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-047-03

Spike Level: 0.500

	MS	Percent Recovery	MSD	Percent Recovery	RPD
Aroclor 1260:	0.514	103	0.479	96	7.0
PQL	0.050		0.050		

Surrogate	Percent Recovery	Percent Recovery	Control Limits
Decachlorobiphenyl	88	84	41-128

Flags:

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

PCBs by EPA 8082
SPIKE BLANK QUALITY CONTROL

Date Extracted:	2-14-03
Date Analyzed:	2-14-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	SB0214S1
Spike Level:	0.500

	Result	Percent Recovery
Aroclor 1260:	0.435	87

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	89	41-128

Flags:

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL METALS
EPA 6010B/7471A

Date Extracted: 2-14-03
Date Analyzed: 2-14&18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-10
Client ID: D-Geo-3:8ft

Analyte	Method	Result	PQL
Arsenic	6010B	ND	11
Barium	6010B	53	2.8
Cadmium	6010B	ND	0.56
Chromium	6010B	22	0.56
Lead	6010B	ND	5.6
Mercury	7471A	ND	0.28
Selenium	6010B	ND	11
Silver	6010B	ND	0.56

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-14-03
Date Analyzed:	2-14&18-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0214S1&MB0214S3

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14&18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-10

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**47.2**	**52.9**	11	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**19.3**	**20.1**	4.3	0.50	
Lead	**ND**	**ND**	NA	5.0	
Lead	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-14&18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-10

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**84.6**	85	**96.9**	97	14	
Barium	100	**156**	109	**152**	105	2.4	
Cadmium	50	**44.9**	90	**45.7**	91	1.8	
Chromium	100	**110**	91	**115**	95	4.0	
Lead	250	**225**	90	**226**	90	0.48	
Mercury	1.0	**0.890**	89	**0.902**	90	1.3	
Selenium	100	**90.4**	90	**99.4**	99	9.5	
Silver	50	**46.2**	92	**46.7**	93	0.94	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL LEAD
EPA 6010B

Date Extracted:	2-14-03
Date Analyzed:	2-18-03
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID	Lab ID	Result	PQL
D-Geo-1:4-8ft	02-039-01	**7.1**	5.7
D-Geo-1:8-12ft	02-039-02	**ND**	5.8
D-Geo-2:4-8ft	02-039-05	**12**	5.5
D-Geo-2:15-17ft	02-039-08	**ND**	6.0
D-Geo-3:4-7ft	02-039-09	**5.4**	5.3
D-Geo-5:7-8ft	02-039-14	**ND**	6.2
D-Geo-6:10-10.5ft	02-039-16	**ND**	5.7
D-Geo-6:7-8ft	02-039-17	**ND**	5.7
D-Geo-6:8ft	02-039-19	**ND**	5.4
D-MW-1:5-6.5ft	02-039-20	**ND**	5.6
D-MW-1:8-9.5ft	02-039-21	**ND**	5.8
D-MW-2:5-6.5ft	02-039-22	**ND**	5.6
D-MW-3:5-6.5ft	02-039-23	**20**	5.8
D-MW-4:5-6.5ft	02-039-24	**14**	5.6
D-MW-5:5-6.5ft	02-039-25	**40**	5.5
D-MW-5:9.5-11ft	02-039-26	**ND**	5.6

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL LEAD
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	2-14-03
Date Analyzed:	2-18-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0214S3

Analyte	Method	Result	PQL
Lead	6010B	**ND**	5.0

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL LEAD
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-10

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	**ND**	**ND**	NA		5.0

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

TOTAL LEAD
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 2-14-03
Date Analyzed: 2-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-039-10

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	250	**225**	90	**226**	90	0.48	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 2-11-03
Date Analyzed: 2-11&12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-039-12
Client ID: D-Geo-3

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.0
Barium	200.8	ND	25
Cadmium	200.8	ND	4.0
Chromium	200.8	ND	10
Lead	200.8	ND	1.0
Mercury	7470A	ND	.50
Selenium	200.8	ND	5.0
Silver	200.8	ND	10

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-11-03
Date Analyzed:	2-11&12-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0211D1

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.0
Barium	200.8	**ND**	25
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	0.50
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 2-11-03
Date Analyzed: 2-11&12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-039-12

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	3.0	
Barium	**ND**	**ND**	NA	25	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	0.50	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Filtered: 2-11-03
Date Analyzed: 2-11&12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-039-12

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**102**	102	**101**	101	0.44	
Barium	100	**101**	101	**101**	101	0	
Cadmium	100	**102**	102	**101**	101	0.30	
Chromium	100	**103**	103	**103**	103	0	
Lead	100	**103**	103	**103**	103	0	
Mercury	5.0	**5.27**	105	**4.91**	98	7.1	
Selenium	100	**102**	102	**102**	102	0	
Silver	100	**106**	106	**113**	113	6.1	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED LEAD
EPA 200.8

Date Filtered:	2-11-03
Date Analyzed:	2-12-03
Matrix:	Water
Units:	ug/L (ppb)

Client ID	Lab ID	Result	PQL
D-Geo-5	02-039-15	**ND**	1.0
D-Geo-6	02-039-18	**ND**	1.0

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED LEAD
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Filtered:	2-11-03
Date Analyzed:	2-12-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0211D1

Analyte	Method	Result	PQL
Lead	200.8	**ND**	1.0

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED LEAD
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Filtered: 2-11-03
Date Analyzed: 2-12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-039-12

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Lead	**ND**	**ND**	NA	1.0	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

DISSOLVED LEAD
EPA 200.8
MS/MSD QUALITY CONTROL

Date Filtered: 2-11-03
Date Analyzed: 2-12-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: 02-039-12

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	100	**103**	103	**103**	103	0	

Date of Report: February 20, 2003
Samples Submitted: February 10, 2003
Lab Reference: 02-039
Project: 02902

% MOISTURE

Date Analyzed: 2-13-03

Client ID	Lab ID	% Moisture
D-Geo-1:10.5-12ft	02-039-01	12
D-Geo-1:8-12ft	02-039-02	14
D-Geo-1:4-8ft	02-039-05	9.0
D-Geo-2:15-17ft	02-039-08	16
D-Geo-3:4-7ft	02-039-09	5.0
D-Geo-3:8ft	02-039-10	11
D-Geo-4:4-5ft	02-039-13	14
D-Geo-5:7-8ft	02-039-14	19
D-Geo-6:10-10.5ft	02-039-16	13
D-Geo-6:7-8ft	02-039-17	12
D-Geo-6:8ft	02-039-19	7.0
D-MW-1:5-6.5ft	02-039-20	10
D-MW-1:8-9.5ft	02-039-21	14
D-MW-2:5-6.5ft	02-039-22	11
D-MW-3:5-6.5ft	02-039-23	14
D-MW-4:5-6.5ft	02-039-24	11
D-MW-5: 5-6.5ft	02-039-25	9.0
D-MW-5:9.5-11ft	02-039-26	11

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

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

D - Data from 1:____ dilution.

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

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

G - Insufficient sample quantity for duplicate analysis.

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

O - Hydrocarbons outside the defined gasoline range are present in the sample.

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

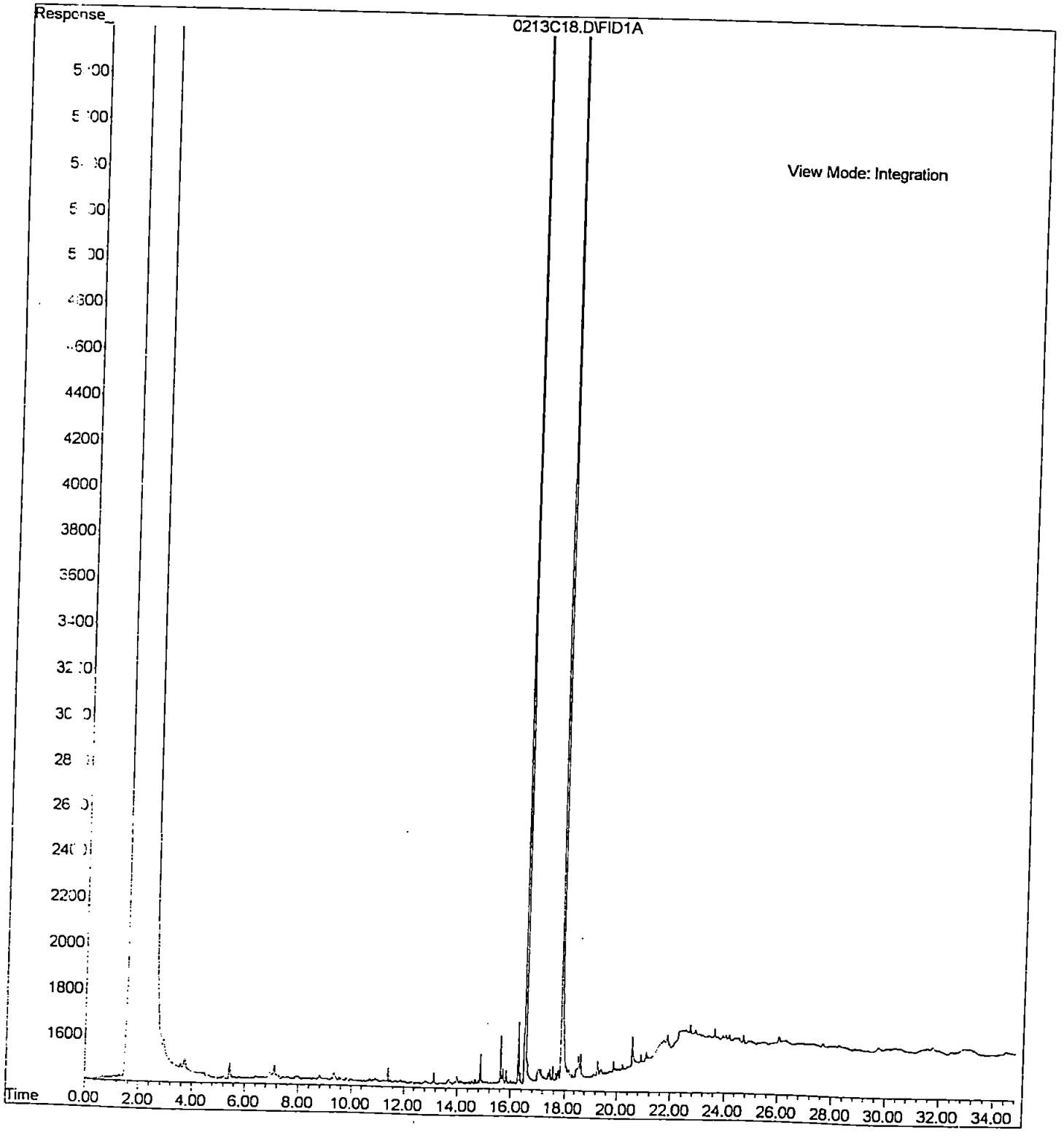
X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

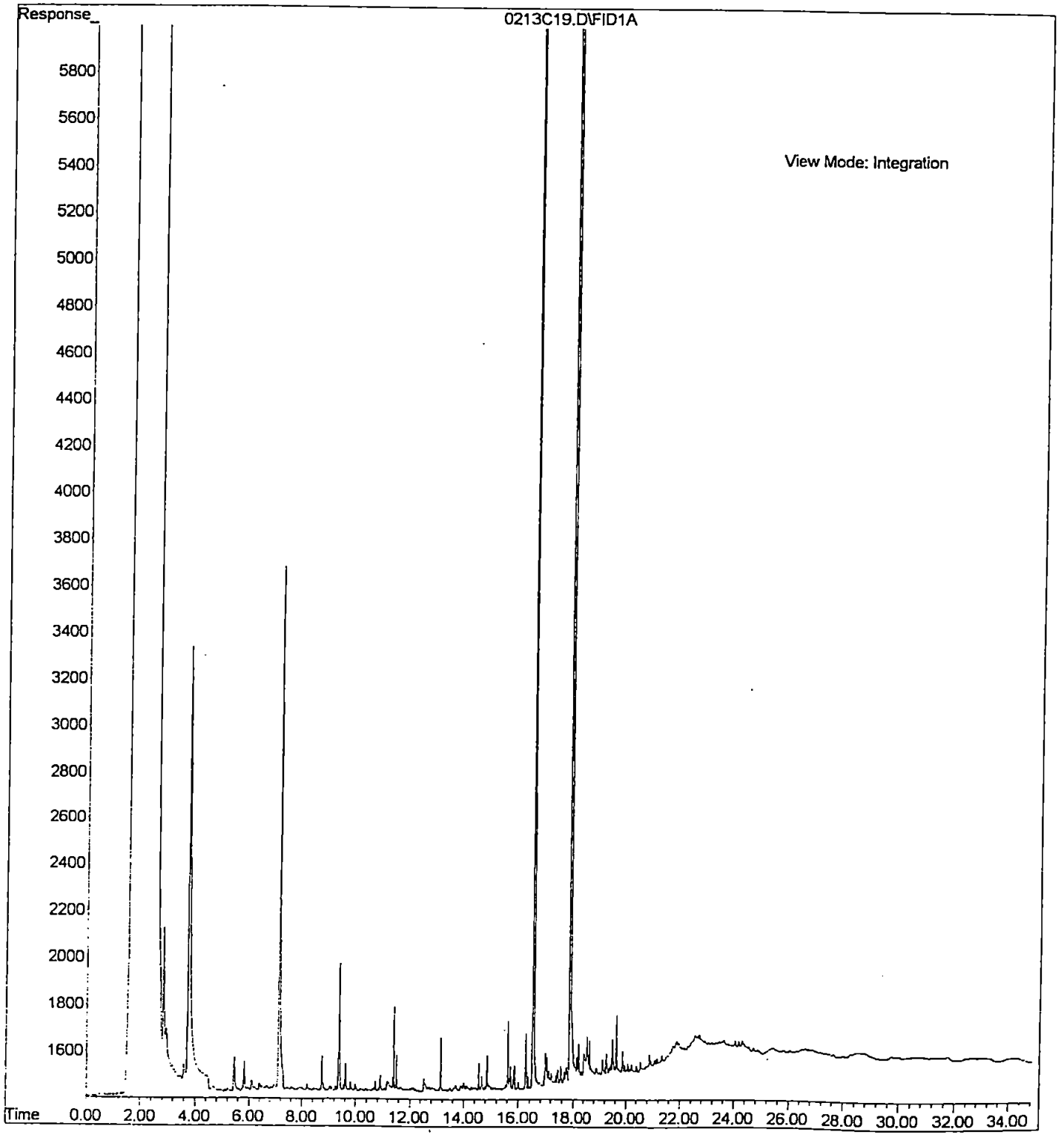
Z – Diesel Fuel result is being impacted by the presence of Gasoline Range Hydrocarbons.

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

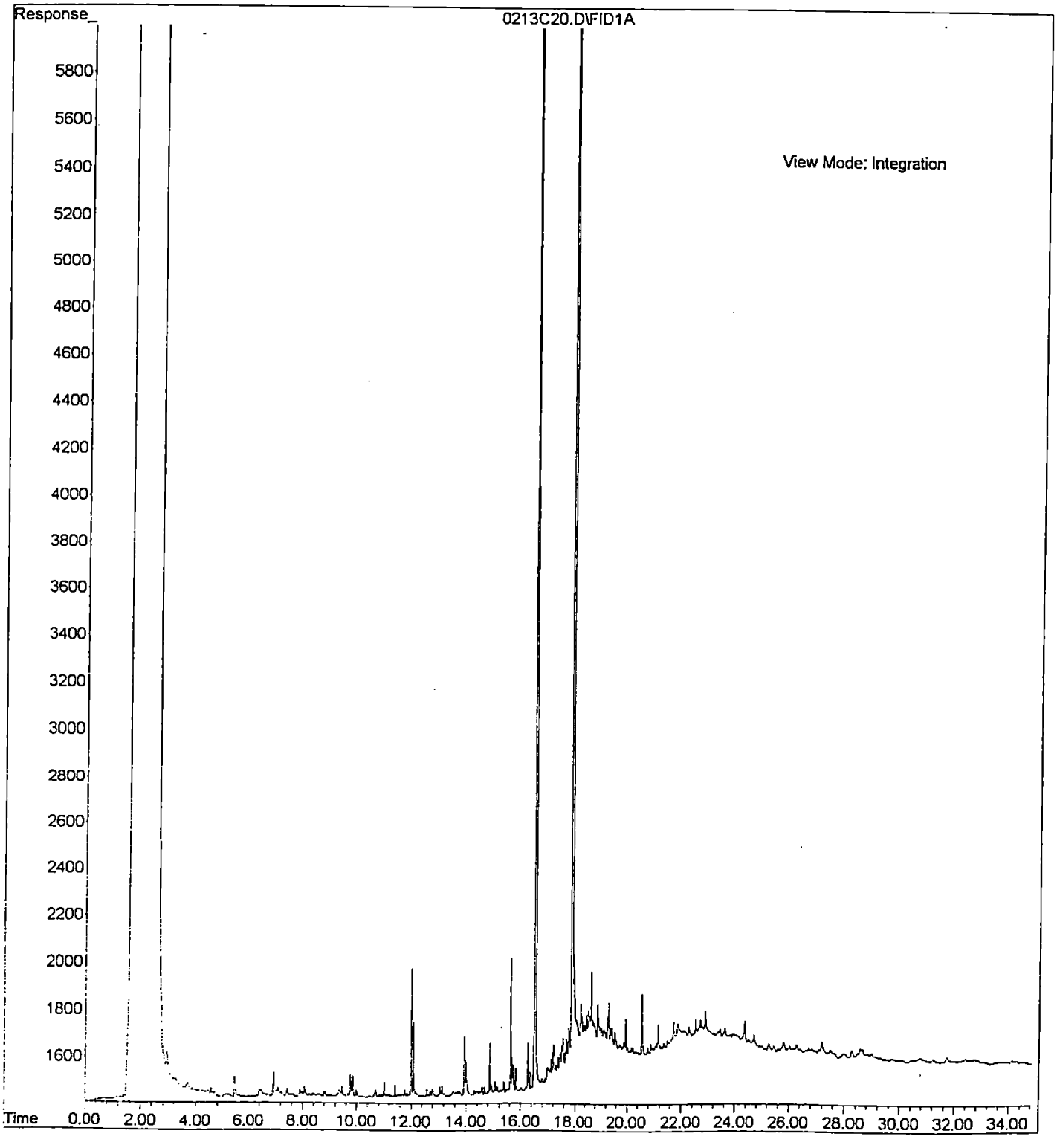
File : D:\HPCHEM\2\DATA\I030213\0213C18.D
Operator : TK
Acquired : 13 Feb 2003 23:50 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-01 ACU
Misc Info : 3
Vial Number: 18



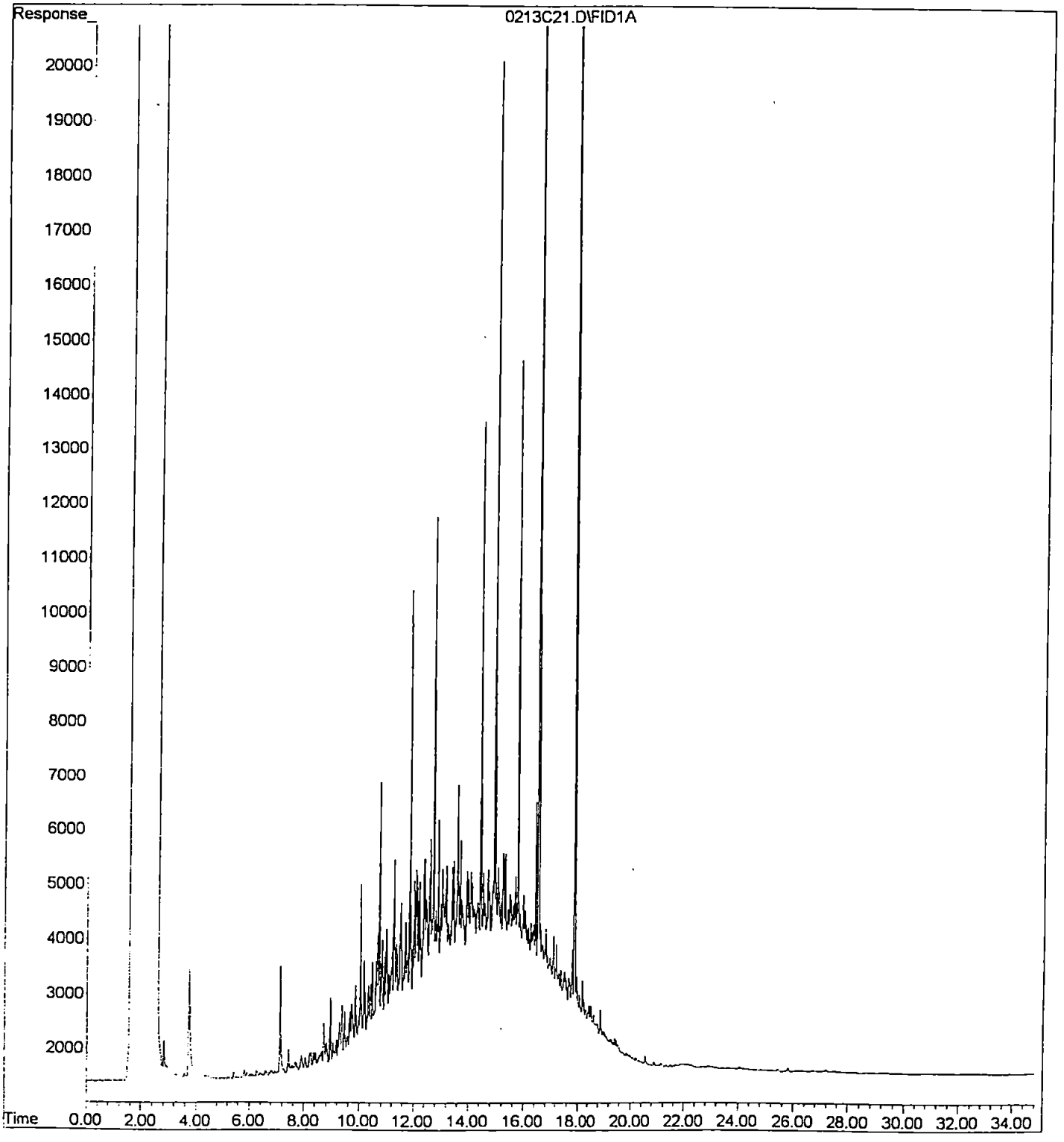
File : D:\HPCHEM\2\DATA\I030213\0213C19.D
Operator : TK
Acquired : 14 Feb 2003 00:31 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-02 ACU
Misc Info : 3
Vial Number: 19



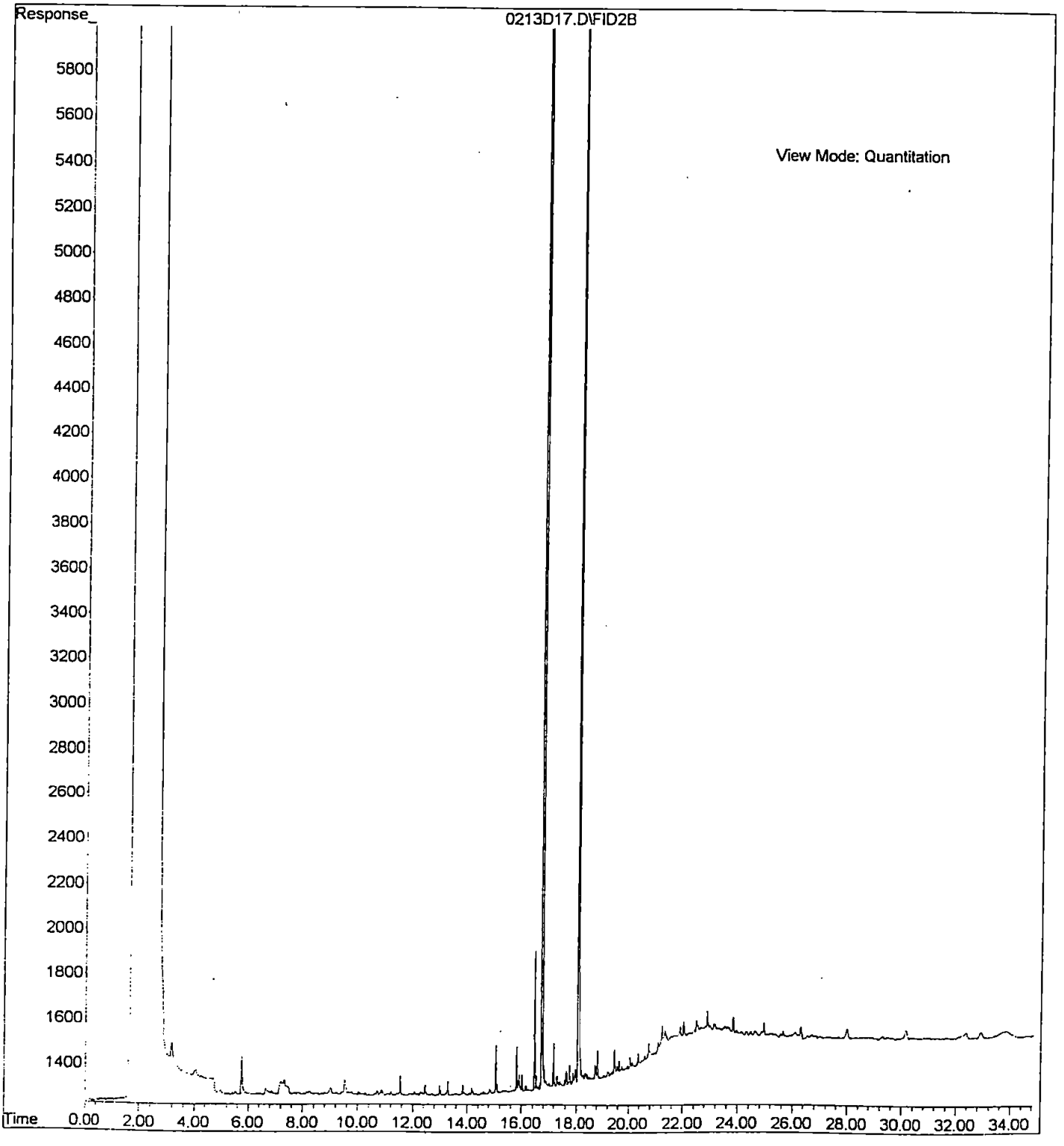
File : D:\HPCHEM\2\DATA\I030213\0213C20.D
Operator : TK
Acquired : 14 Feb 2003 1:13 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-05 ACU
Misc Info : 3
Vial Number: 20



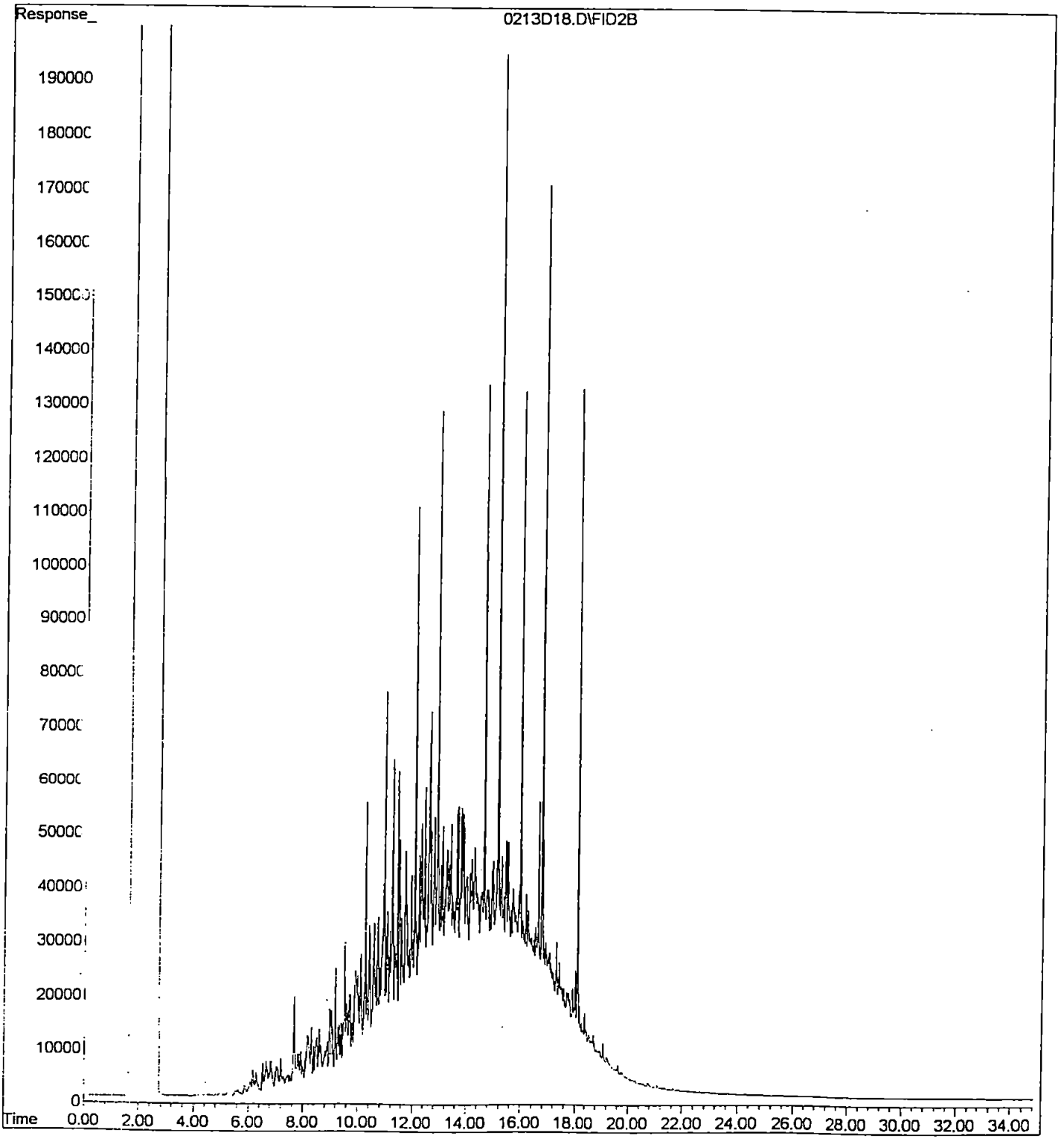
File : D:\HPCHEM\2\DATA\I030213\0213C21.D
Operator : TK
Acquired : 14 Feb 2003 1:54 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-08 ACU
Misc Info : 3
Vial Number: 21



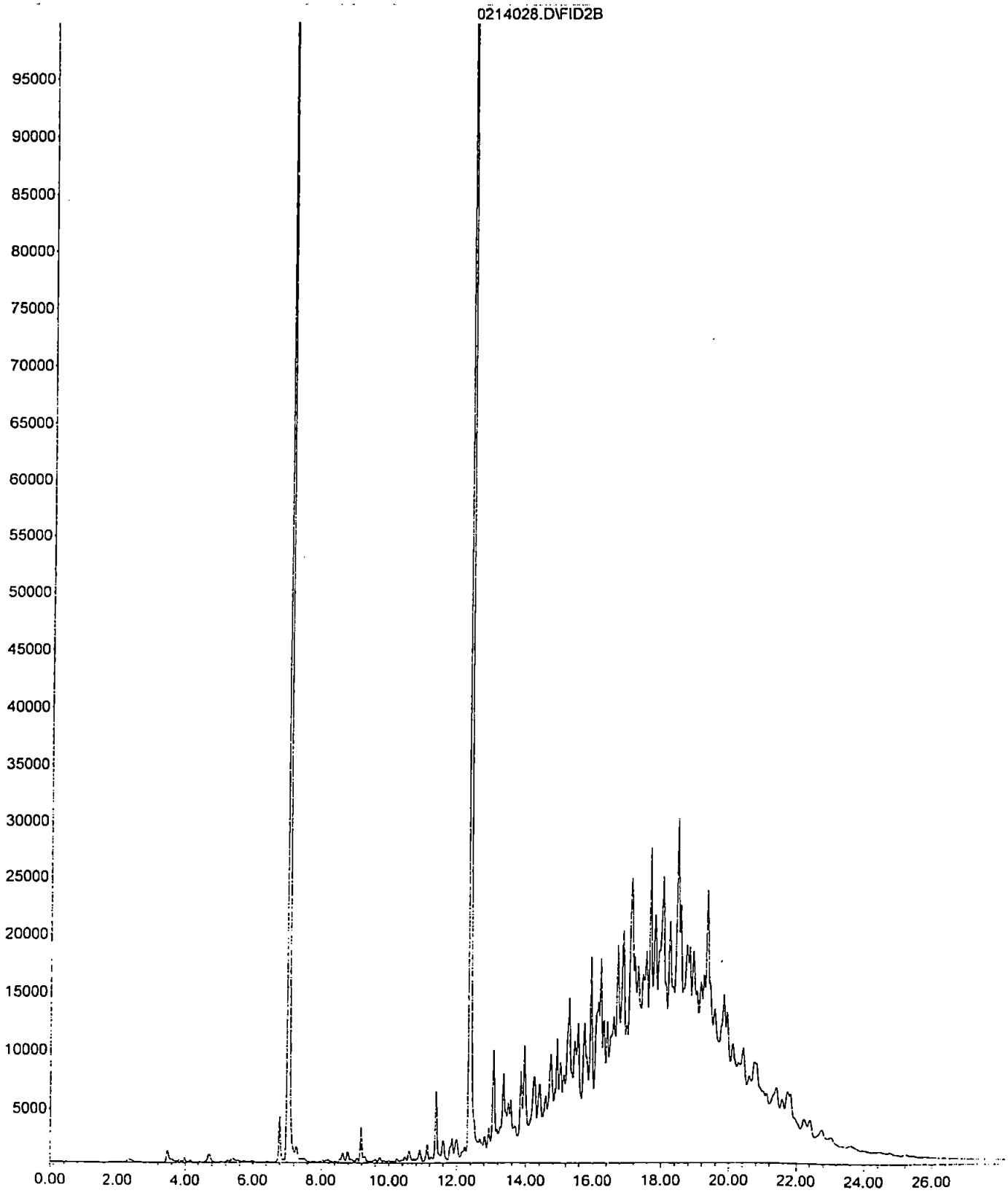
File : D:\HPCHEM\2\DATA\I030213\0213D17.D
Operator : TK
Acquired : 13 Feb 2003 23:08 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-09 ACU
Misc Info : 4
Vial Number: 67



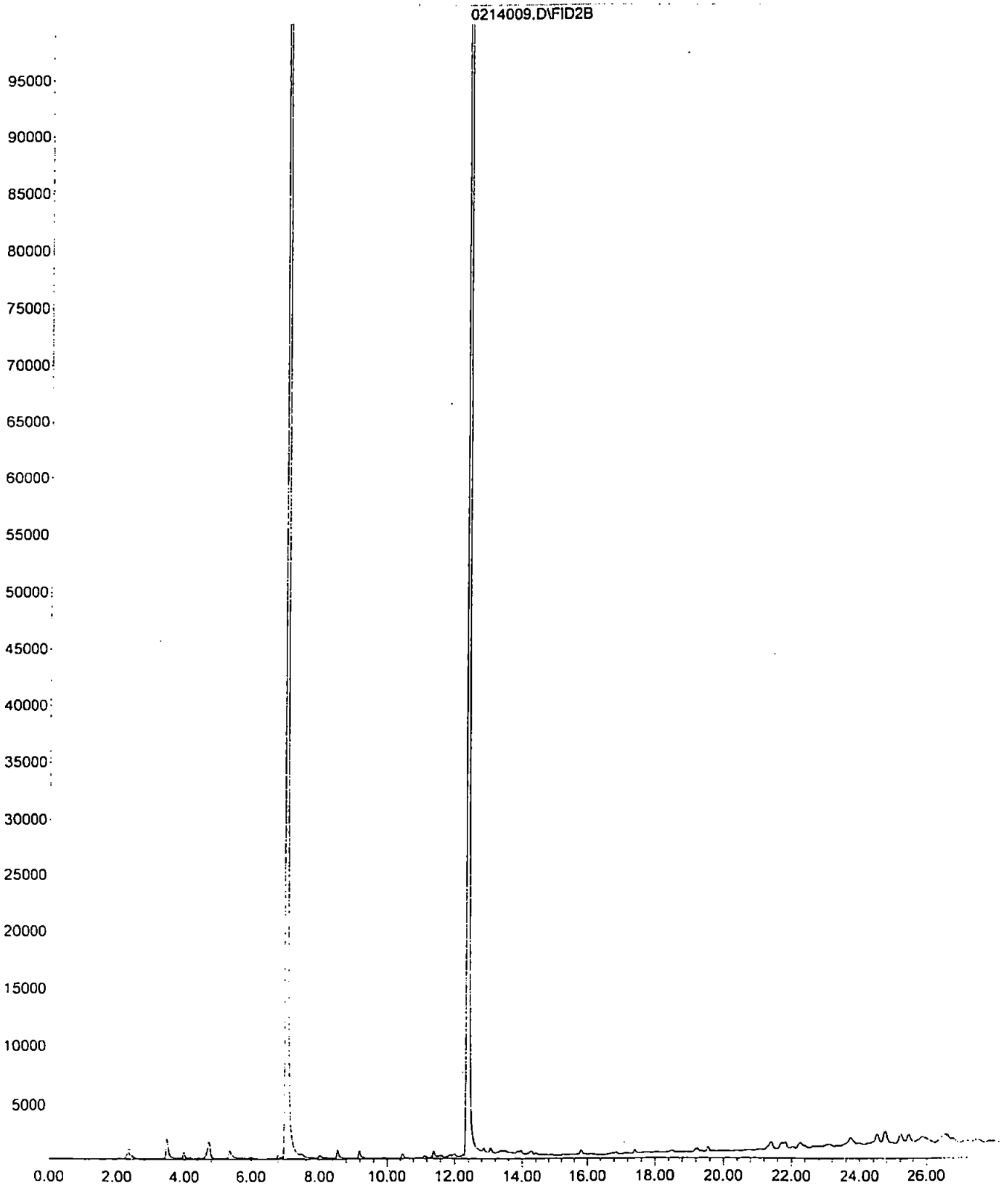
File : D:\HPCHEM\2\DATA\I030213\0213D18.D
Operator : TK
Acquired : 13 Feb 2003 23:50 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-10 ACU
Misc Info : 4
Vial Number: 68



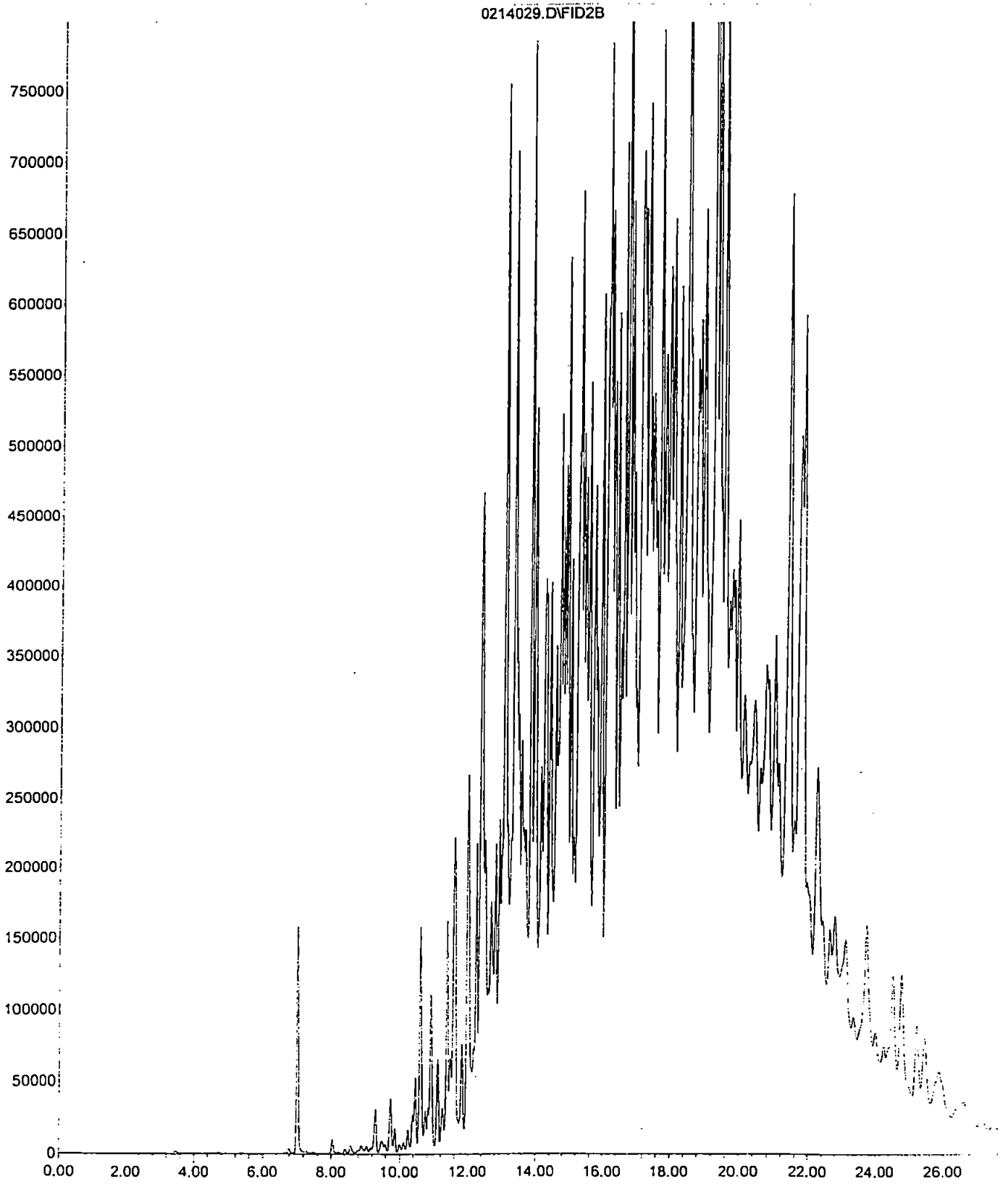
File : D:\BTEX\DATA\D030214\0214028.D
Operator :
Acquired : 15 Feb 2003 4:19 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-08 1:100
Misc Info :
Vial Number: 28



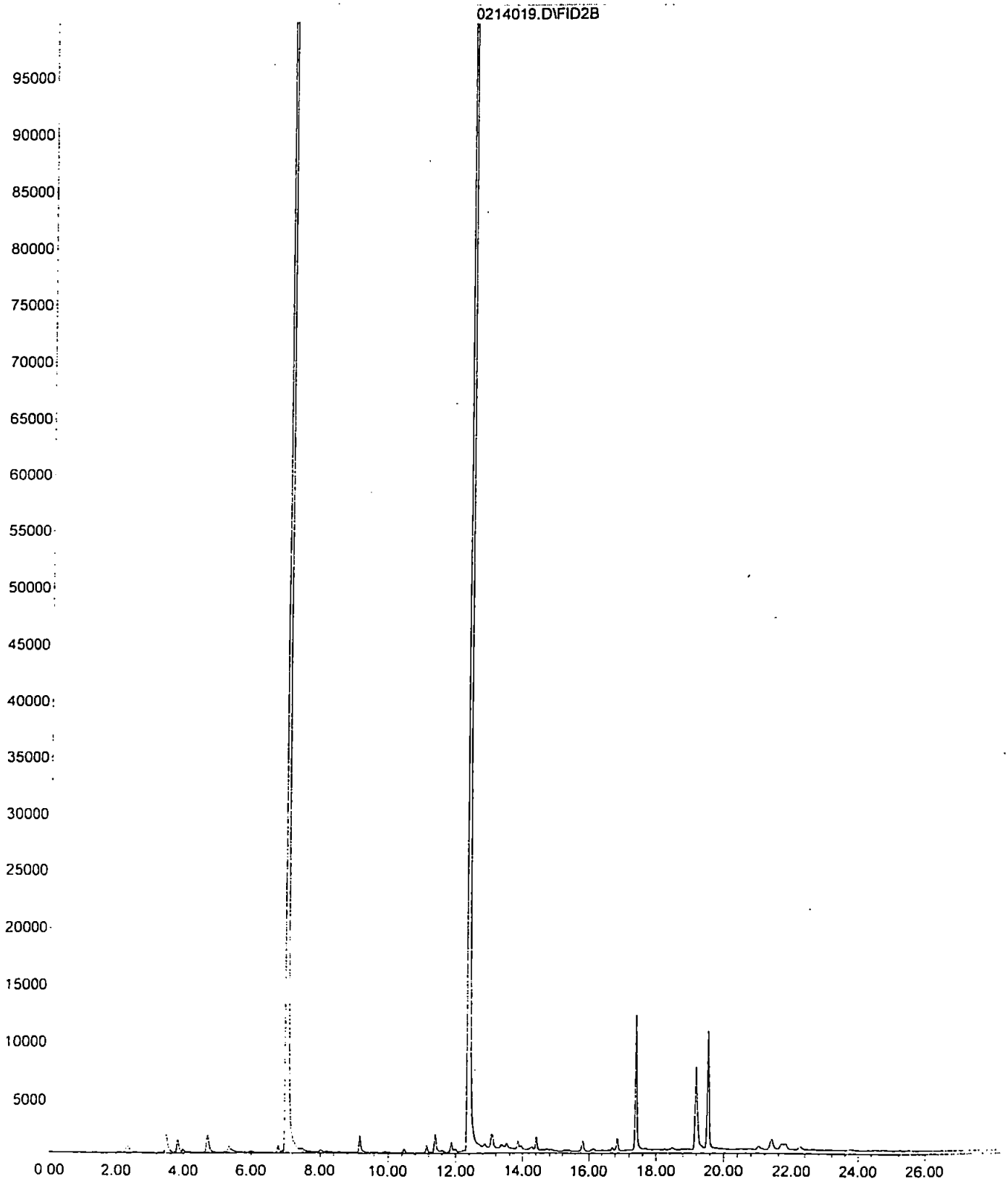
File : D:\BTEX\DATA\D030214\0214009.D
Operator :
Acquired : 14 Feb 2003 17:41 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-09
Misc Info :
Vial Number: 9



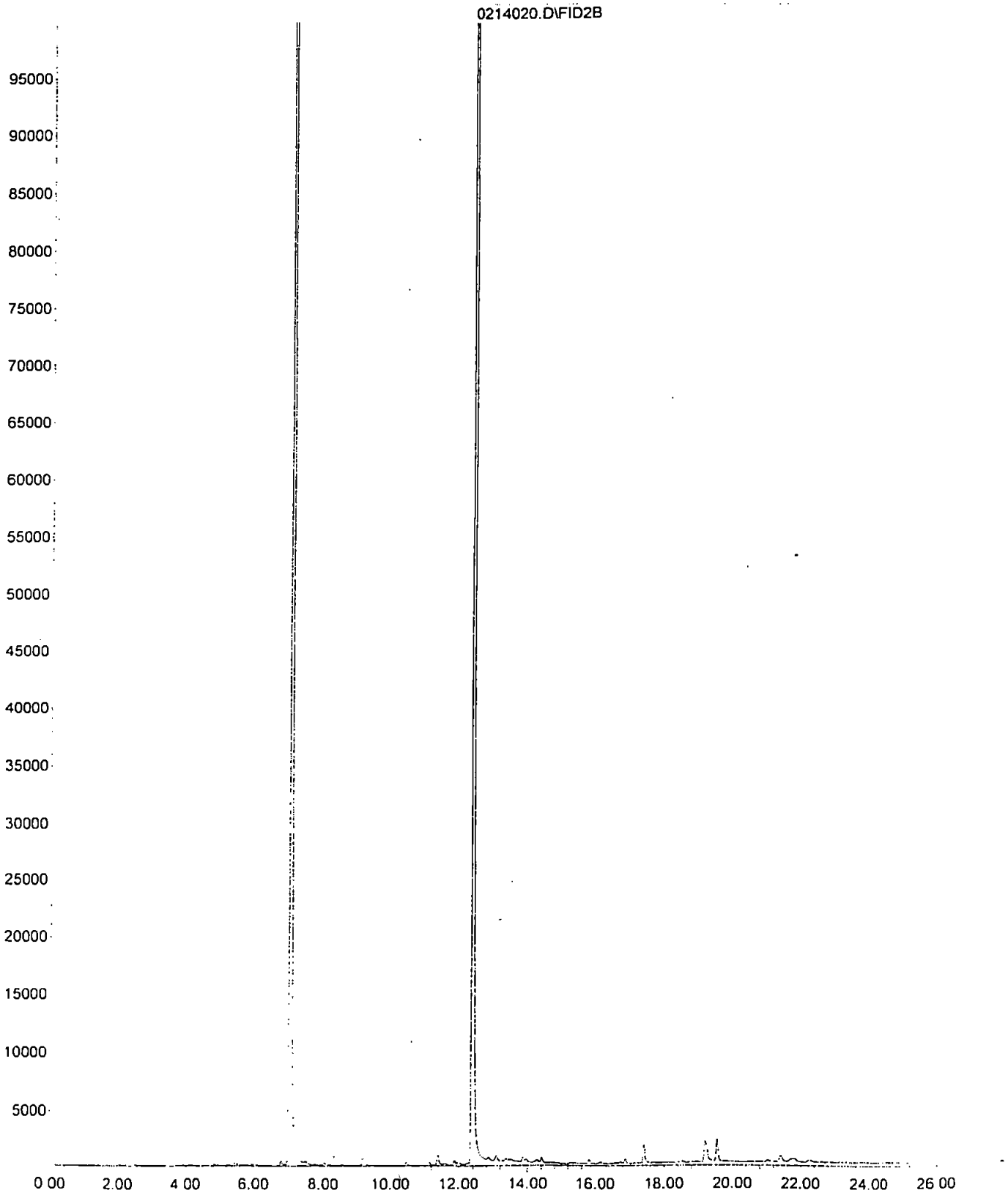
File : D:\BTEX\DATA\D030214\0214029.D
Operator :
Acquired : 15 Feb 2003 4:53 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-10 1:100
Misc Info :
Vial Number: 29



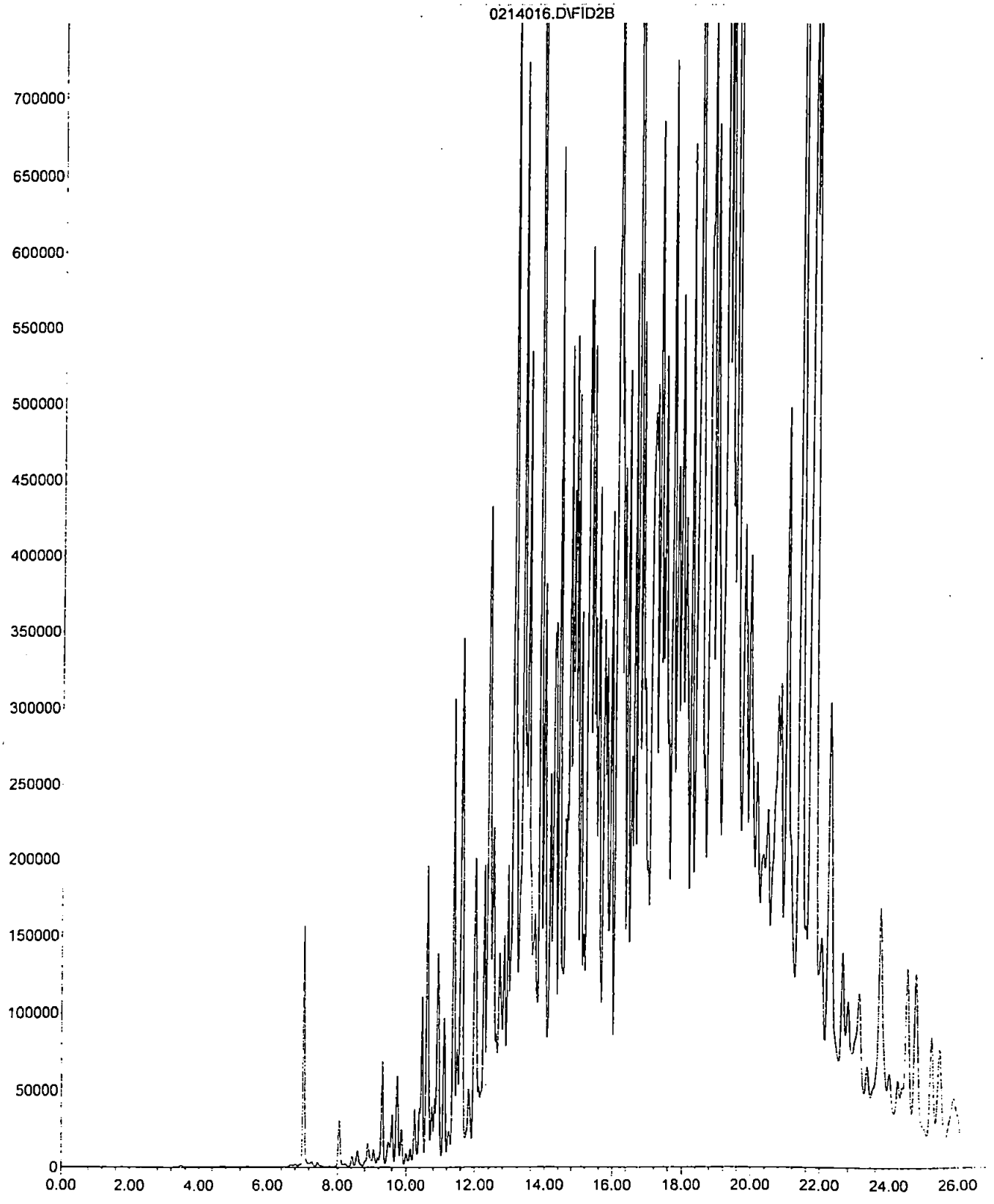
File : D:\BTEX\DATA\D030214\0214019.D
Operator :
Acquired : 14 Feb 2003 23:18 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-13
Misc Info :
Vial Number: 19



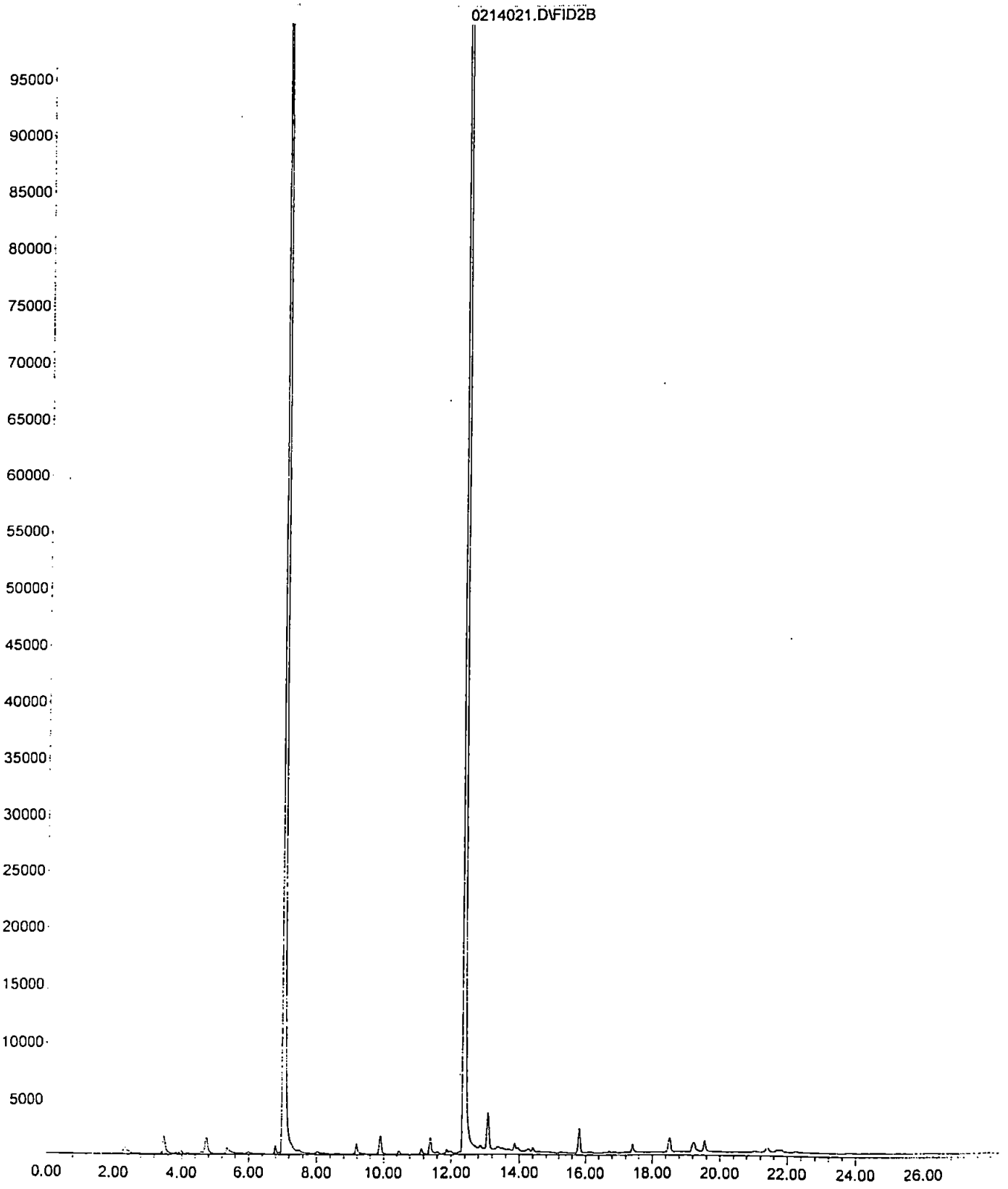
File : D:\BTEX\DATA\D030214\0214020.D
Operator :
Acquired : 14 Feb 2003 23:51 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-14
Misc Info :
Vial Number: 20



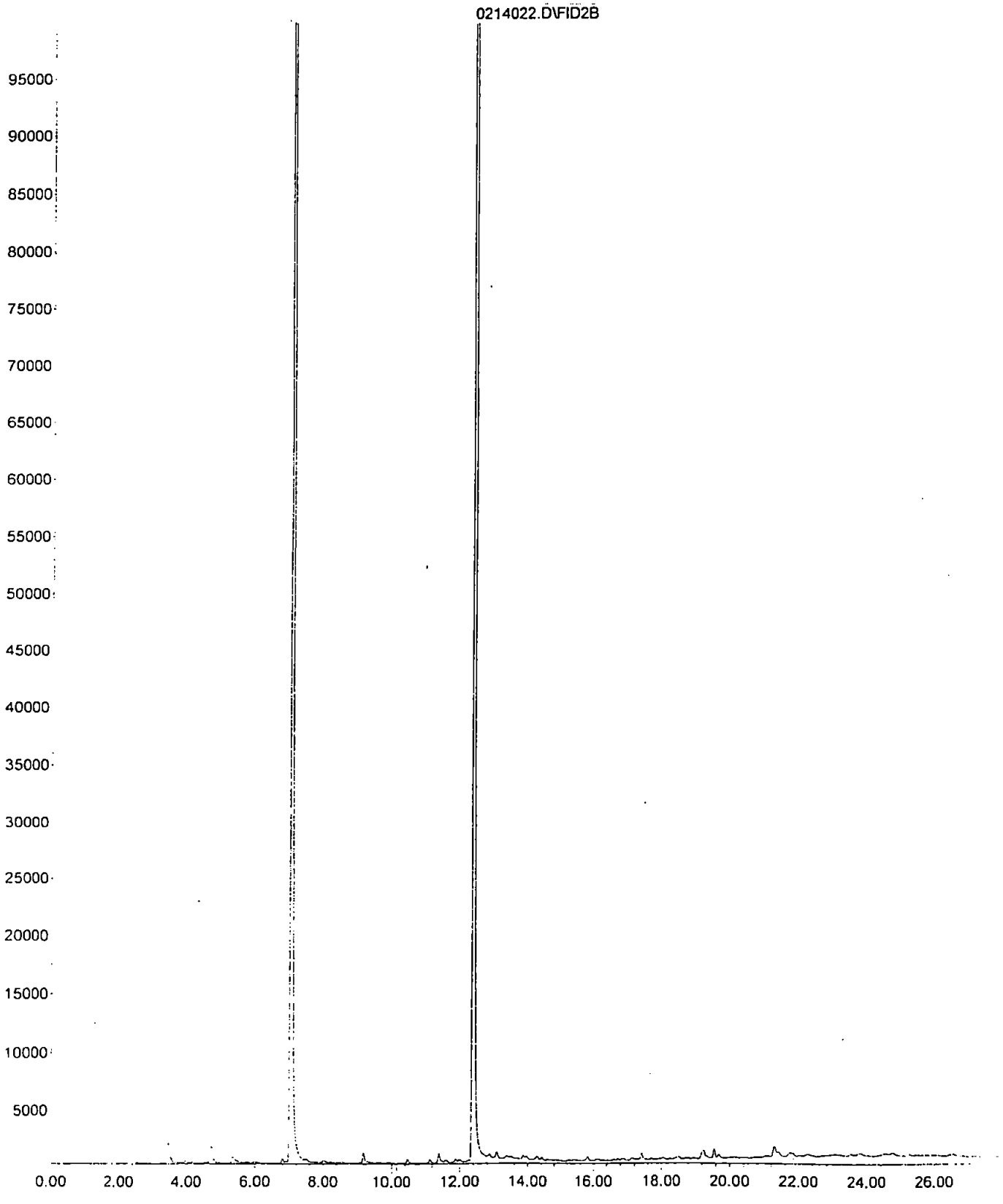
File : D:\BTEX\DATA\D030214\0214016.D
Operator :
Acquired : 14 Feb 2003 21:37 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-16 1:100
Misc Info :
Vial Number: 16



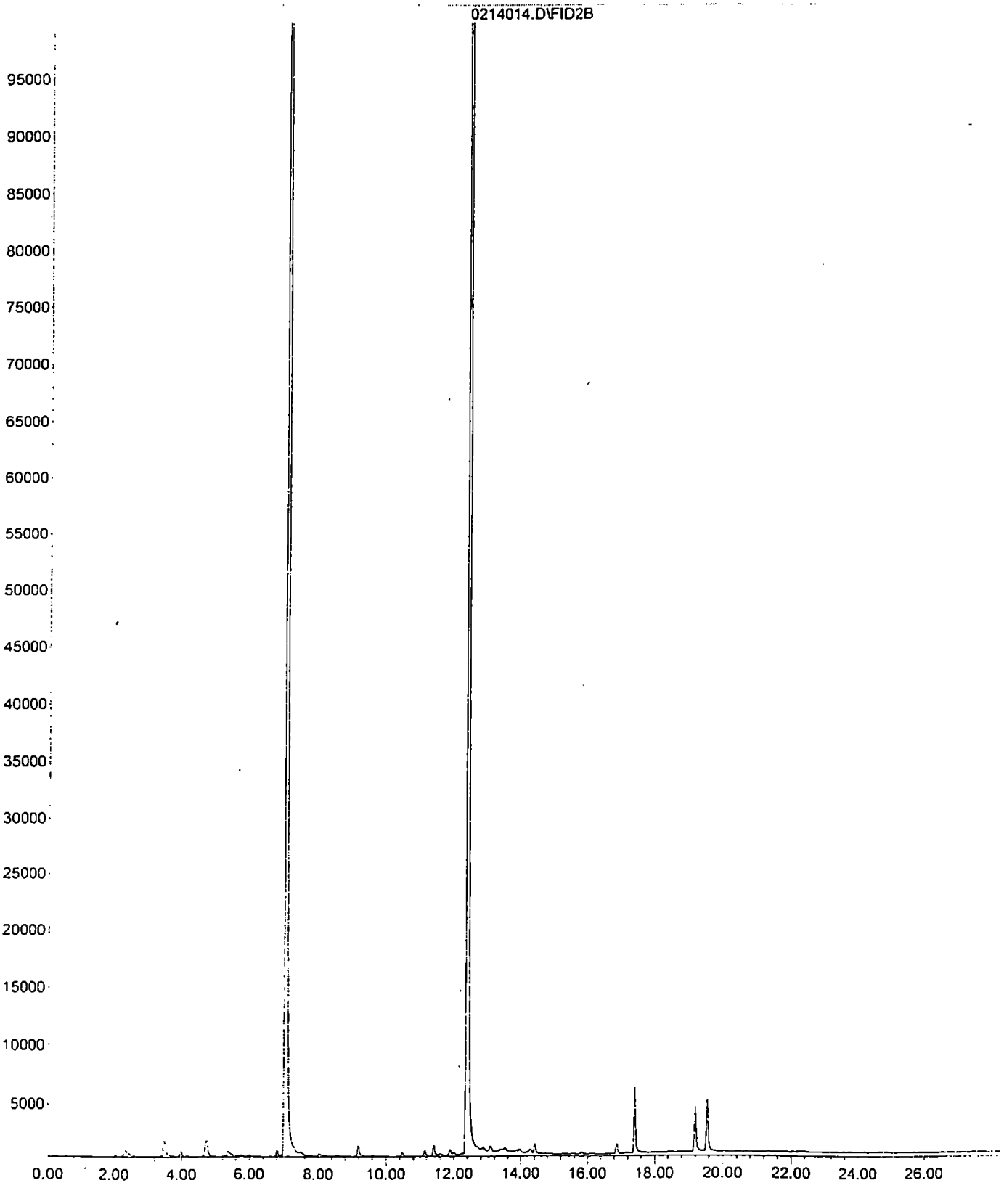
File : D:\BTEX\DATA\D030214\0214021.D
Operator :
Acquired : 15 Feb 2003 00:25 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-17
Misc Info :
Vial Number: 21



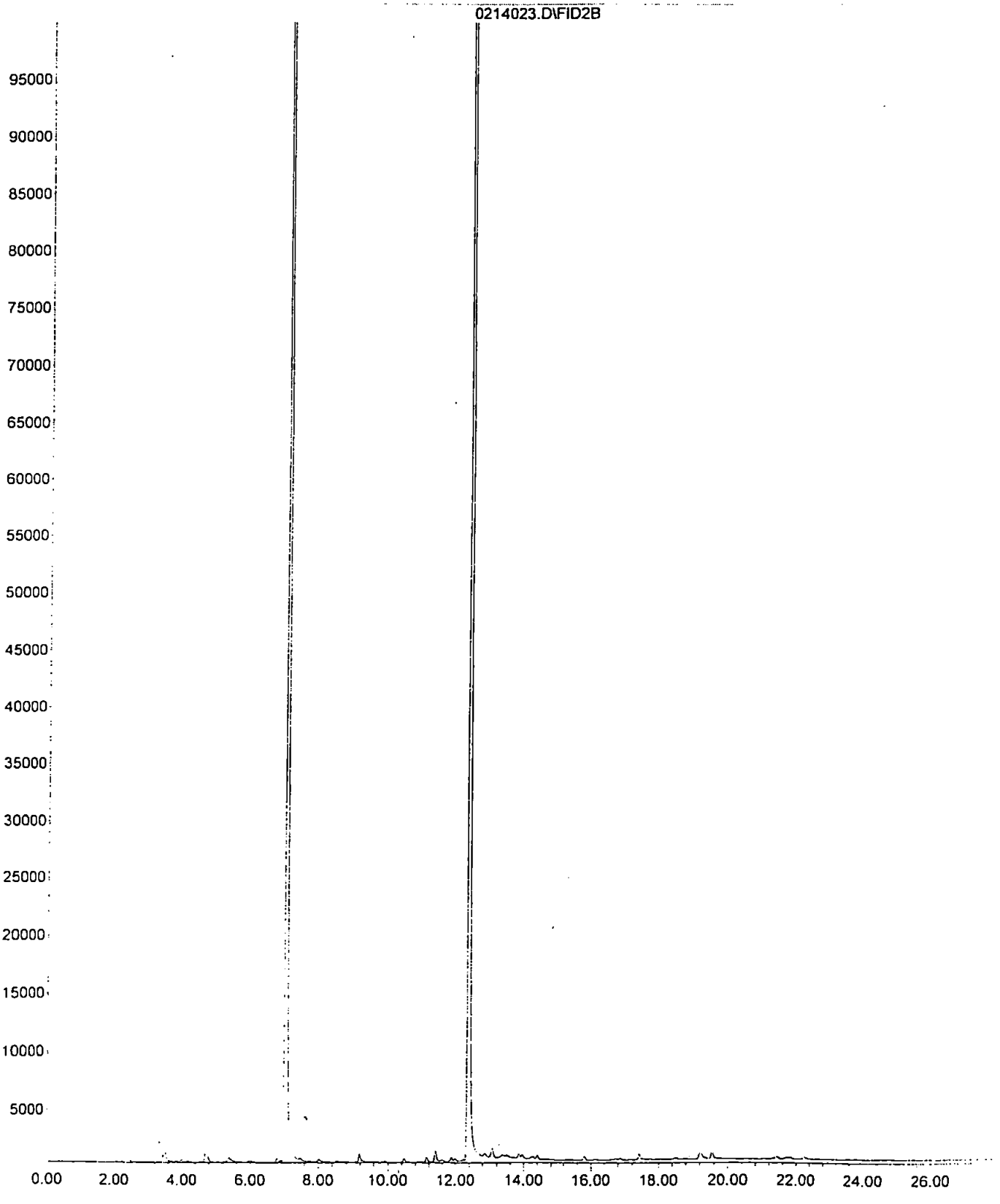
File : D:\BTEX\DATA\D030214\0214022.D
Operator :
Acquired : 15 Feb 2003 00:58 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-19
Misc Info :
Vial Number: 22



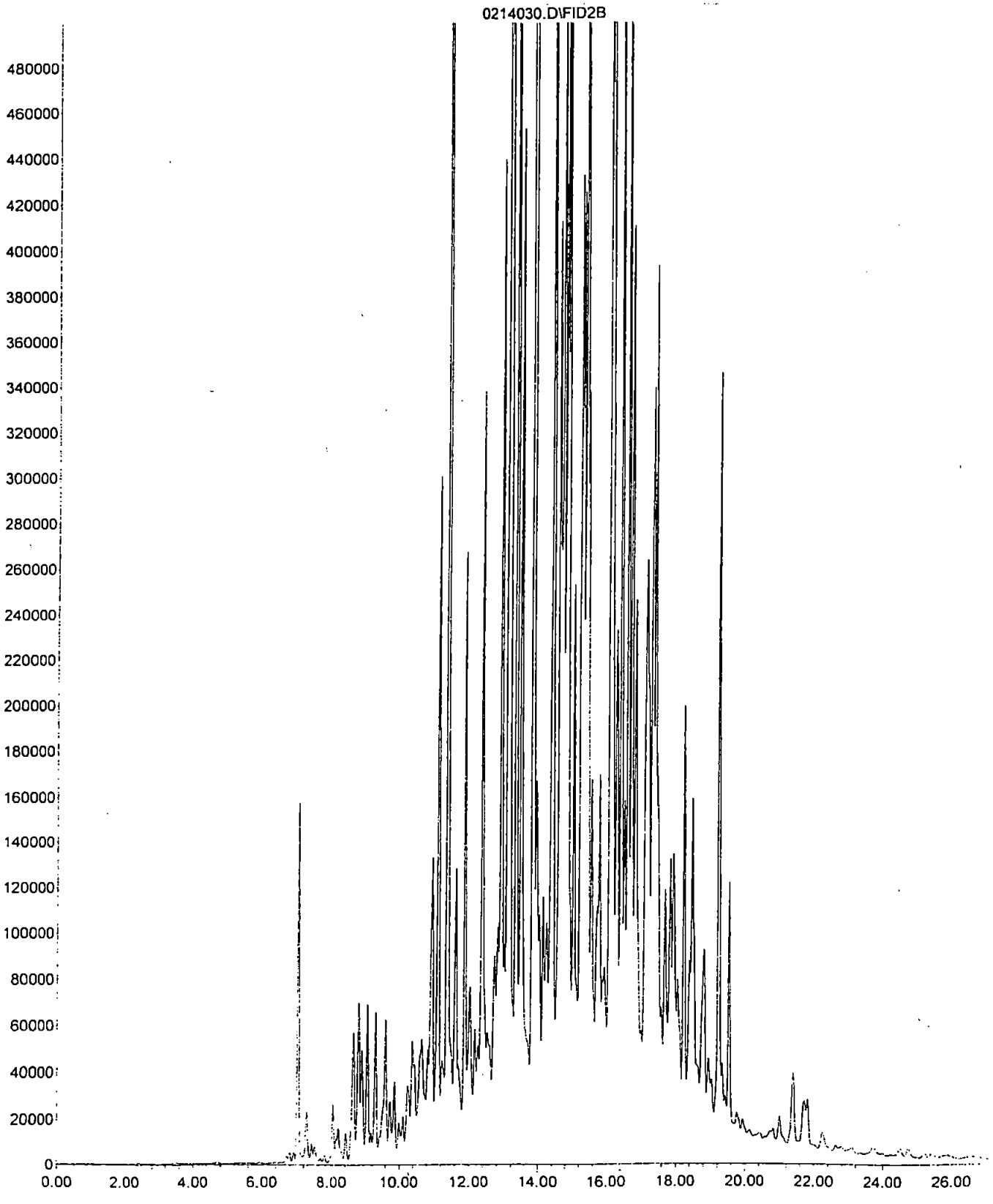
File : D:\BTEX\DATA\D030214\0214014.D
Operator :
Acquired : 14 Feb 2003 20:29 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-20
Misc Info :
Vial Number: 14



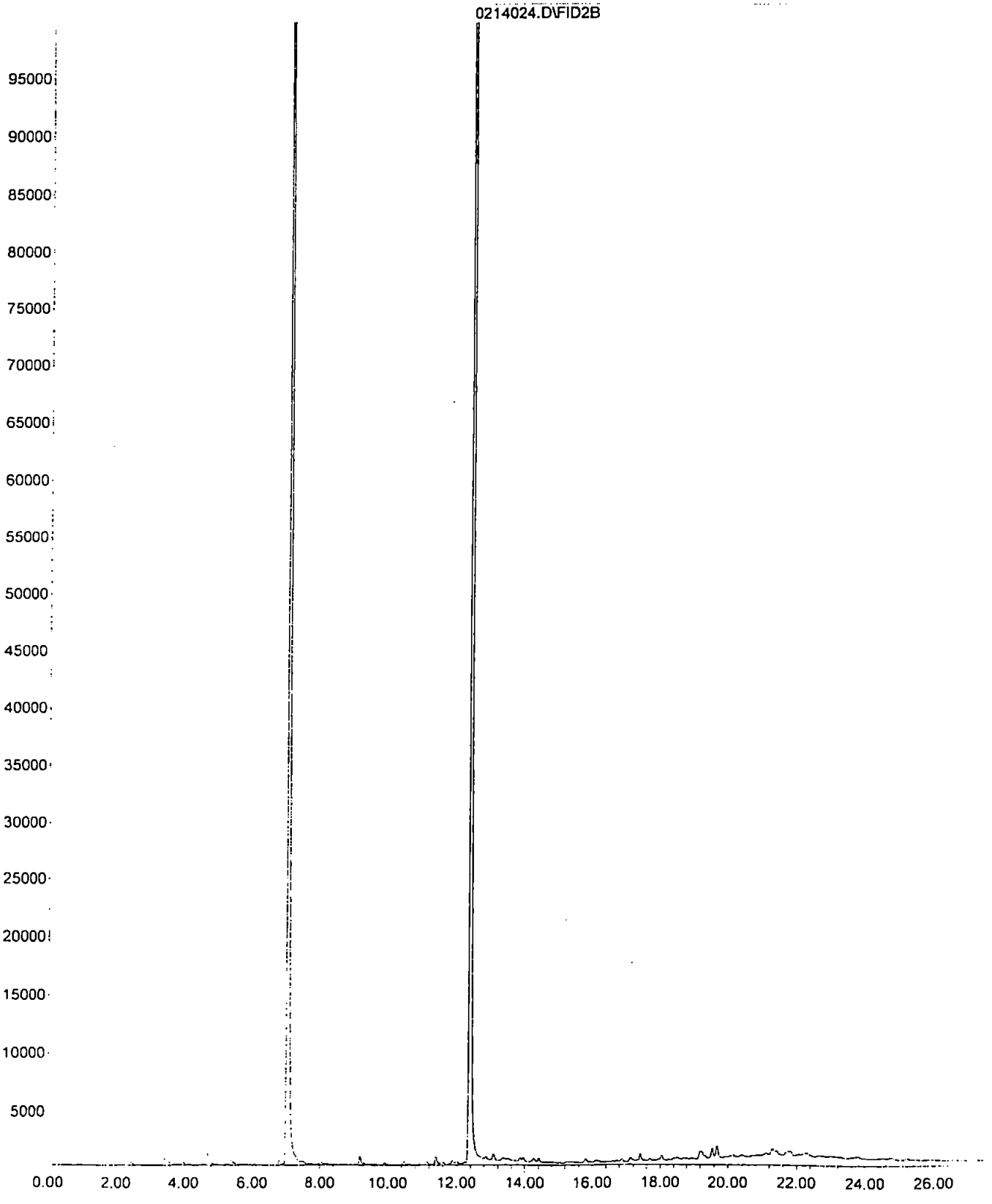
File : D:\BTEX\DATA\D030214\0214023.D
Operator :
Acquired : 15 Feb 2003 1:32 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-21
Misc Info :
Vial Number: 23



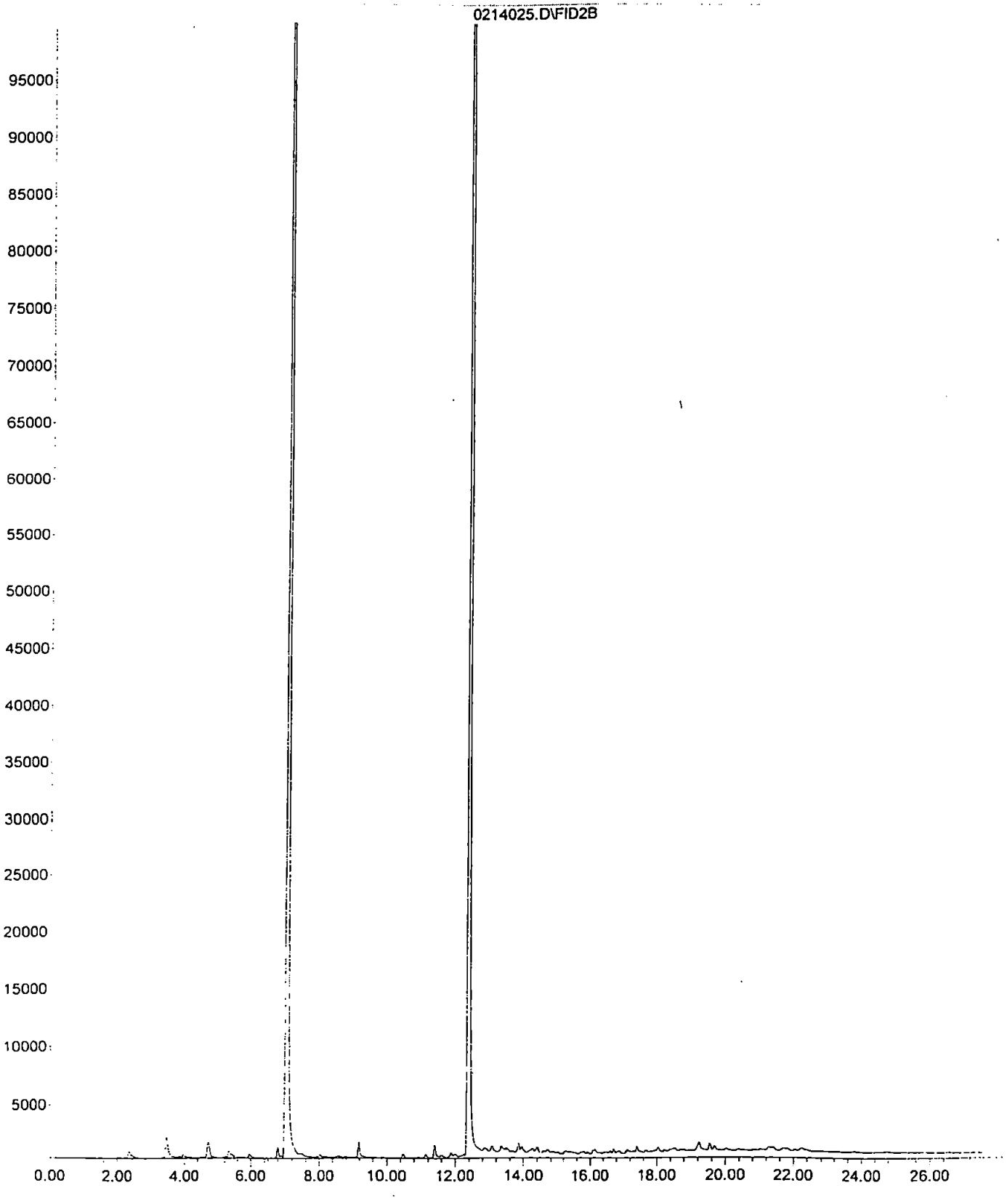
File : D:\BTEX\DATA\D030214\0214030.D
Operator :
Acquired : 15 Feb 2003 5:26 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-22 1:100
Misc Info :
Vial Number: 30



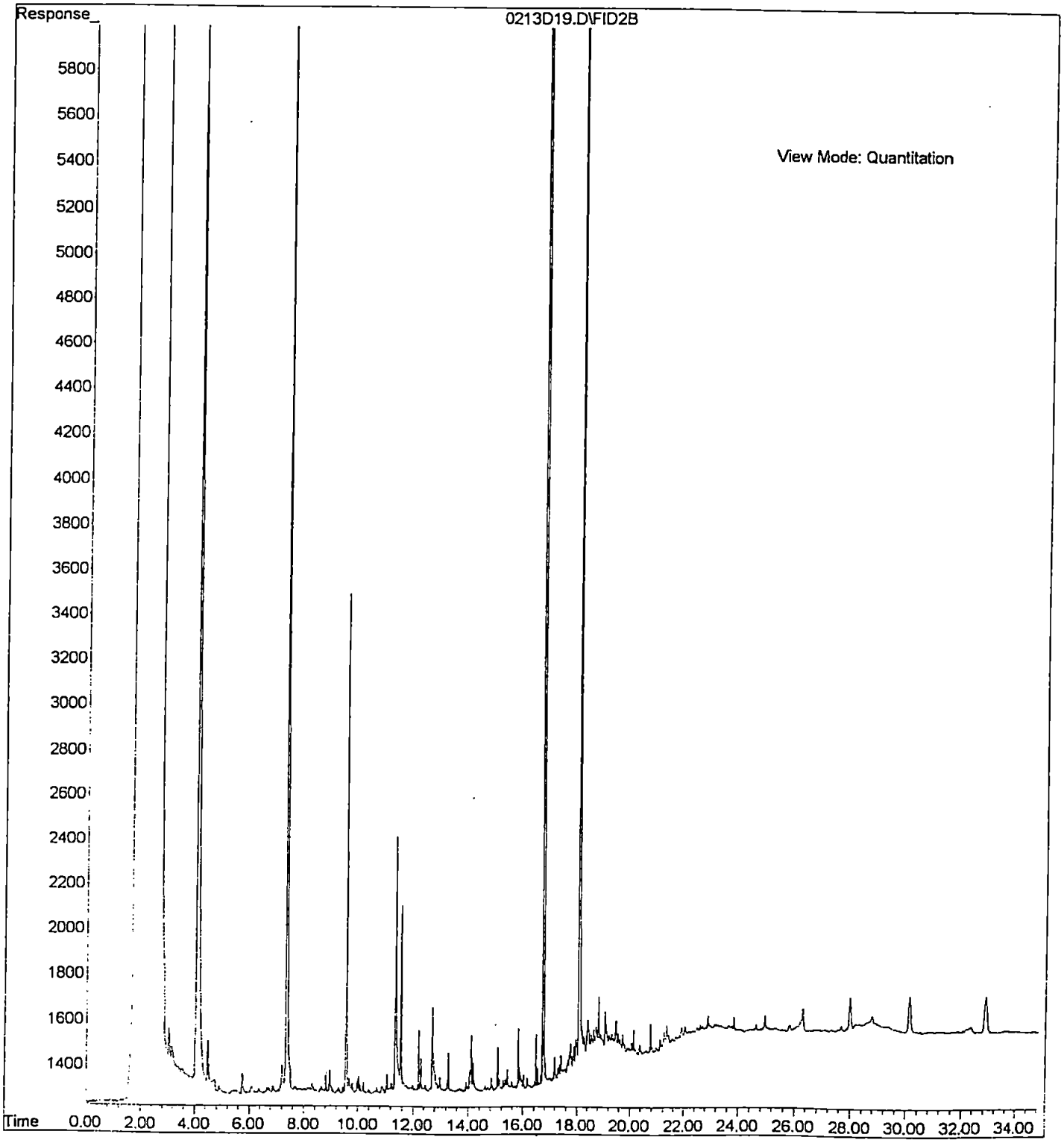
File : D:\BTEX\DATA\D030214\0214024.D
Operator :
Acquired : 15 Feb 2003 2:05 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-23
Misc Info :
Vial Number: 24



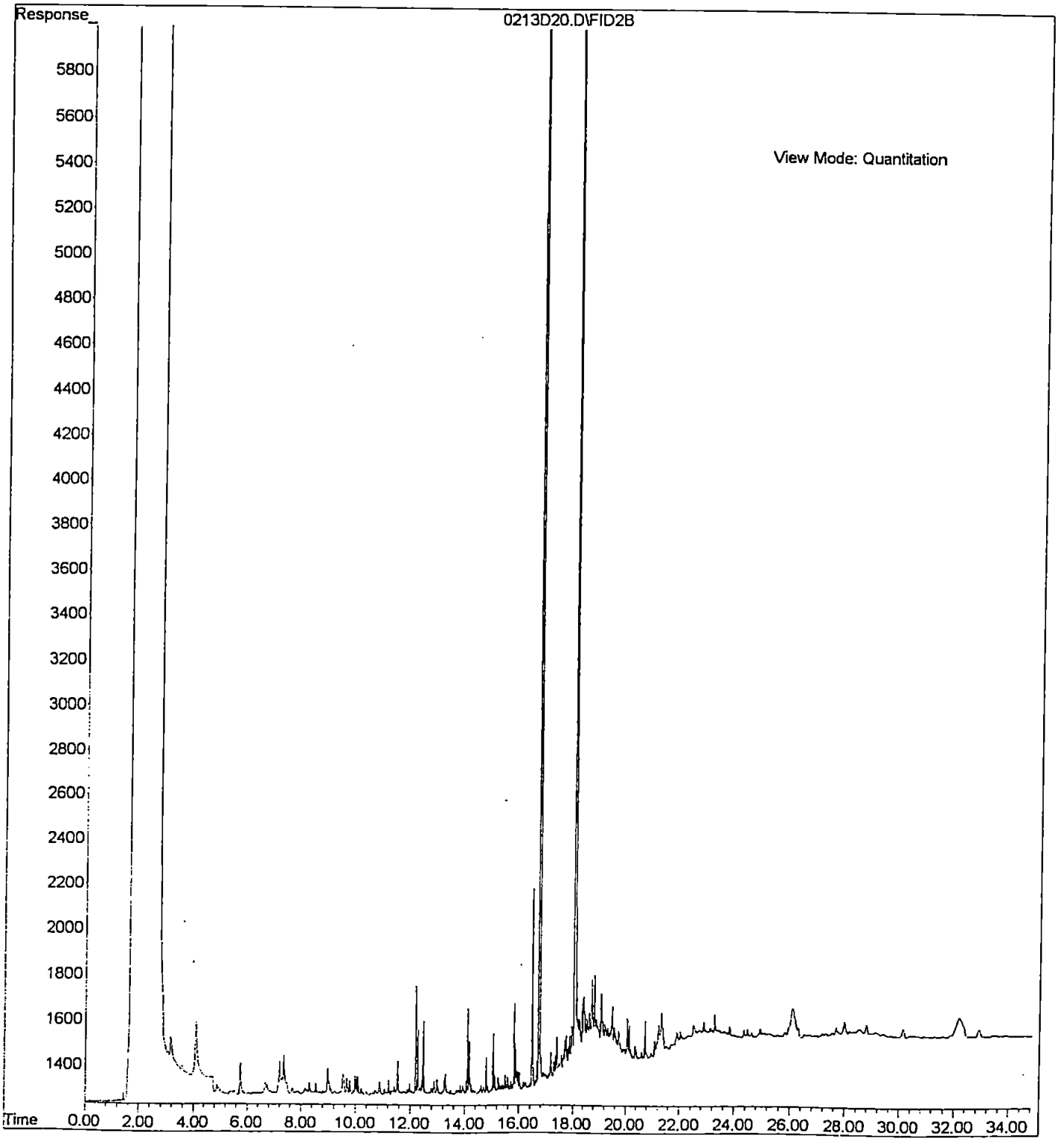
File : D:\BTEX\DATA\D030214\0214025.D
Operator :
Acquired : 15 Feb 2003 2:39 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-24
Misc Info :
Vial Number: 25



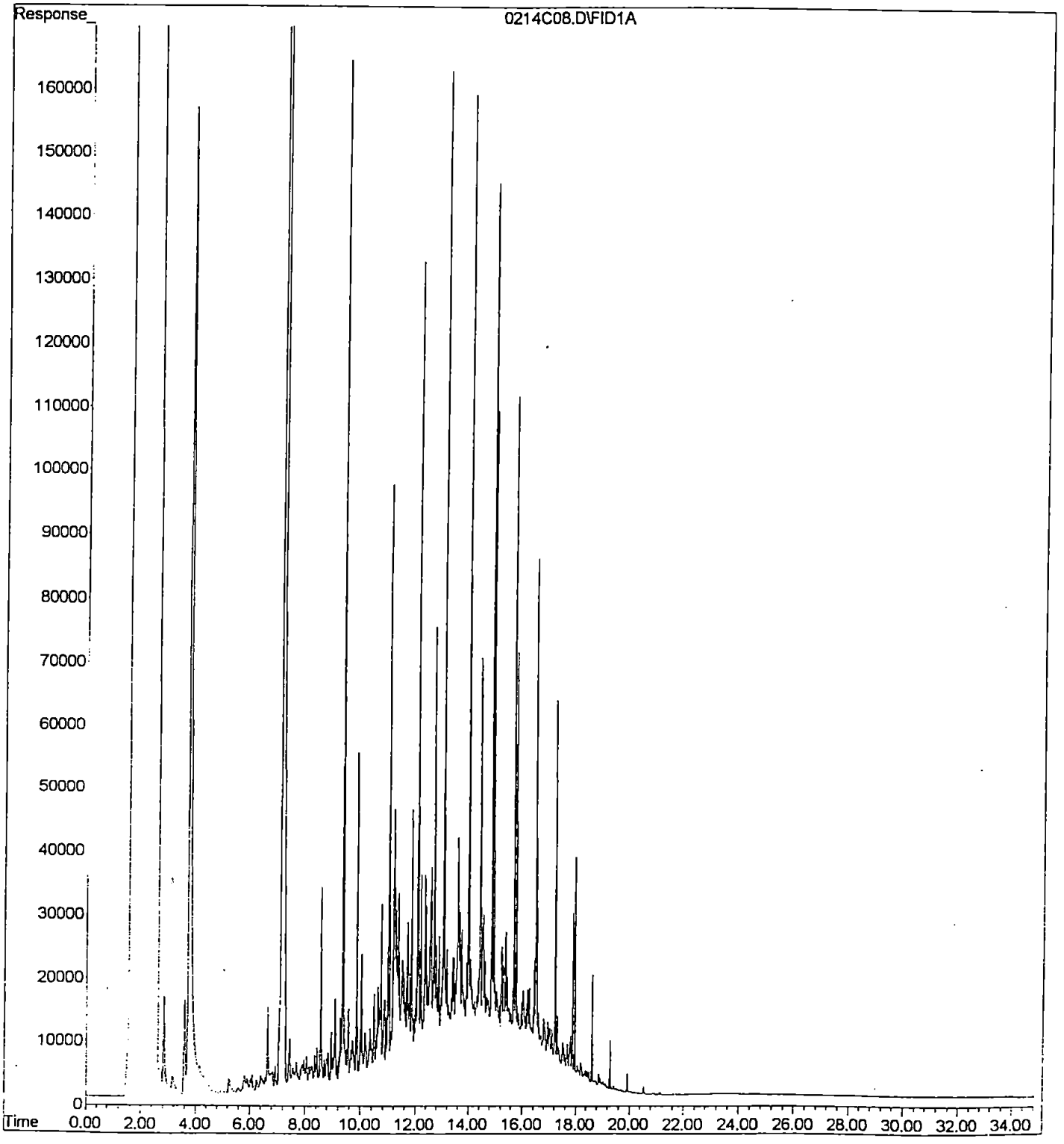
File : D:\HPCHEM\2\DATA\I030213\0213D19.D
Operator : TK
Acquired : 14 Feb 2003 00:31 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-13 ACU
Misc Info : 4
Vial Number: 69



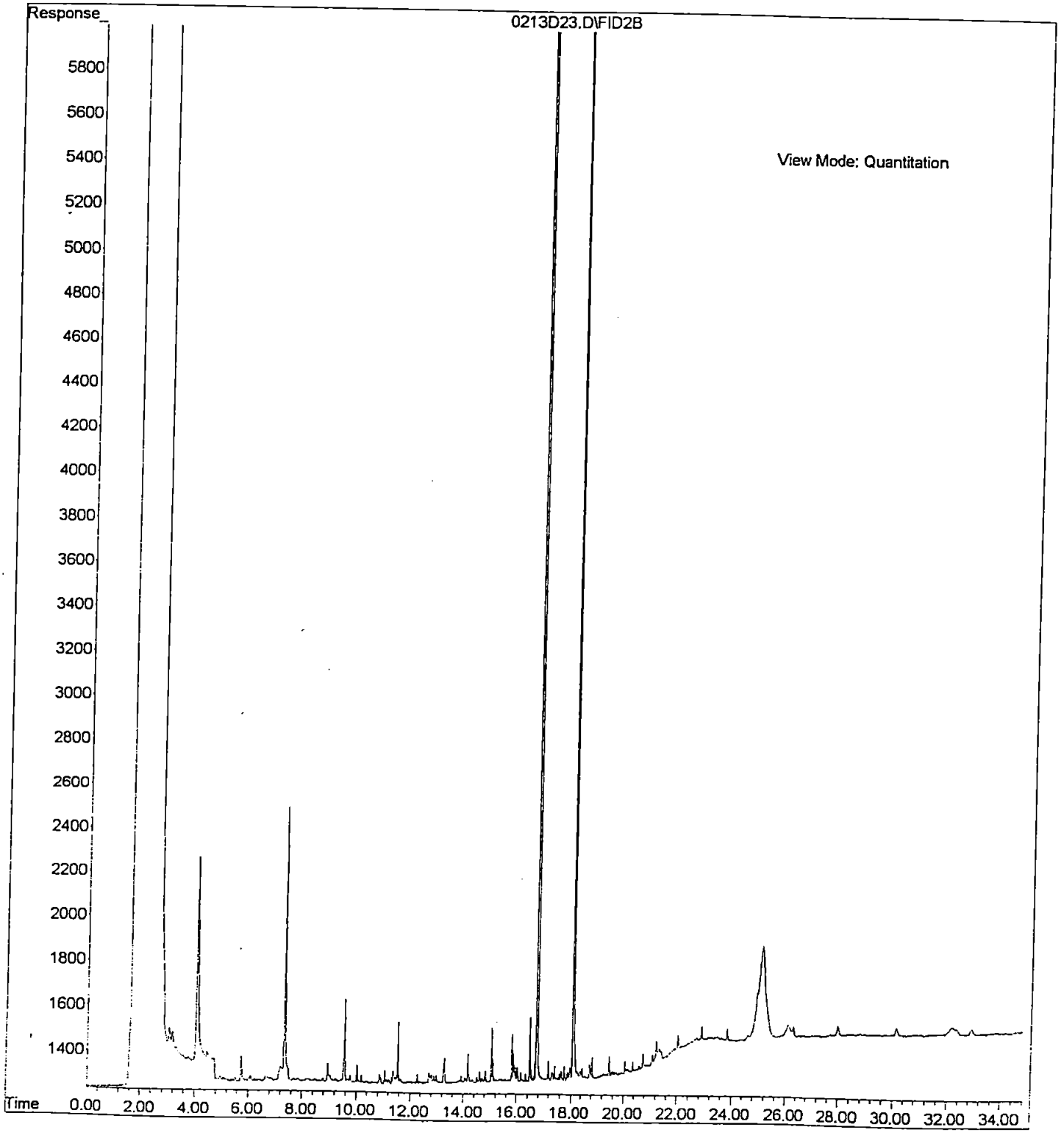
File : D:\HPCHEM\2\DATA\I030213\0213D20.D
Operator : TK
Acquired : 14 Feb 2003 1:13 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-14 ACU
Misc Info : 4
Vial Number: 70



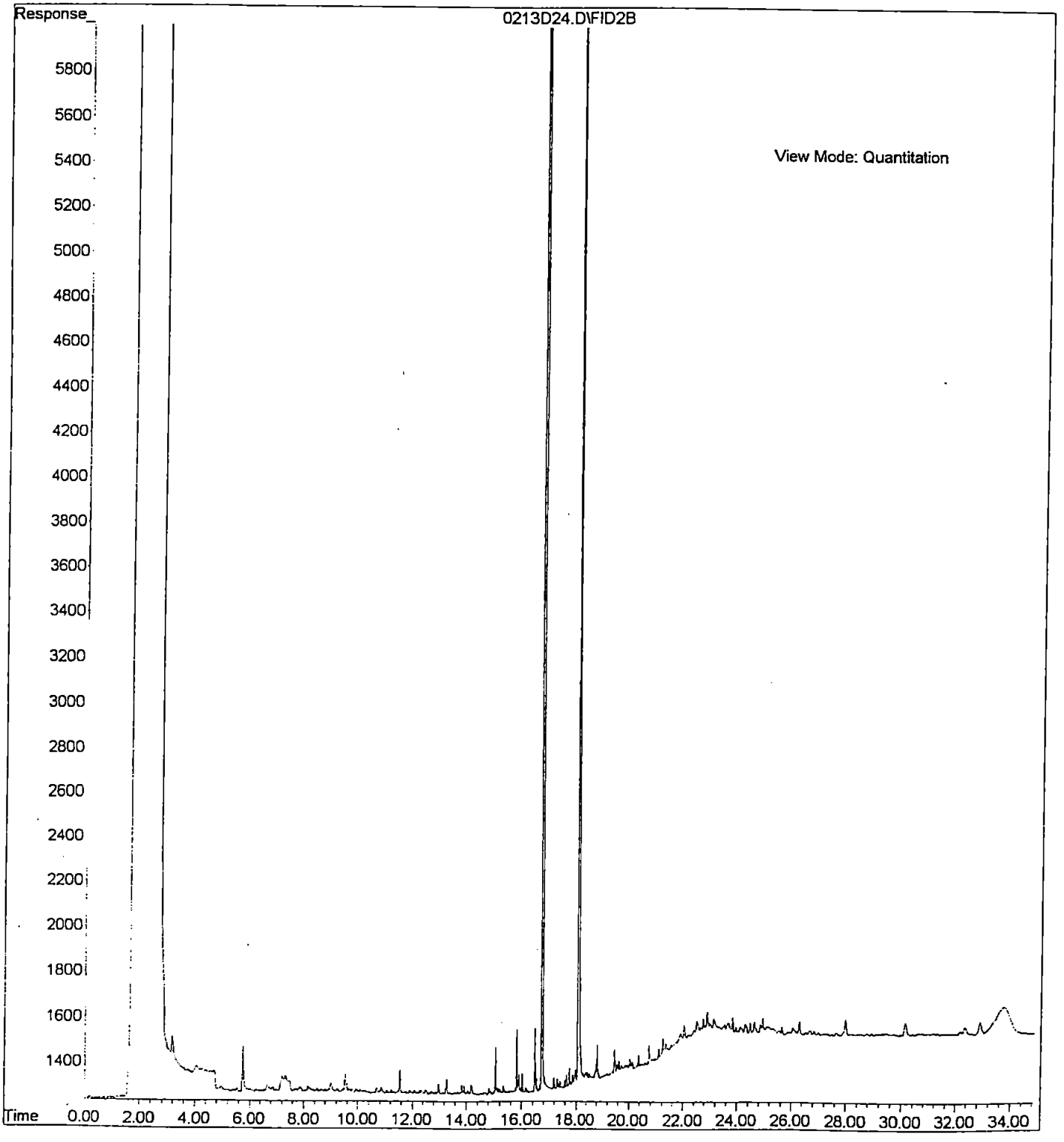
File : D:\HPCHEM\2\DATA\I030214\0214C08.D
Operator : TK
Acquired : 14 Feb 2003 16:31 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-16 (5X) ACU
Misc Info : 3
Vial Number: 8



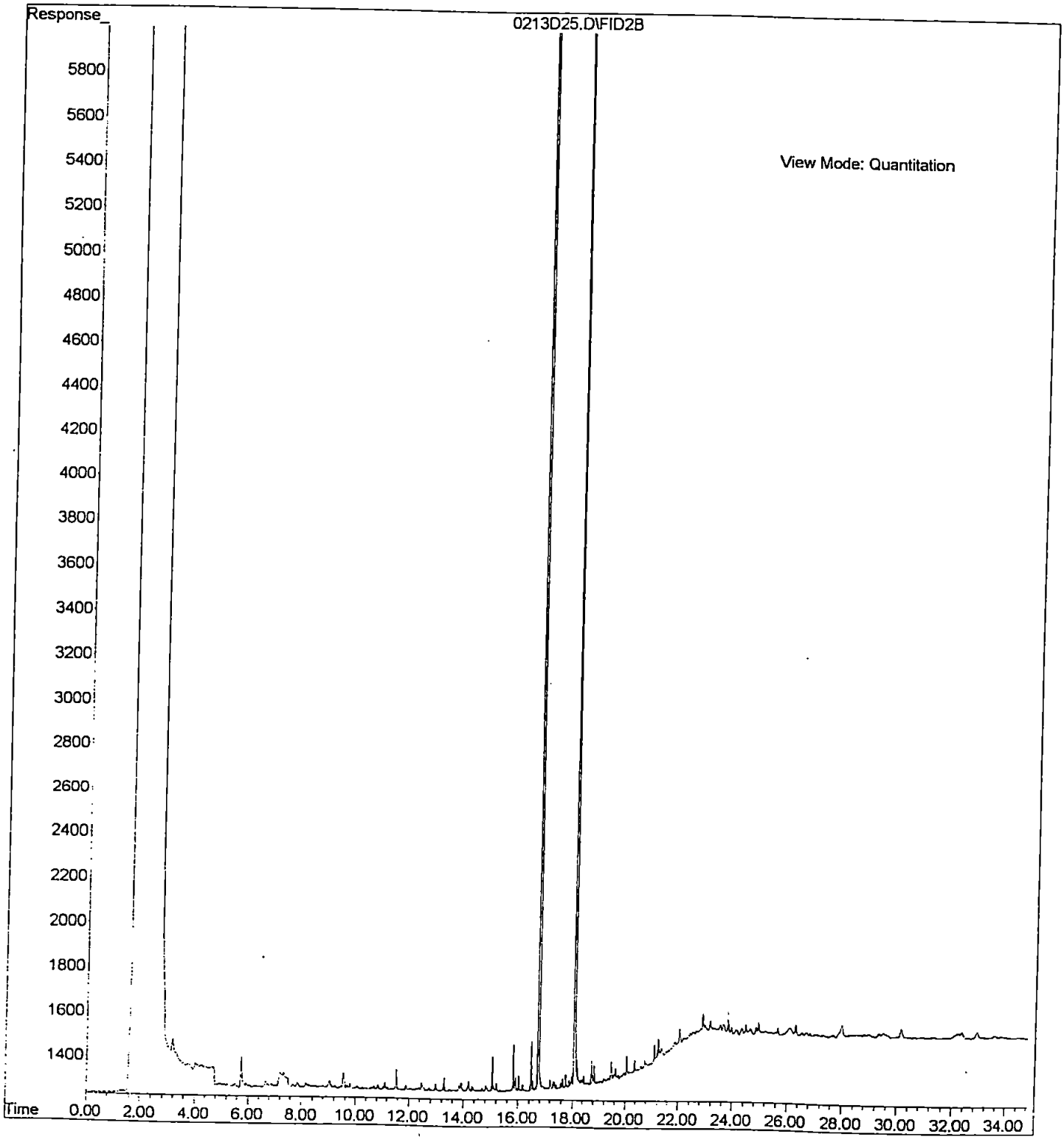
File : D:\HPCHEM\2\DATA\I030213\0213D23.D
Operator : TK
Acquired : 14 Feb 2003 3:17 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-17 ACU
Misc Info : 4
Vial Number: 73



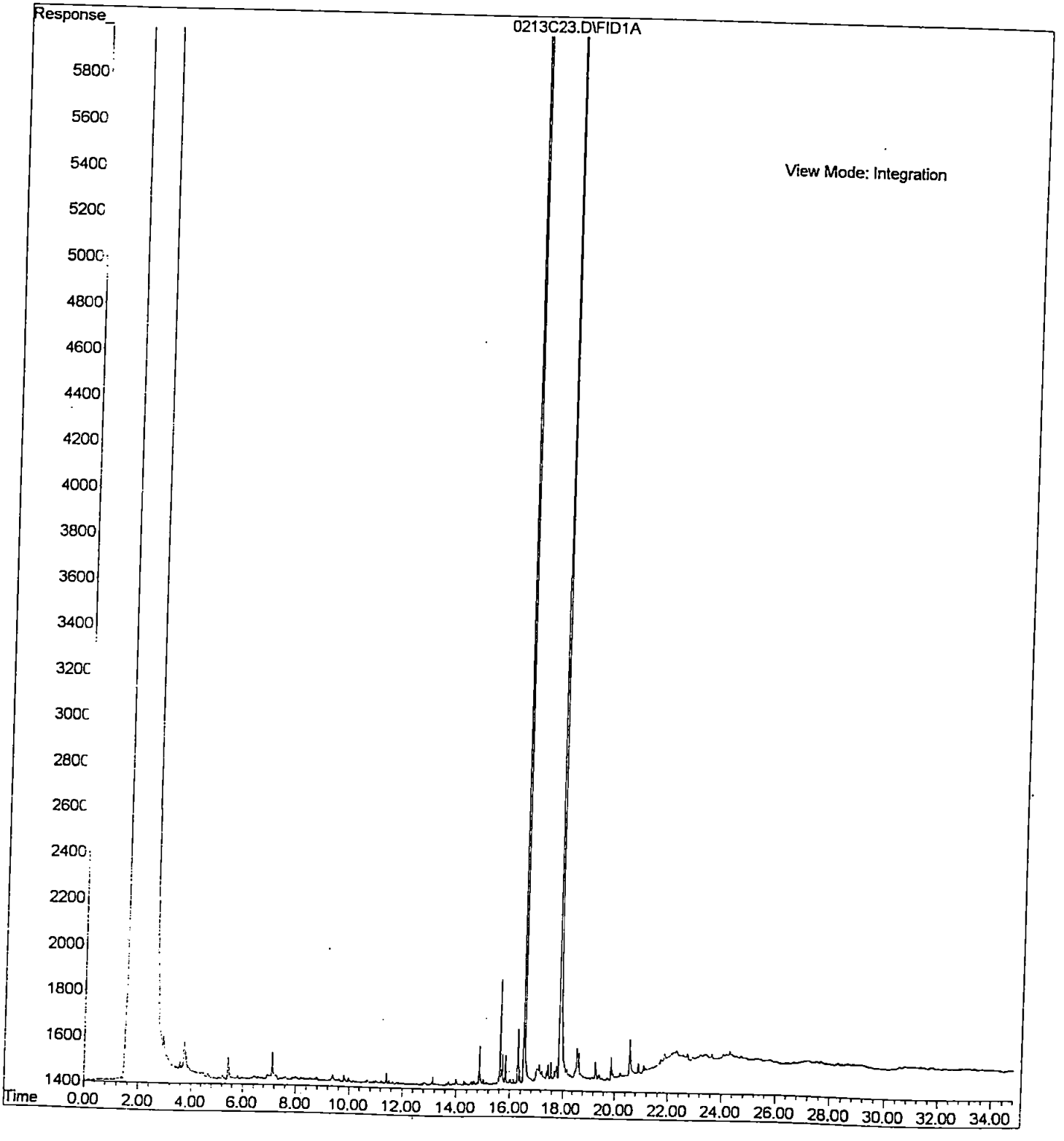
File : D:\HPCHEM\2\DATA\I030213\0213D24.D
Operator : TK
Acquired : 14 Feb 2003 3:58 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-19 ACU
Misc Info : 4
Vial Number: 74



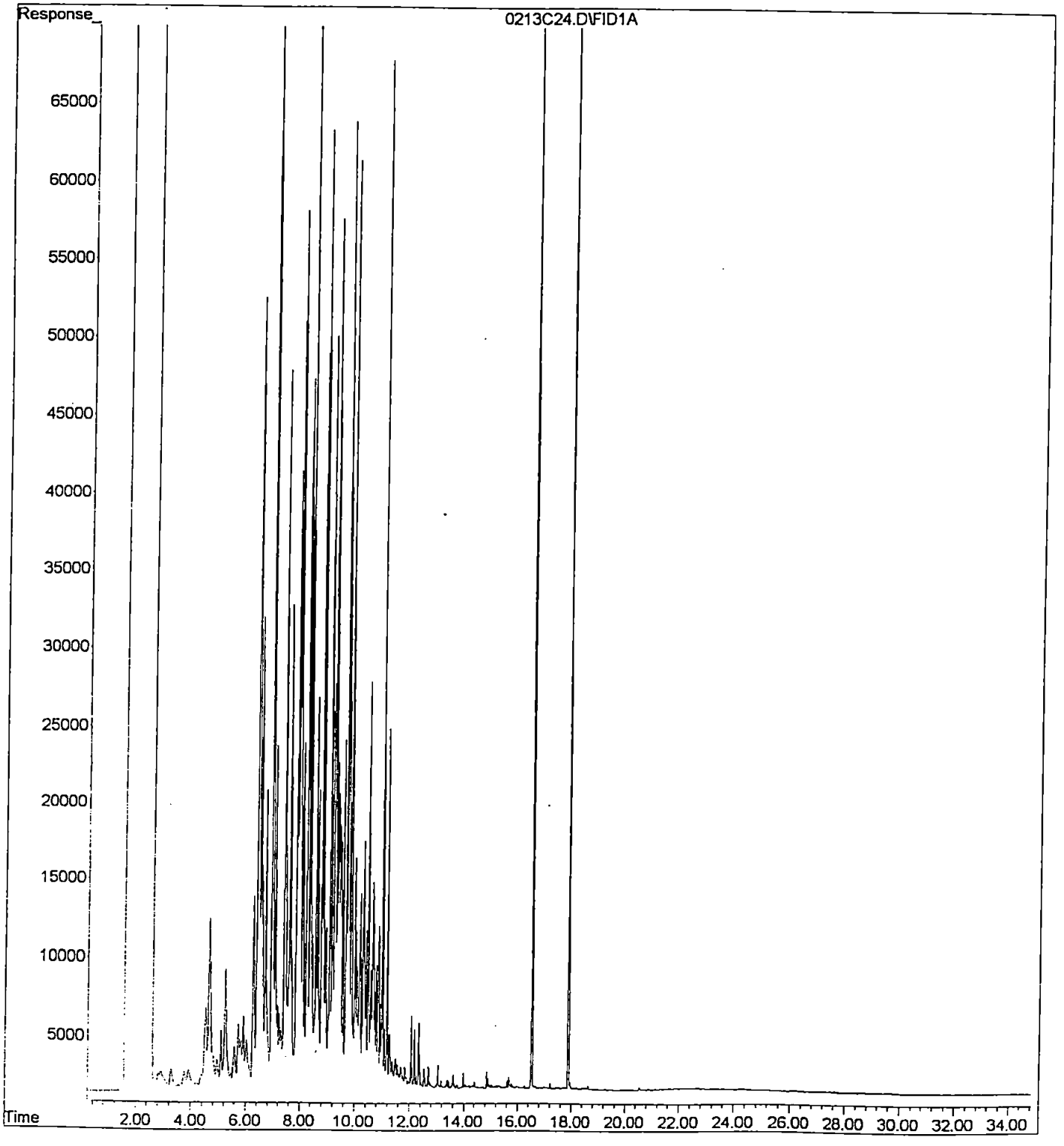
File : D:\HPCHEM\2\DATA\I030213\0213D25.D
Operator : TK
Acquired : 14 Feb 2003 4:40 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-20 ACU
Misc Info : 4
Vial Number: 75



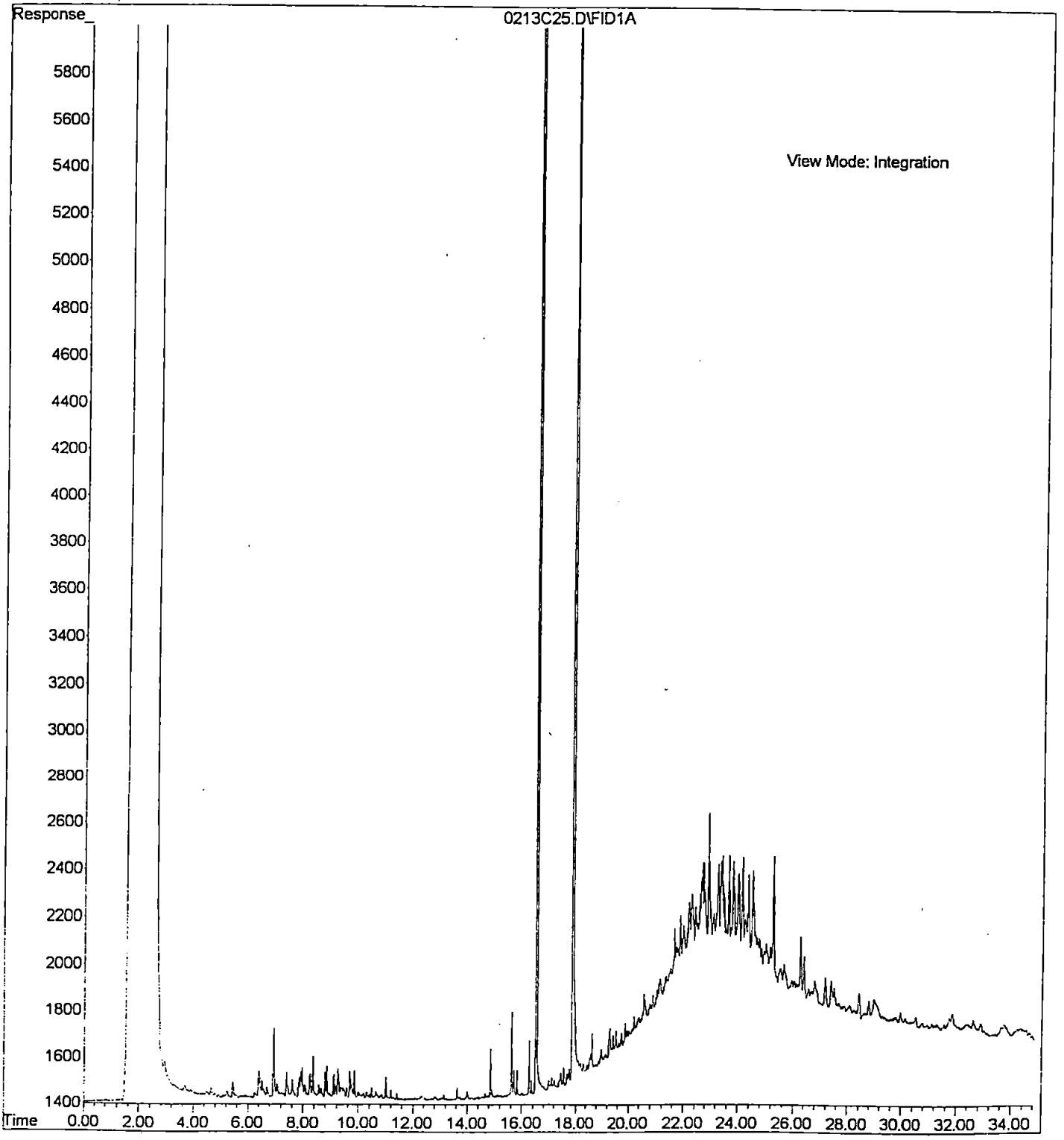
File : D:\HPCHEM\2\DATA\I030213\0213C23.D
Operator : TK
Acquired : 14 Feb 2003 3:17 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-21 ACU
Misc Info : 3
Vial Number: 23



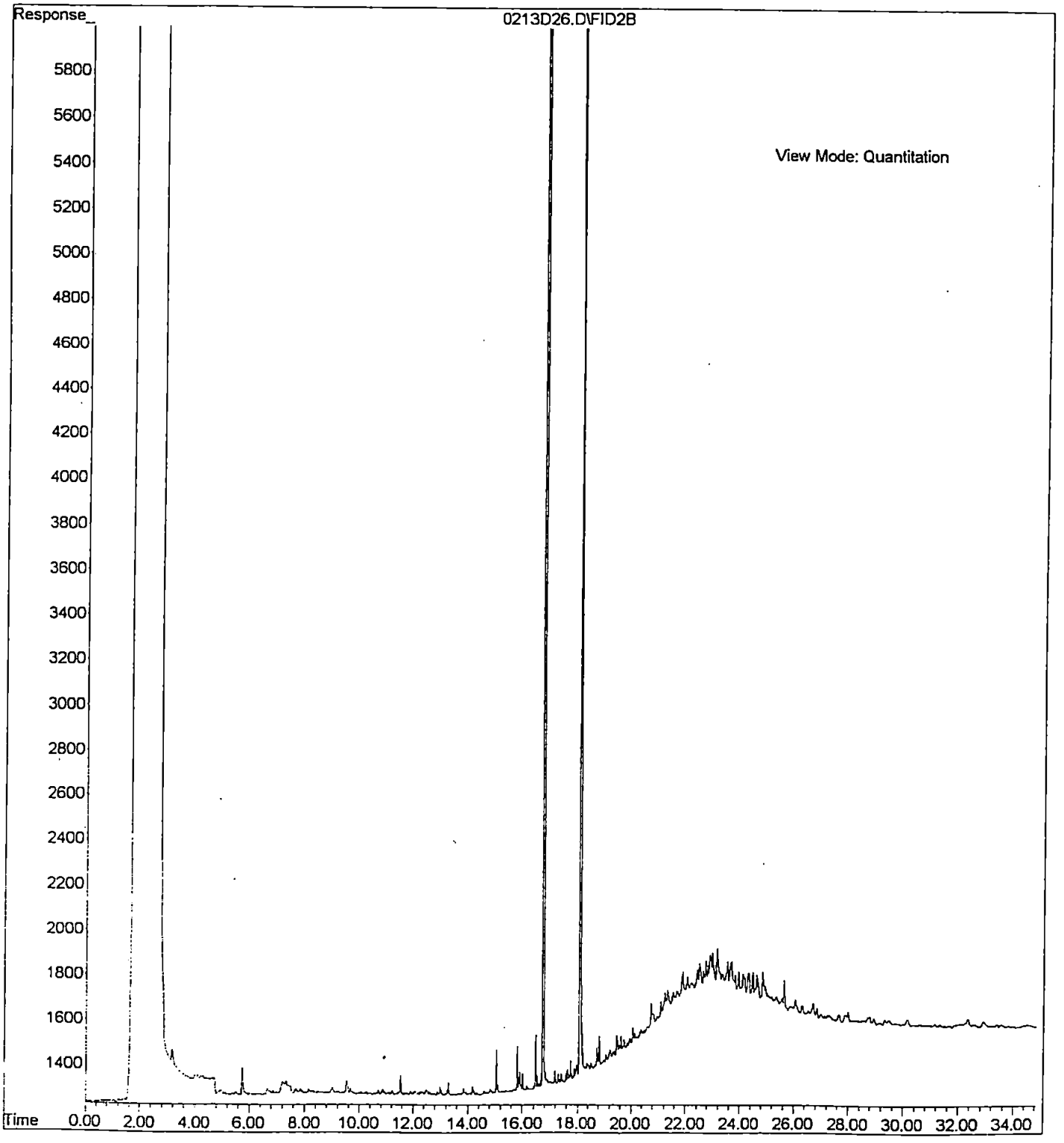
File : D:\HPCHEM\2\DATA\I030213\0213C24.D
Operator : TK
Acquired : 14 Feb 2003 3:58 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-22 ACU
Misc Info : 3
Vial Number: 24



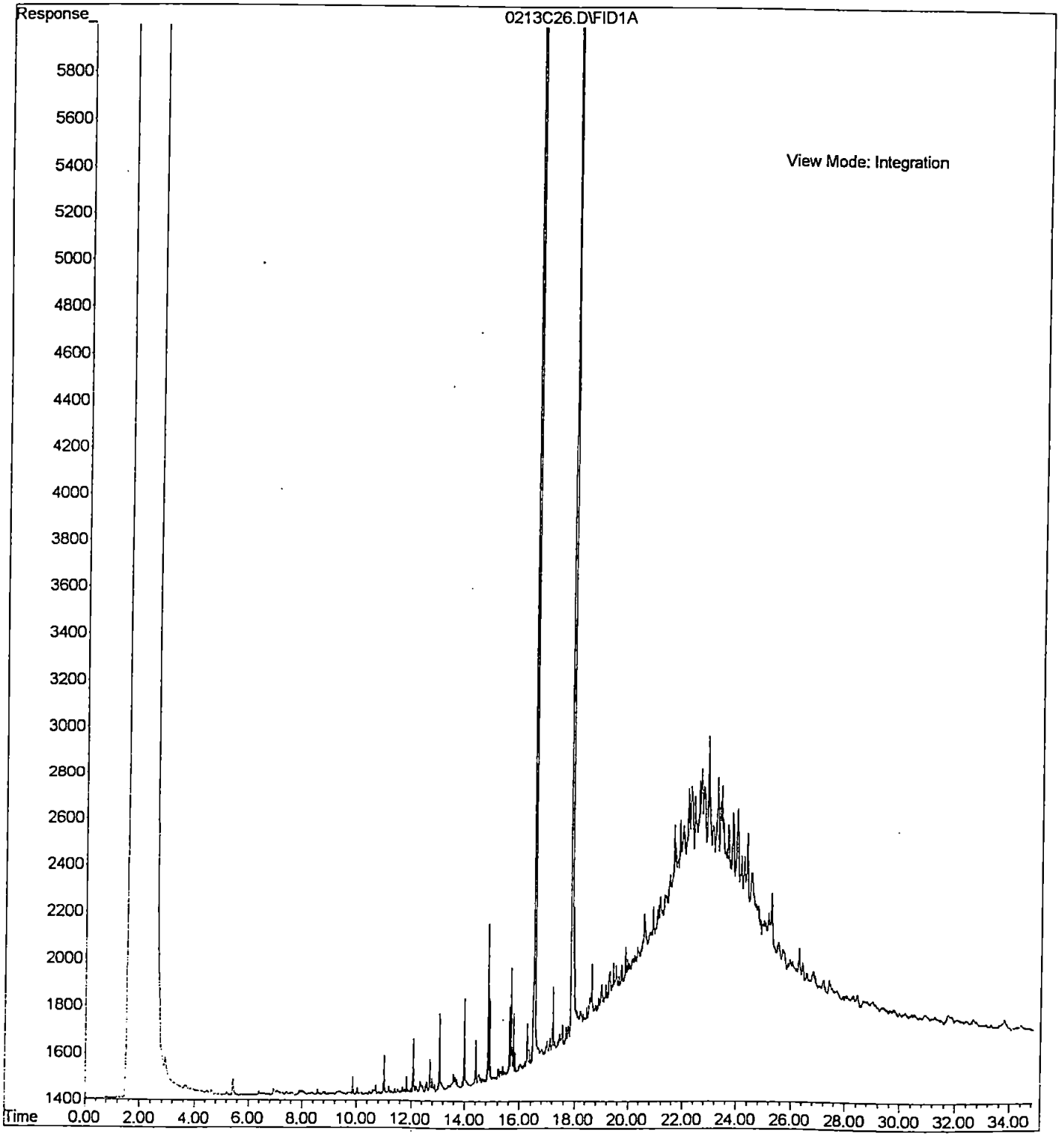
File : D:\HPCHEM\2\DATA\I030213\0213C25.D
Operator : TK
Acquired : 14 Feb 2003 4:40 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-23 ACU
Misc Info : 3
Vial Number: 25



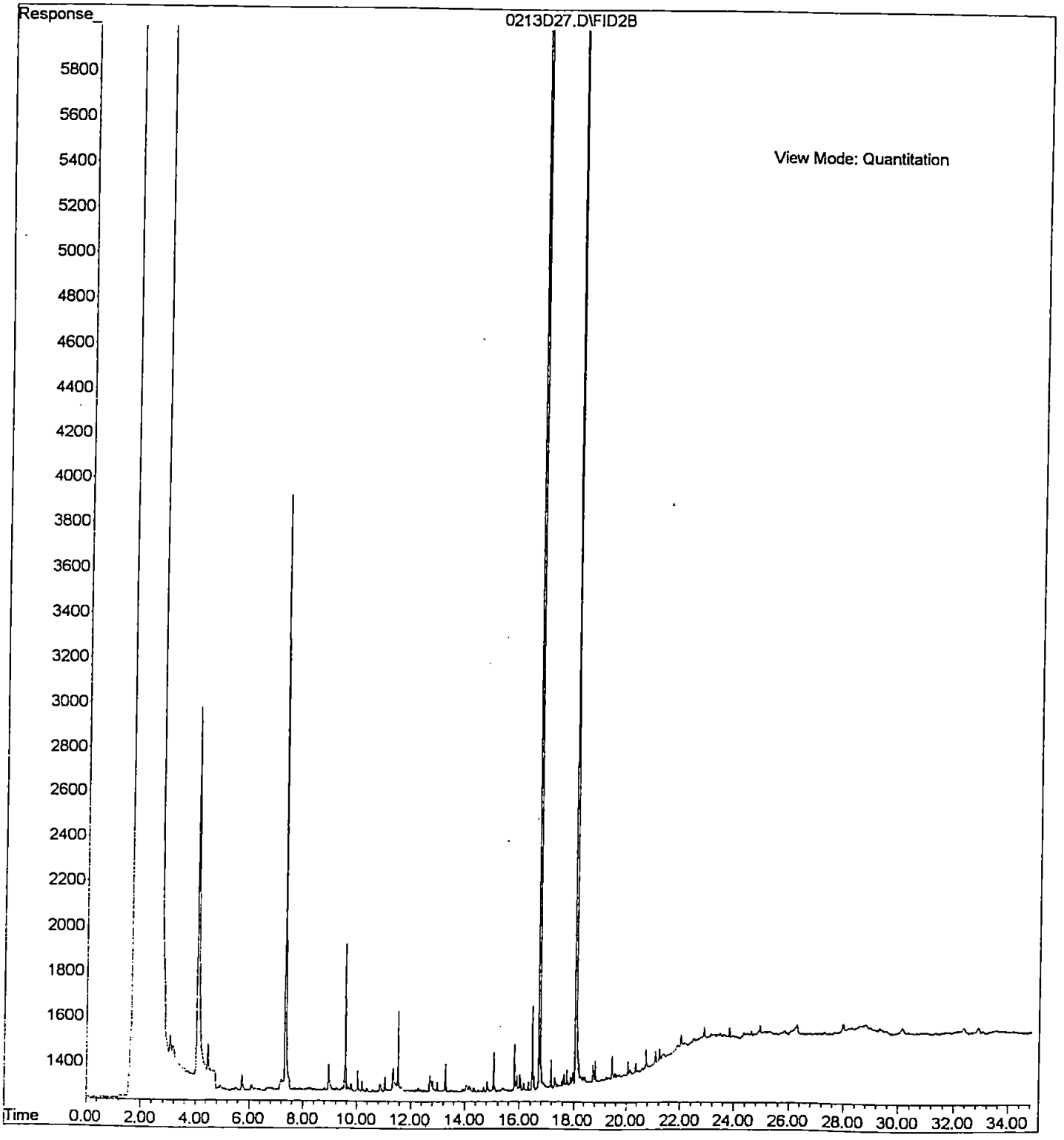
File : D:\HPCHEM\2\DATA\I030213\0213D26.D
Operator : TK
Acquired : 14 Feb 2003 5:21 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-24 ACU
Misc Info : 4
Vial Number: 76



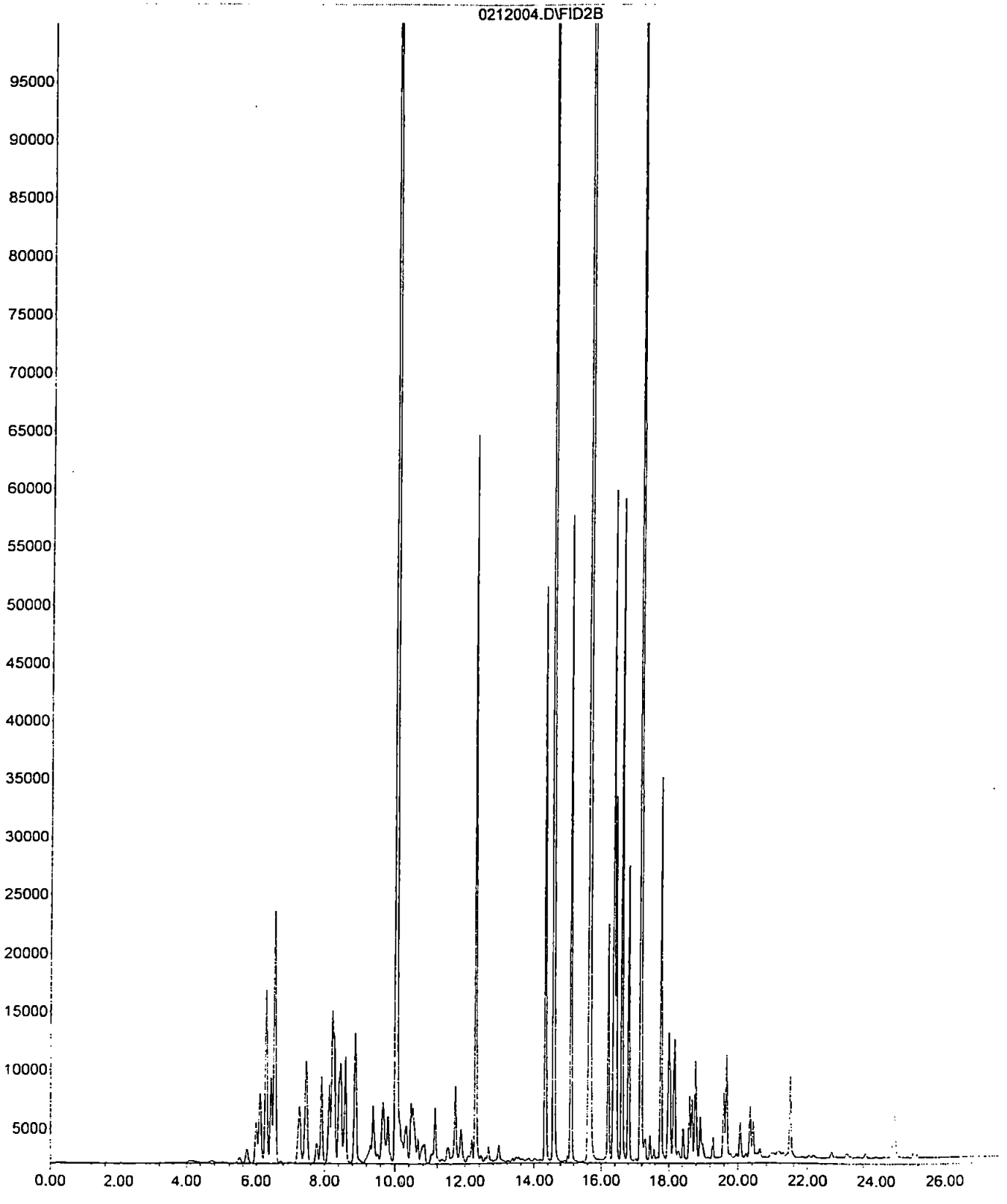
File : D:\HPCHEM\2\DATA\I030213\0213C26.D
Operator : TK
Acquired : 14 Feb 2003 5:21 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-25 ACU
Misc Info : 3
Vial Number: 26



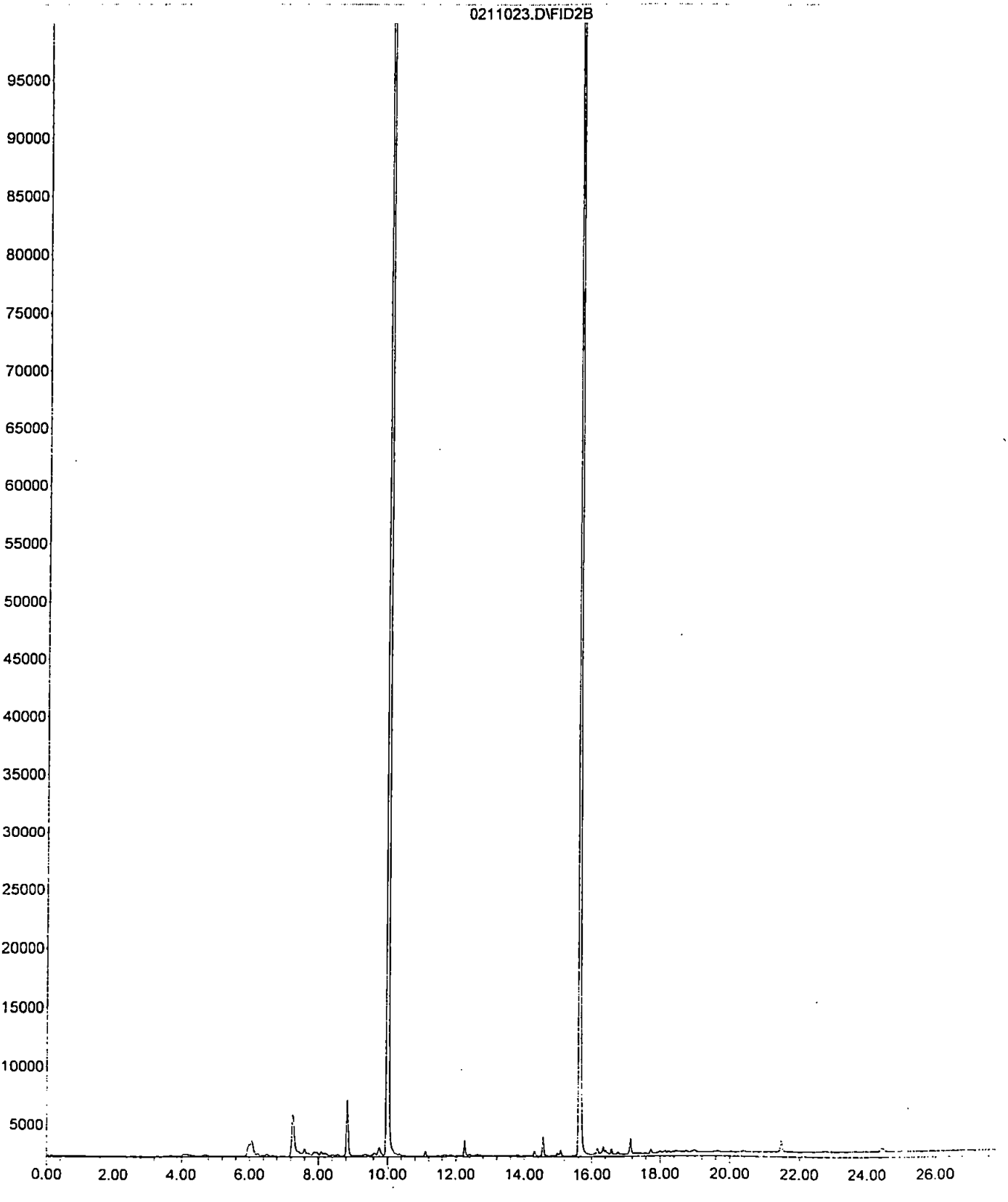
File : D:\HPCHEM\2\DATA\I030213\0213D27.D
Operator : TK
Acquired : 14 Feb 2003 6:03 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-26 ACU
Misc Info : 4
Vial Number: 77



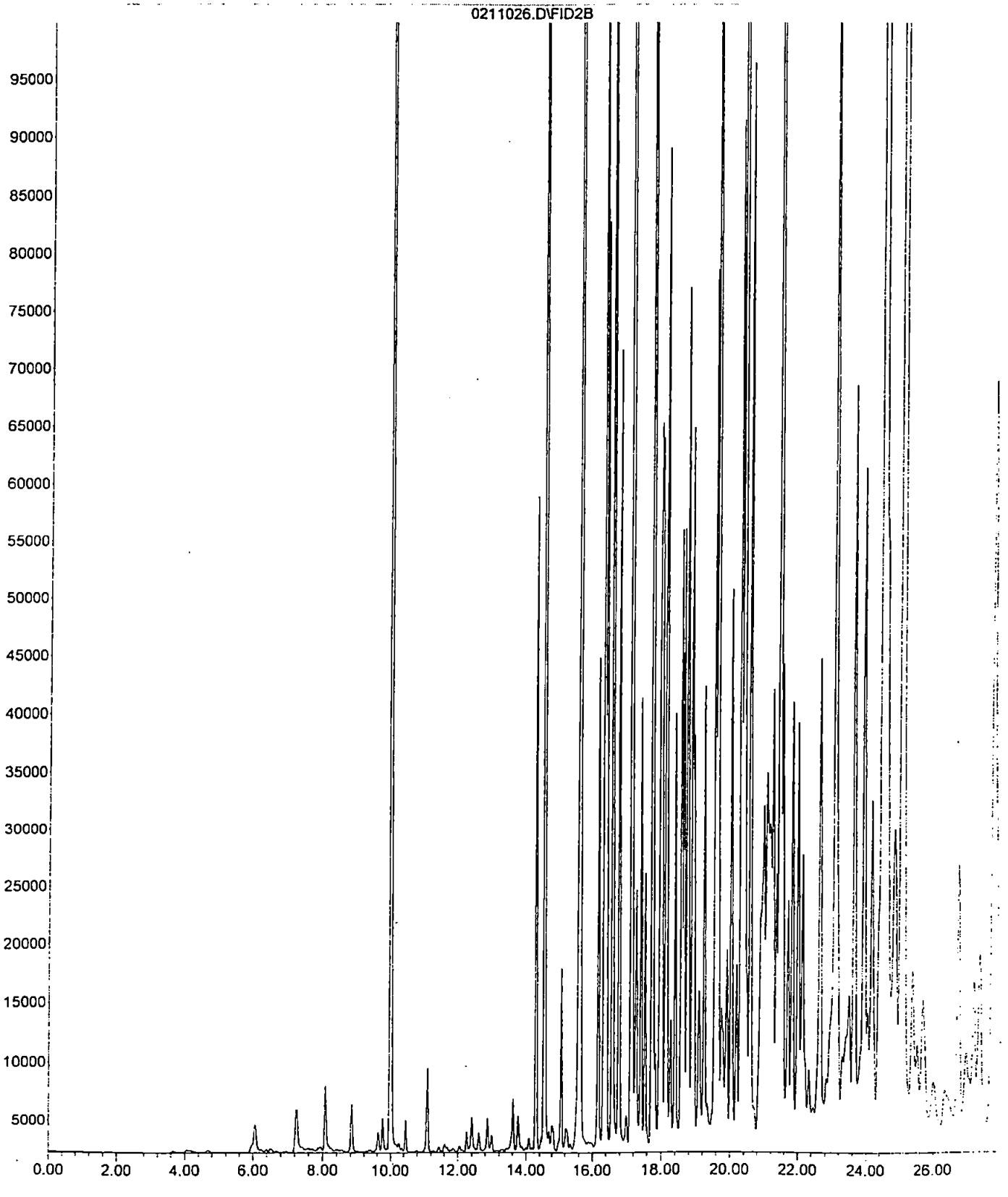
File : D:\ARCHON\DATA\H030212\0212004.D
Operator :
Acquired : 12 Feb 2003 13:33 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-039-12bW 1:100
Misc Info :
Vial Number: 4



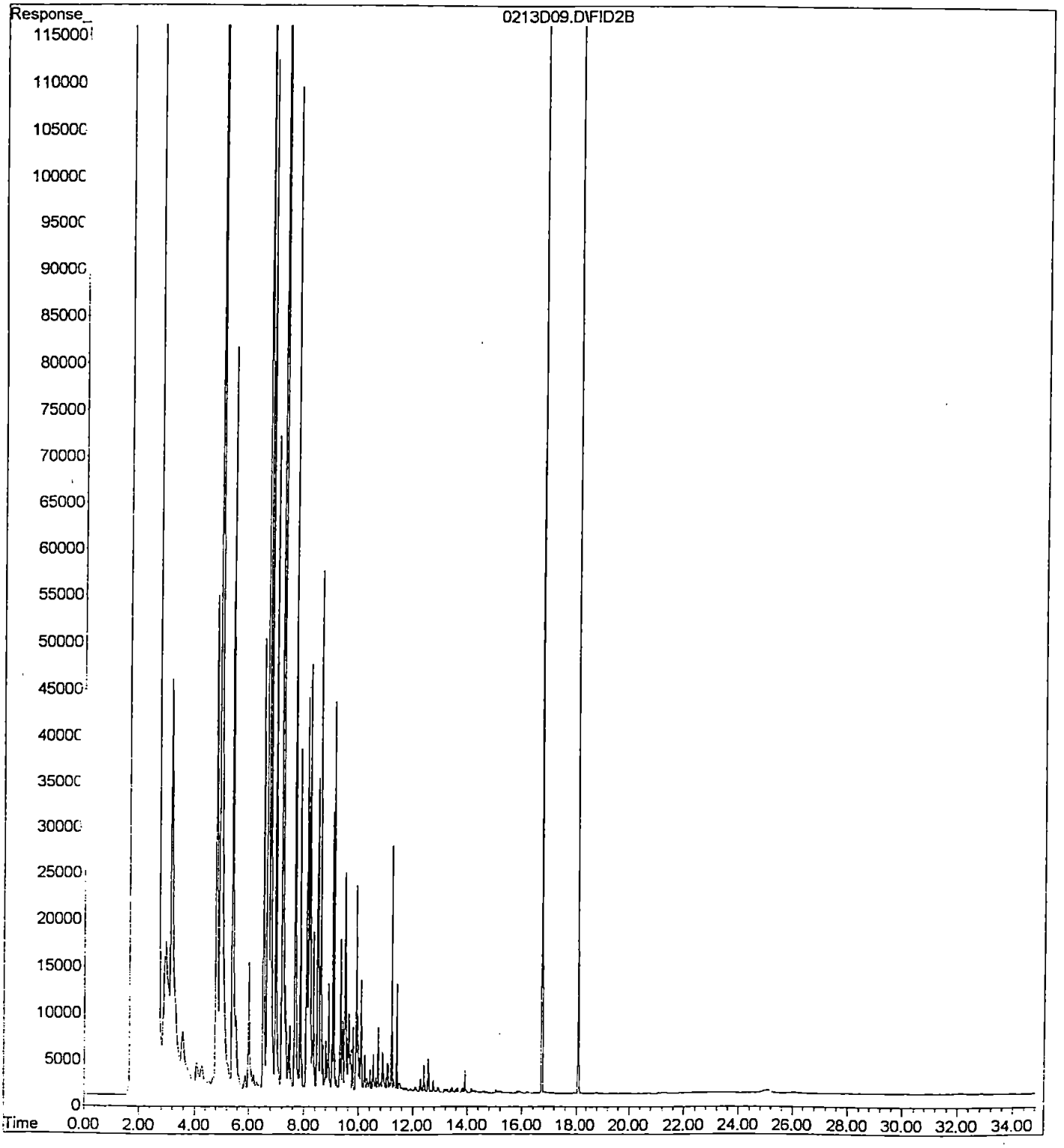
File : D:\ARCHON\DATA\H030211\0211023.D
Operator :
Acquired : 12 Feb 2003 1:01 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-039-15cW
Misc Info :
Vial Number: 23



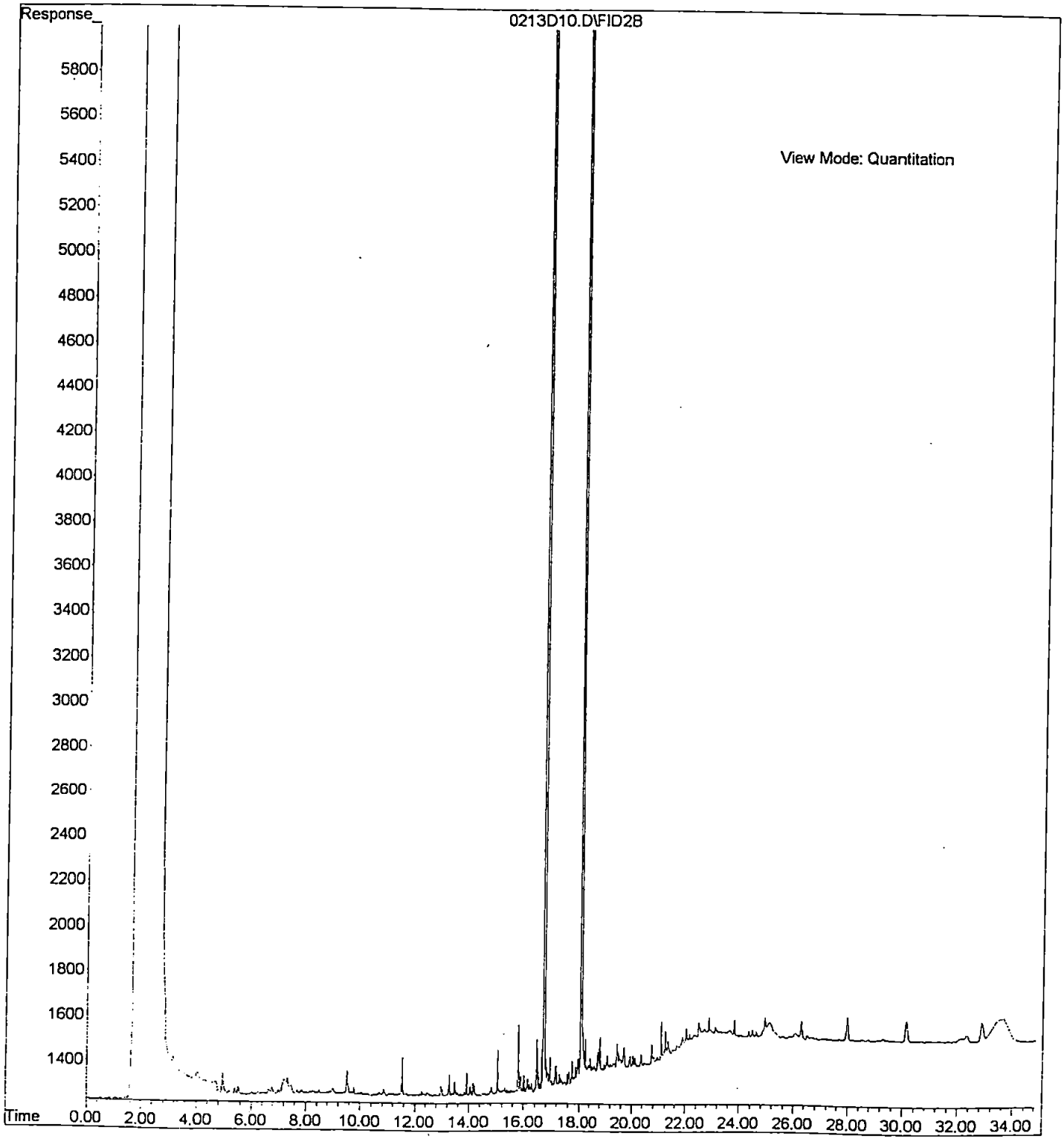
File : D:\ARCHON\DATA\H030211\0211026.D
Operator :
Acquired : 12 Feb 2003 2:45 using AcqMethod 0127BTEX.M
Instrument : Archon
Sample Name: 02-039-18aW
Misc Info :
Vial Number: 26



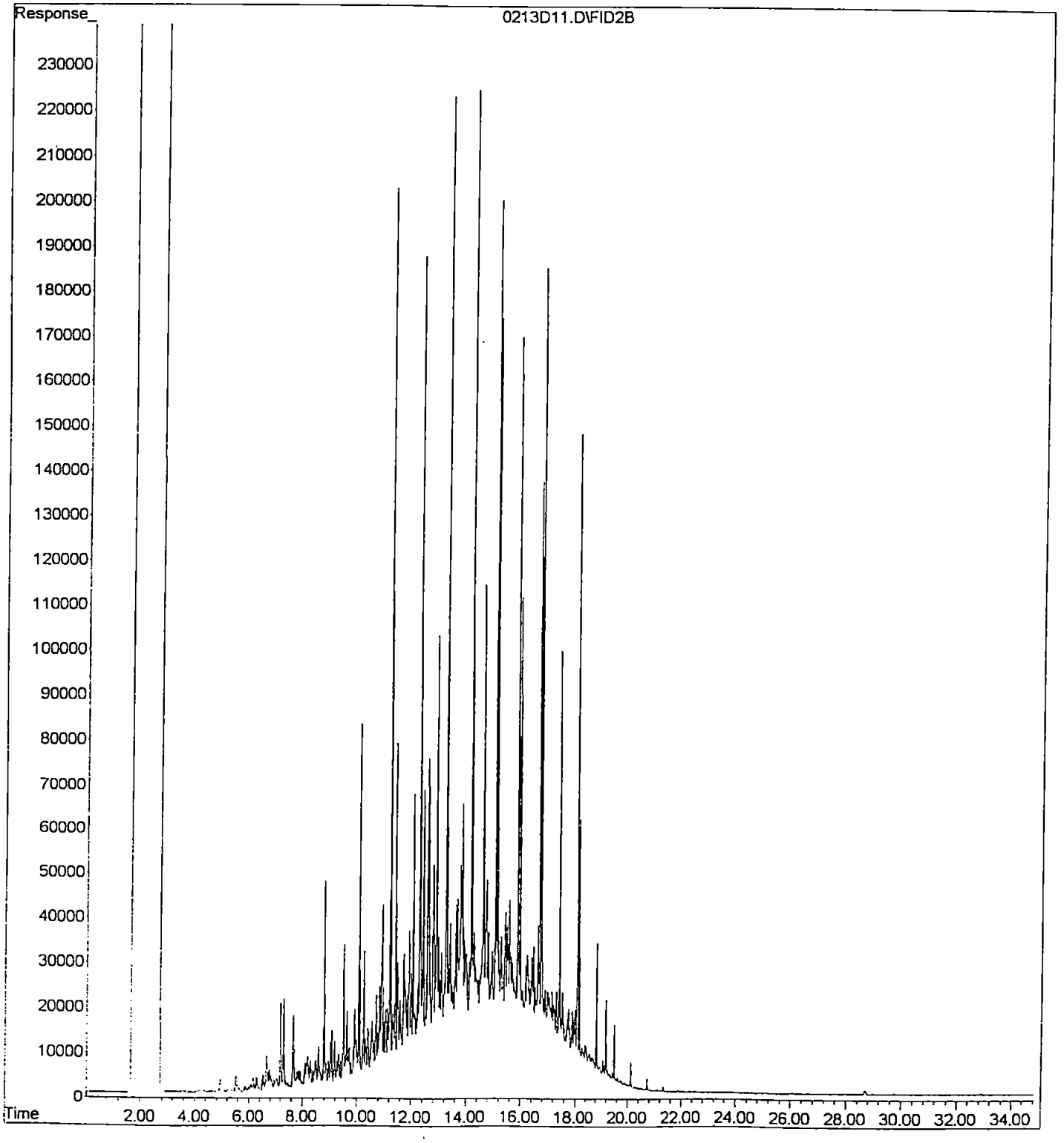
File : D:\HPCHEM\2\DATA\I030213\0213D09.D
Operator : TK
Acquired : 13 Feb 2003 17:36 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-12 ACU
Misc Info : 4
Vial Number: 59



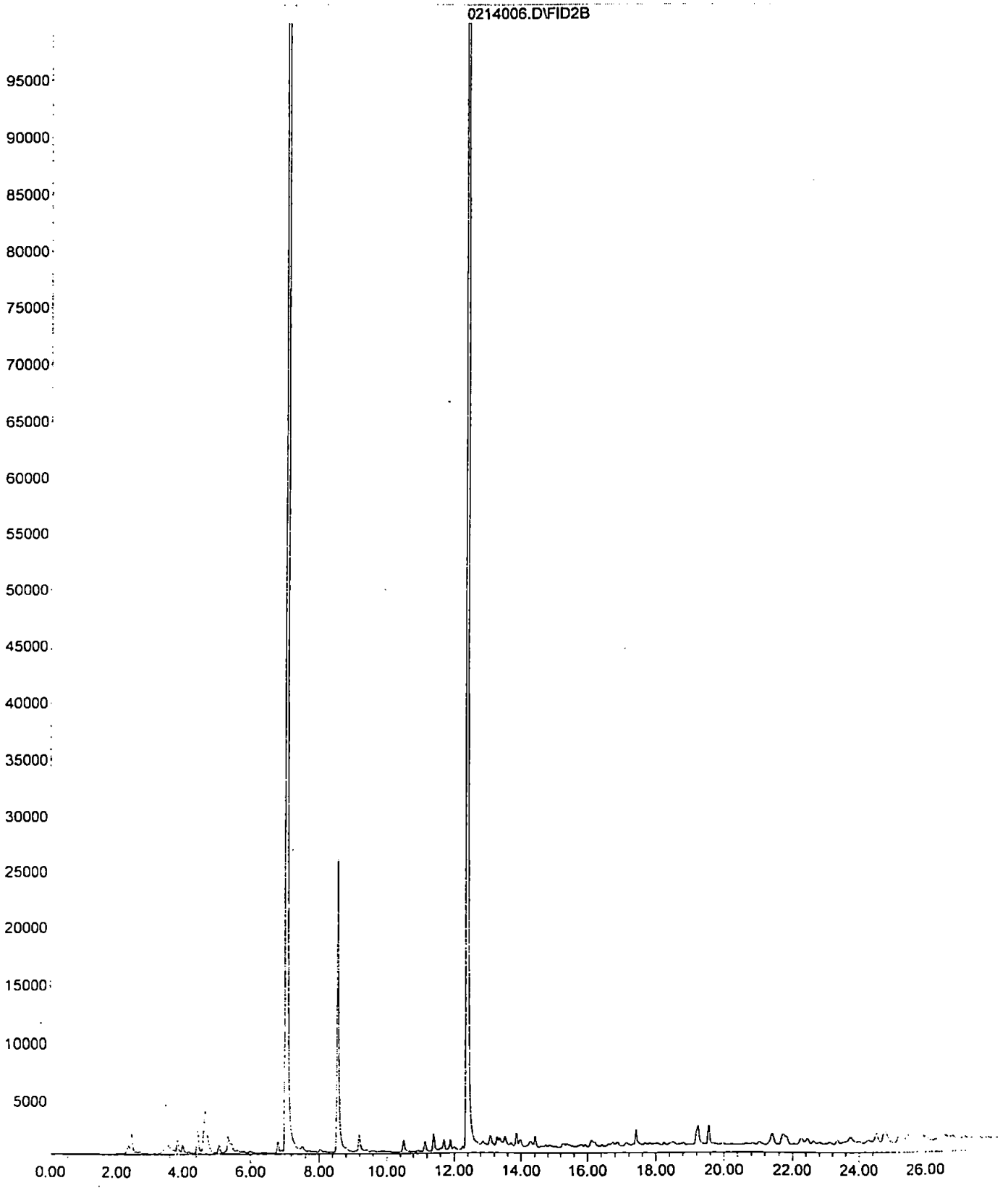
File : D:\HPCHEM\2\DATA\I030213\0213D10.D
Operator : TK
Acquired : 13 Feb 2003 18:17 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-15 ACU
Misc Info : 4
Vial Number: 60



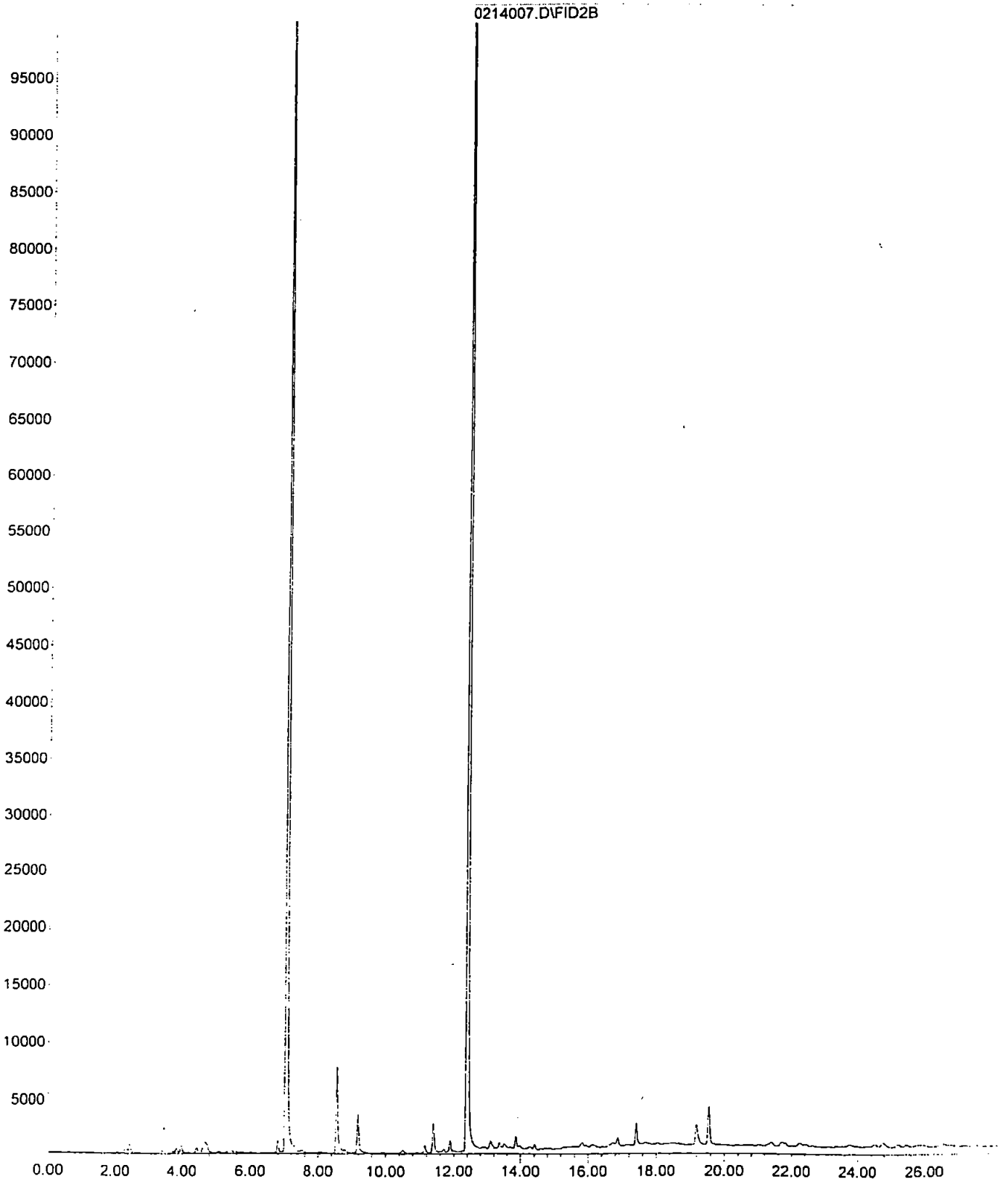
File : D:\HPCHEM\2\DATA\I030213\0213D11.D
Operator : TK
Acquired : 13 Feb 2003 18:59 using AcqMethod C1007.M
Instrument : Isaac
Sample Name: 02-039-18 ACU
Misc Info : 4
Vial Number: 61



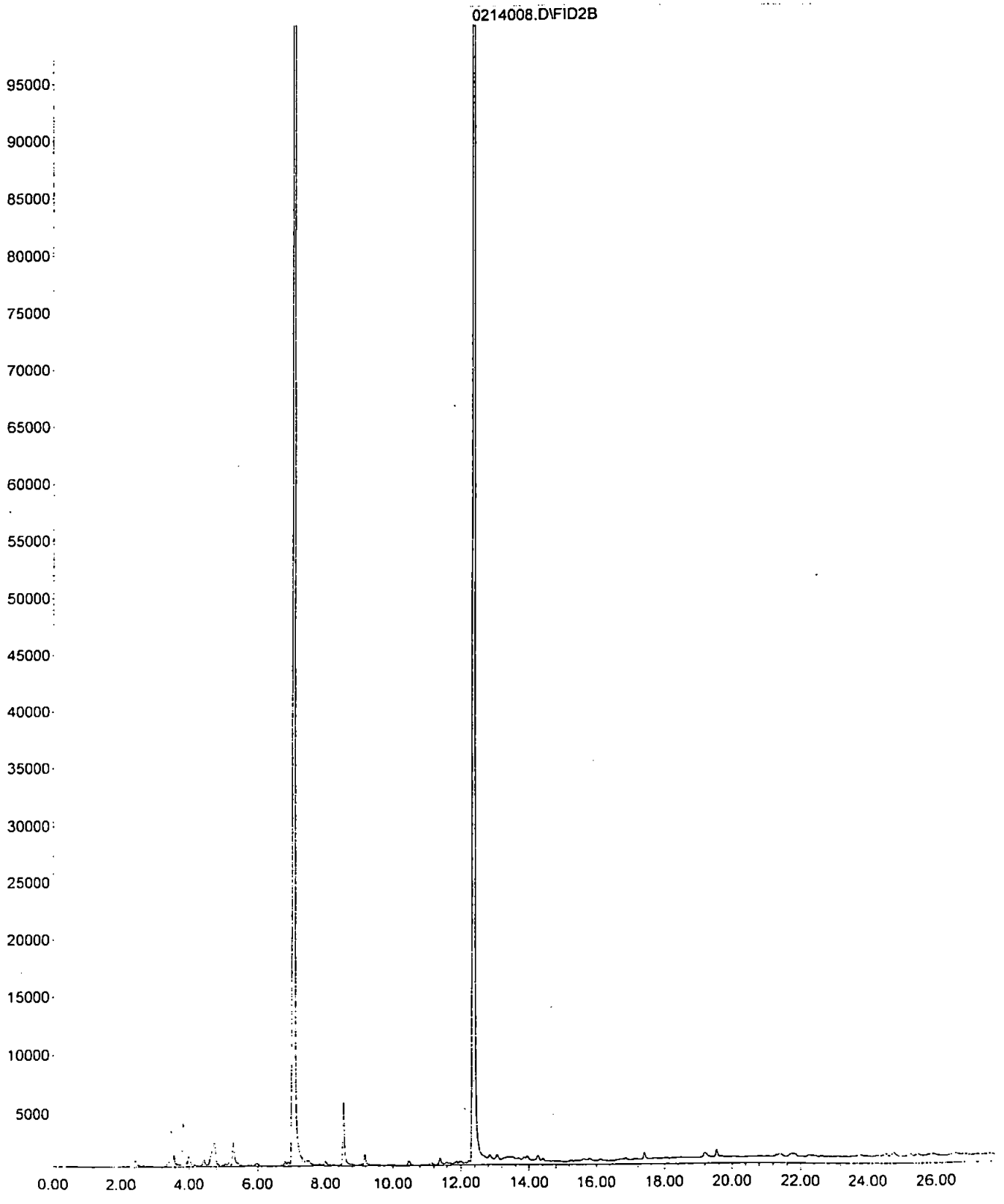
File : D:\BTEX\DATA\D030214\0214006.D
Operator :
Acquired : 14 Feb 2003 16:00 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-01
Misc Info :
Vial Number: 6



File : D:\BTEX\DATA\D030214\0214007.D
Operator :
Acquired : 14 Feb 2003 16:34 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-02 1:100
Misc Info :
Vial Number: 7



File : D:\BTEX\DATA\D030214\0214008.D
Operator :
Acquired : 14 Feb 2003 17:08 using AcqMethod 0130BTEX.M
Instrument : BTEX
Sample Name: 02-039-05
Misc Info :
Vial Number: 8



Chain of Custody

Page 1 of 3

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

Company: Kane Environmental Inc
Project Number: 02902
Project Name: ~~Idlet Kane~~ Bridgeway
Project Manager: John Kane
Sampled by: Ian Young & John Kane

Turnaround Request (In working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☑ Standard (7 working days)
- ☐ _____ (other)

Laboratory Number: 02-030

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	Total Lead	BTPH - Gas			% Moisture
1	D-Geo-1: 4-8 ft	2.8.03	13:05	S	1		X	X													X				✓
2	D-Geo-1: 8-12 ft		13:15	S	1		X	X		X											X				✓
3	D-Geo-1 12-15 ft		13:30	S	1																				✓
4	D-Geo-2: 0-4 ft		11:15	S	1																				✓
5	D-Geo-2 4-8 ft		11:20	S	1		X	X													X				✓
6	D-Geo-2: 12 ft		11:30	S	1																				✓
7	D-Geo-2 15 ft		11:50	S	1																				✓
8	D-Geo-2 15-17 ft		12:10	S	1		X	X	X												X	X			✓
9	D-Geo-3: 4-7 ft		15:30	S	1		X	X													X				✓
10	D-Geo-3: 8 ft	↓	15:35	S	1			X	X			X	X			X					X	X			✓

	Signature	Company	Date	Time
Relinquished by	John Kane	Kane Environmental	2.10.03	16:00
Received by	Julia Bleeker	Kane ENVIRONMENTAL	2.10.03	5:05
Relinquished by	Julia Bleeker	Kane ENV	2.10.03	5:05
Received by	Stacey Juran	OnSite Env.	2-10-03	5:42
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:
Silica gel/acid wash on all TPH-Dx samples: soil & groundwater
Filter metals for TCLP

Chromatograms with final report ☑

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

Chain of Custody

Page _ of 3

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

Company: Kane Environmental Inc
Project Number: 02902
Project Name: Bridgeway
Project Manager: John Kane
Sampled by: Ian Young & John Kane

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☑ Standard (7 working days)
☐ _____ (other)

Laboratory Number: 02-039

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	TPH Ketones	EPH MTBE	Total Lead	TPH Gas	Dissolved RCRA Metals	Dissolved Lead	%-Moisture
11	D-Geo-3: 10.5-12 ft	2.9.03	15:40	S	1																				-
12	D-Geo-3		16:00	W	8			X	X										X	X		X	X		
13	D-Geo-4: 4.5 ft		11:30	S	1		X	X																	-
14	D-Geo-5: 7.0 ft		9:15	S	1		X	X													X				-
15	D-Geo-5		9:40	W	7			X	X										X	X		X		X	
16	D-Geo-6: 10-10.5 ft		10:00	S	1		X	X													X				-
17	D-Geo-6: 7.0 ft		10:05	S	1		X	X													X				-
18	D-Geo-6	↓	10:30	W	8		X	X	X										X	X		X		X	
19	D-Geo-6: 8 ft			S	1		X	X													X				✓

	Signature	Company	Date	Time
Relinquished by	John Kane	Kane Environmental	2-10-03	16:00
Received by	Juliet Lewis	Kane Environ	2.10.03	5:05
Relinquished by	Juliet Lewis	Kane Environ	2.10.03	5:05
Received by	Stacey Lewis	OnSite Env.	2.10.03	5:07
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Silica gel/acid wash on all TPH Dx samples and groundwater
Filter metals @ lab.

Chromatograms with final report ☑

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

Chain of Custody

Page 1 of 3

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

Company: Kane Environmental Inc
Project Number: 02902
Project Name: Bridgeway
Project Manager: John Kane
Sampled by: Ian Young & John Kane

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☑ Standard (7 working days)
☐ _____ (other)

Laboratory Number: 02-039

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	Total Lead				% Moisture
20	D- MW-1: 5-6.5 ft	2.10.03	9:40	S	1		X	X													X				-
21	D- MW-1: 8-9.5 ft		9:15	S	1		X	X													X				-
22	D- MW-2: 5-6.5 ft		11:45	S	1		X	X													X				-
23	D- MW-3: 5-6.5 ft		10:20	S	1		X	X													X				-
24	D- MW-4: 5-6.5 ft		3:20	S	1		X	X													X				-
25	D- MW-5: 5-6.5 ft		1:25	S	1		X	X													X				-
26	D- MW-5: 9.5-11 ft	✓	1:40	S	1		X	X													X				-

	Signature	Company	Date	Time
Relinquished by	John Kane	Kane Environmental	2.10.03	16:00
Received by	Julie B Clarke	Kane Environmental	2.11.03	5:05
Relinquished by	Julie B Clarke	Kane Environmental	2.11.03	5:05
Received by	Stacey Dunn	OnSite Env.	2-10-03	5:07
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

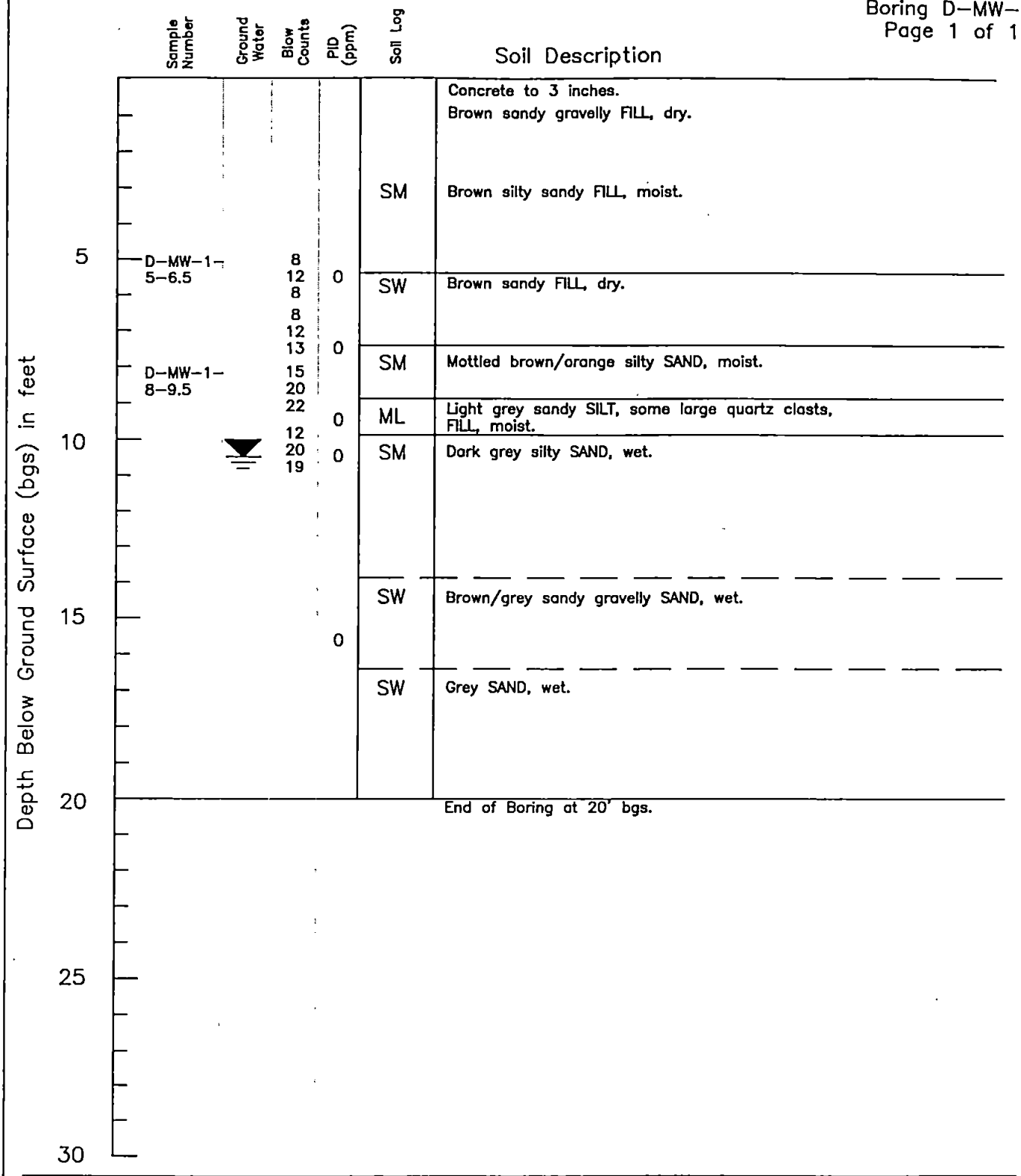
Silica gel/acid wash cleanup on all TPH Dx samples: soil is granular

Chromatograms with final report ☑

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

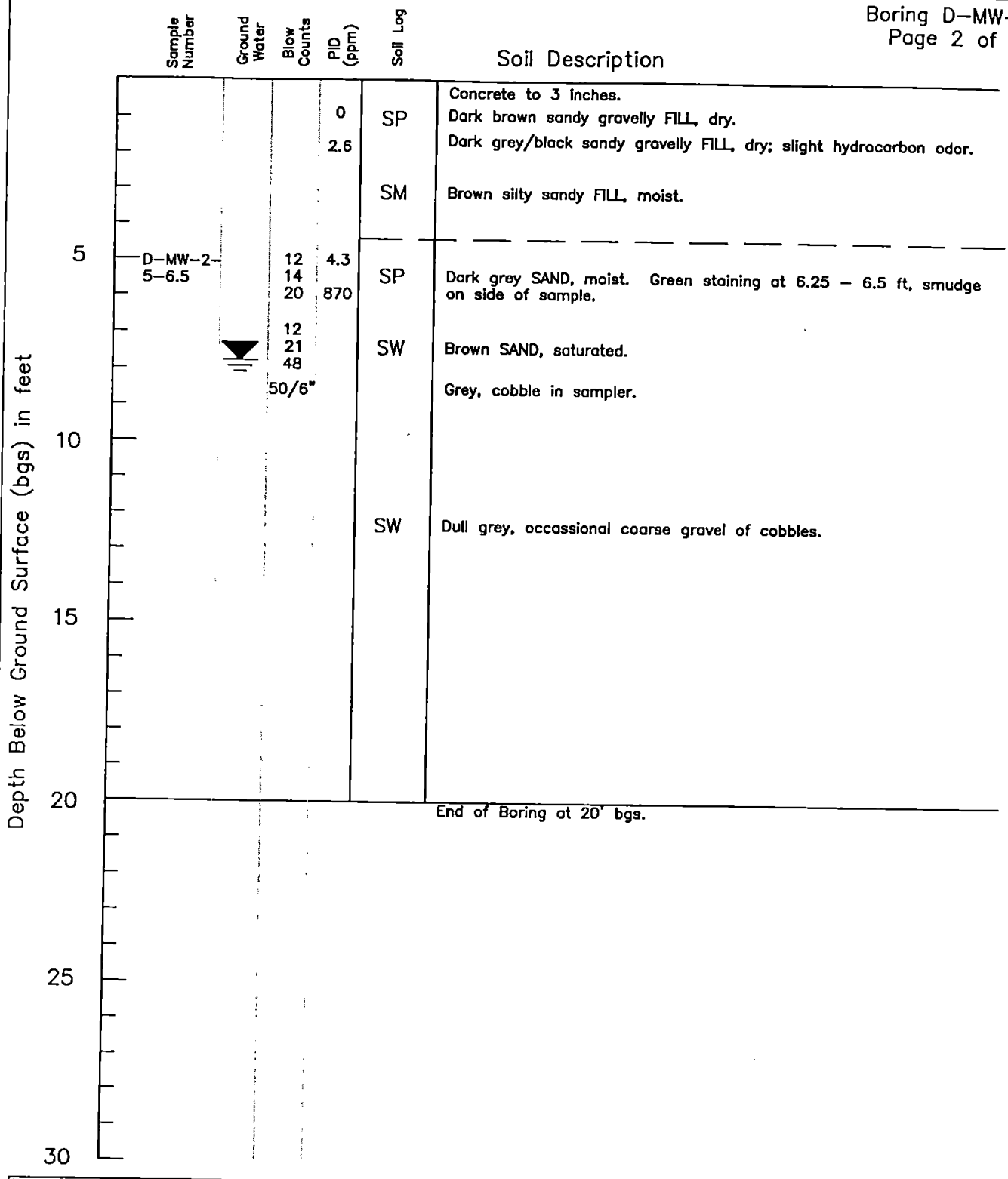
Attachment B

Geoprobe and Groundwater Monitoring Well Logs



Logged by: IY	Hammer Size: 130 lbs.
Driller: Cascade Drilling, Inc.	Date Drilled: 2/8/03
Drilling Method: Hollow Stem Auger	Hole Diameter: 8 inches
Sampling Method: Split spoon	Hole Depth: 20 feet
Casing Type: 2–inch PVC	Well Diameter: 2 inches
Annular Pack: 2/12 Silica sand	Well Depth: 20 feet
Slot Size: 0.010 inch	Screened Interval: 5 – 20 feet

Soils classified visually using the Unified Soils Classification System



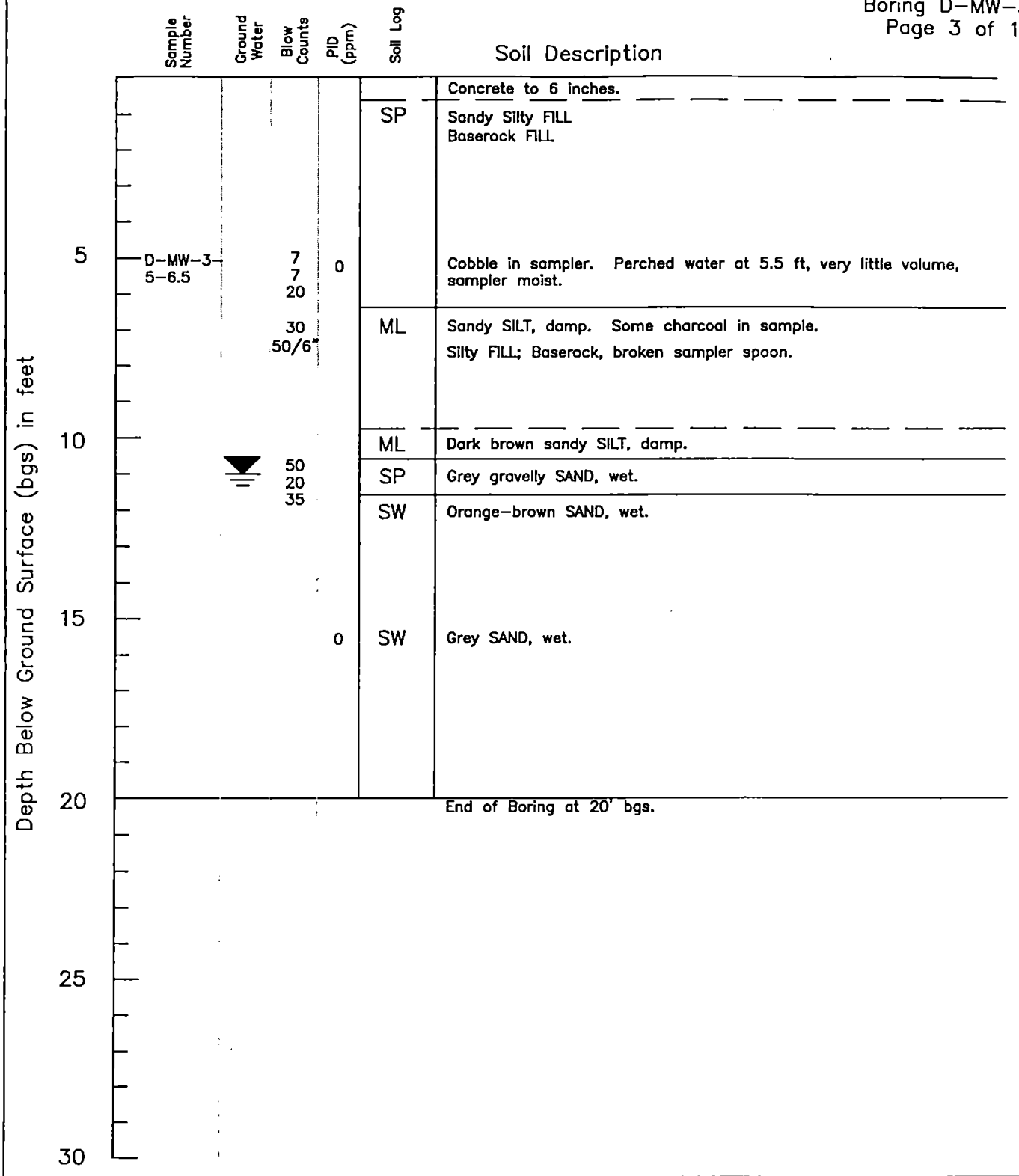
Logged by: TY	Hammer Size: 130 lbs.
Driller: Cascade Drilling, Inc.	Date Drilled: 2/8/03
Drilling Method: Hollow Stem Auger	Hole Diameter: 8 inches
Sampling Method: Split spoon	Hole Depth: 20 feet
Casing Type: 2–inch PVC	Well Diameter: 2 inches
Annular Pack: 2/12 Silica sand	Well Depth: 20 feet
Slot Size: 0.010 inch	Screened Interval: 5 – 20 feet

Soils classified visually using the Unified Soils Classification System

KANE Environmental, Inc.

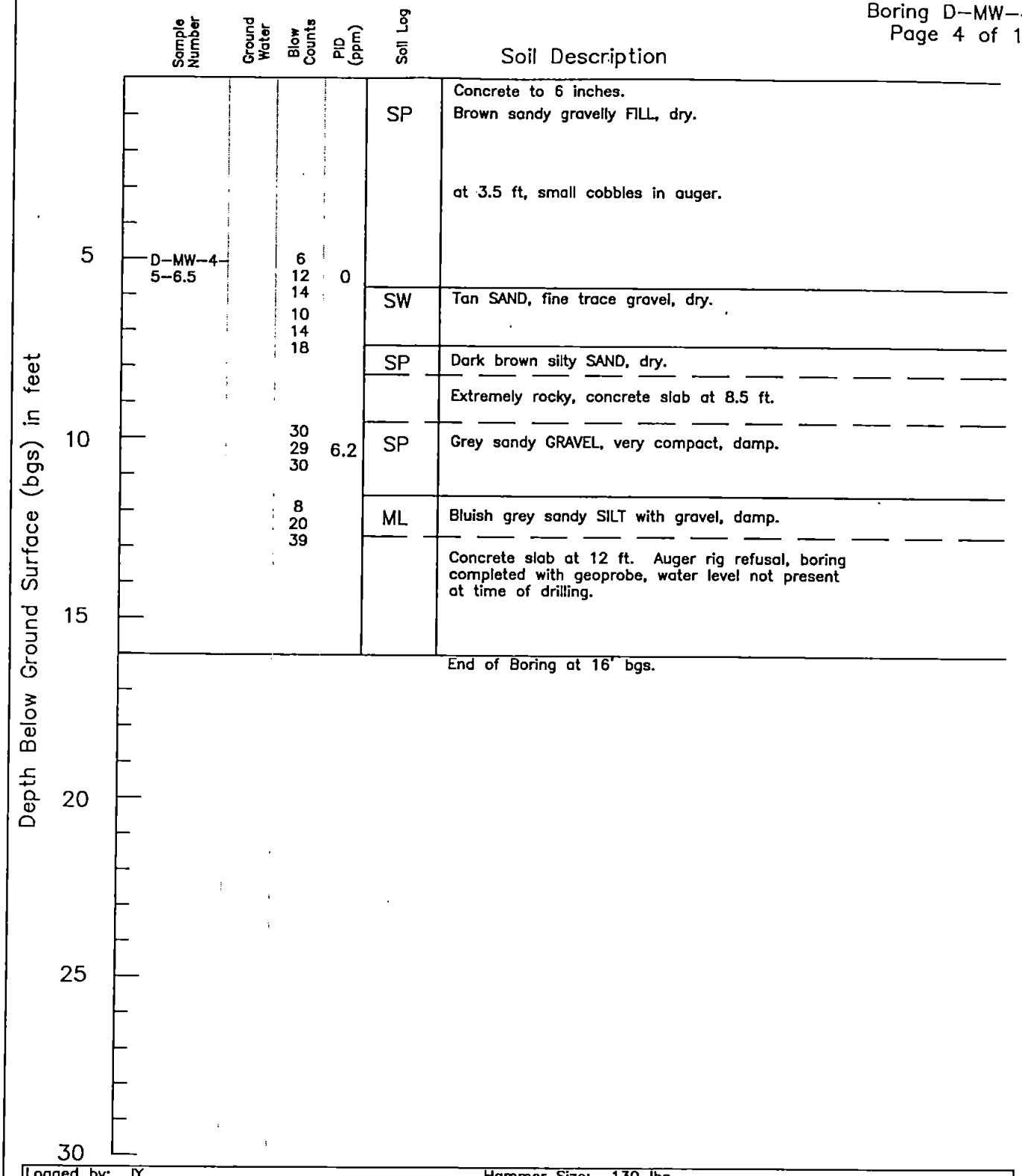
Bridgeway Property
Limited Phase II Investigation
Seattle, Washington

Soil Boring and Groundwater Monitoring Well Logs



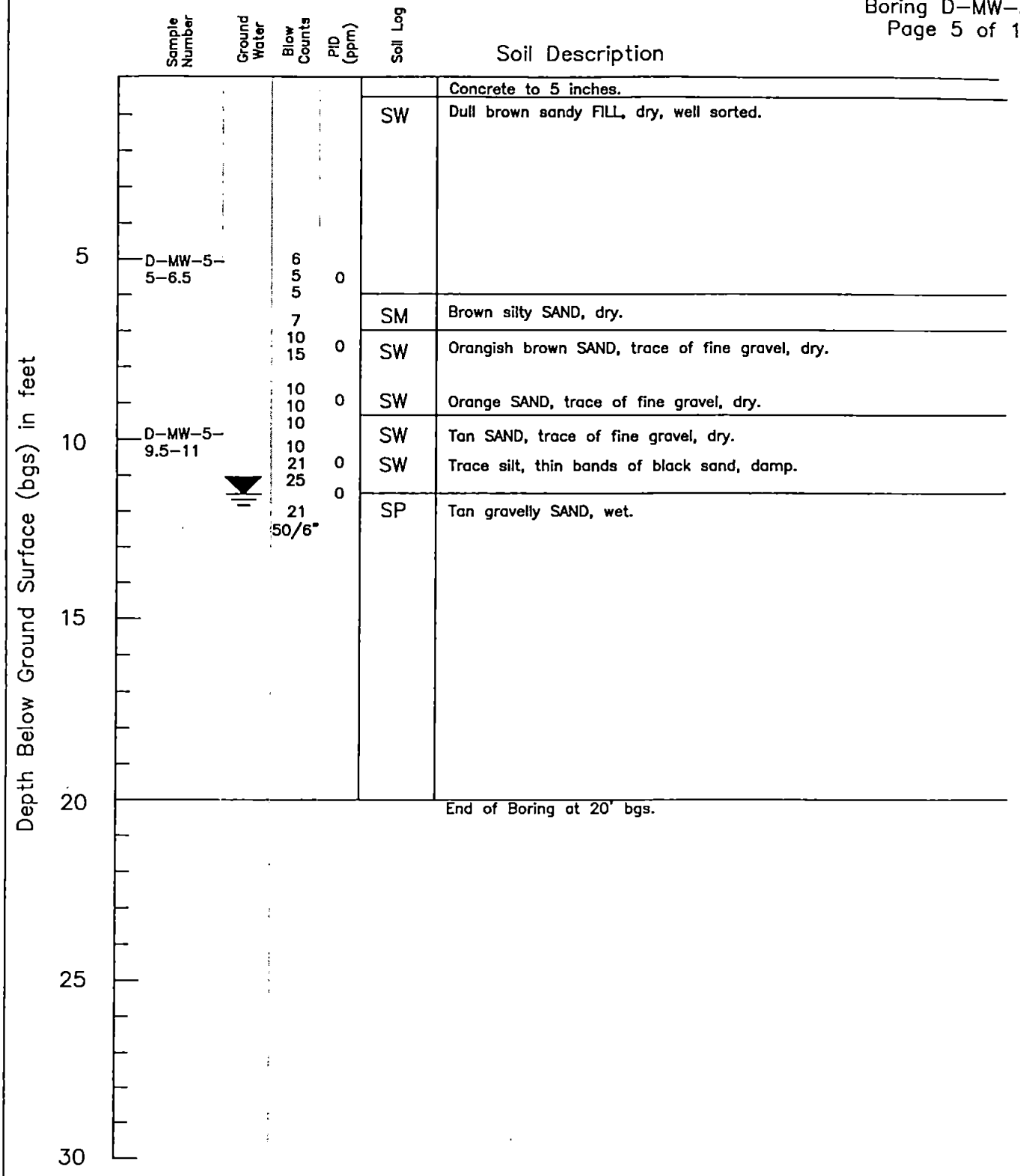
Logged by: TY	Hammer Size: 130 lbs.
Driller: Cascade Drilling, Inc.	Date Drilled: 2/8/03
Drilling Method: Hollow Stem Auger	Hole Diameter: 8 inches
Sampling Method: Split spoon	Hole Depth: 20 feet
Casing Type: 2-inch PVC	Well Diameter: 2 inches
Annular Pack: 2/12 Silica sand	Well Depth: 20 feet
Slot Size: 0.010 inch	Screened Interval: 5 -- 20 feet

Soils classified visually using the Unified Soils Classification System



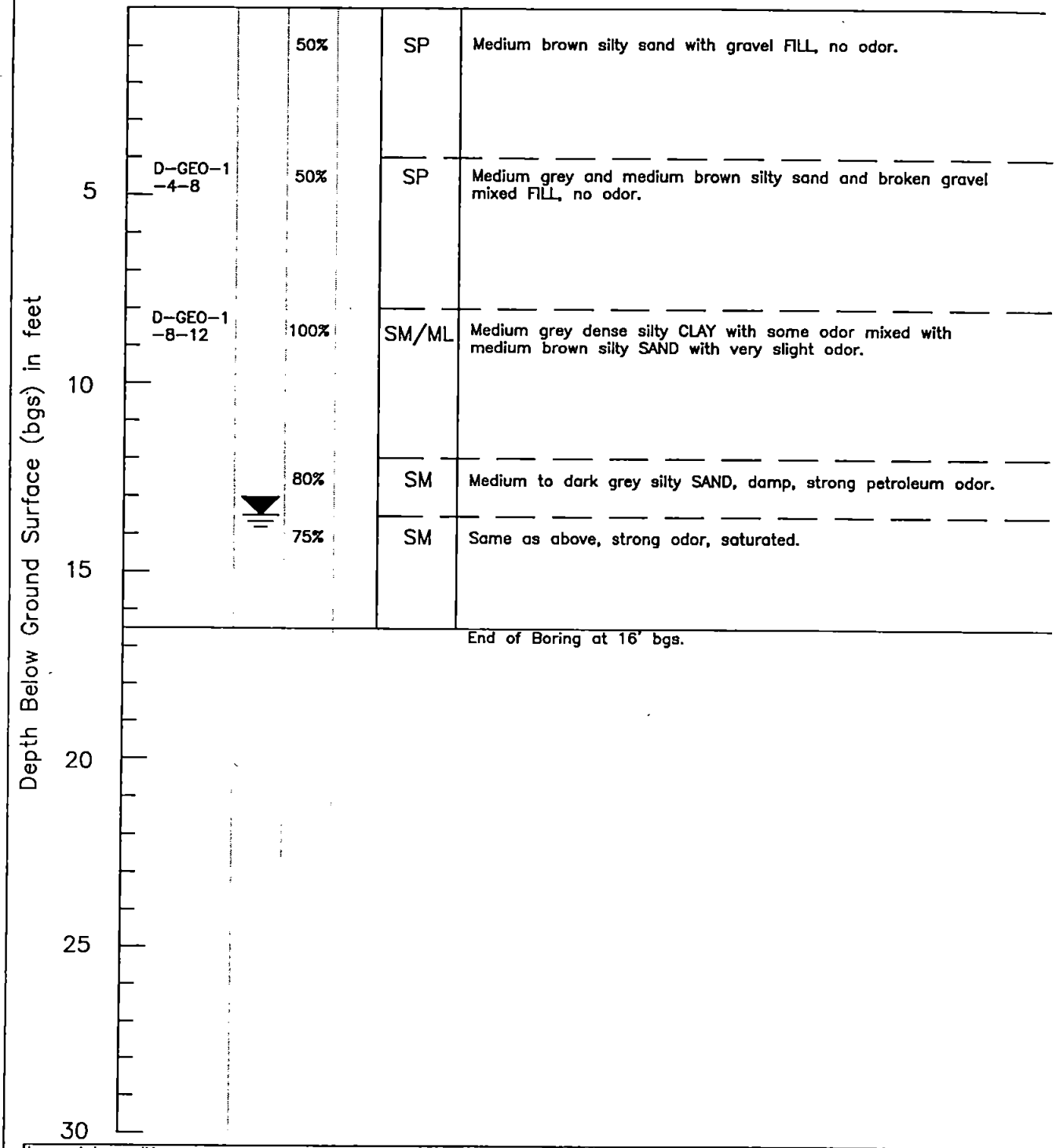
Logged by: JY
Driller: Cascade Drilling, Inc.
Drilling Method: Hollow Stem Auger (0–12 ft), Geoprobe (12–16 ft)
Sampling Method: Split spoon
Casing Type: PVC
Annular Pack: 2/12 Silica sand
Slot Size: 0.010 inch
Soils classified visually using the Unified Soils Classification System

Hammer Size: 130 lbs.
Date Drilled: 2/8/03
Hole Diameter: 8 inches (0–12 ft), 2 inches (12–16 ft)
Hole Depth: 16 feet
Well Diameter: 0.75 inches
Well Depth: 16 feet
Screened Interval: 6 – 16 feet



Logged by: TY	Hammer Size: 130 lbs.
Driller: Cascade Drilling, Inc.	Date Drilled: 2/8/03
Drilling Method: Hollow Stem Auger	Hole Diameter: 8 inches
Sampling Method: Split spoon	Hole Depth: 20 feet
Casing Type: 2–inch PVC	Well Diameter: 2 inches
Annular Pack: 2/12 Silica sand	Well Depth: 20 feet
Slot Size: 0.010 inch	Screened Interval: 5 – 20 feet

Soils classified visually using the Unified Soils Classification System



Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Geoprobe
Sampling Method: Split spoon
Casing Type: PVC
Annular Pack: 10-12 Silica sand
Slot Size: 0.010 inch

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 16.5 feet
Well Diameter: 0.75 inches
Well Depth: 16 feet
Screened Interval: 6 - 16 feet

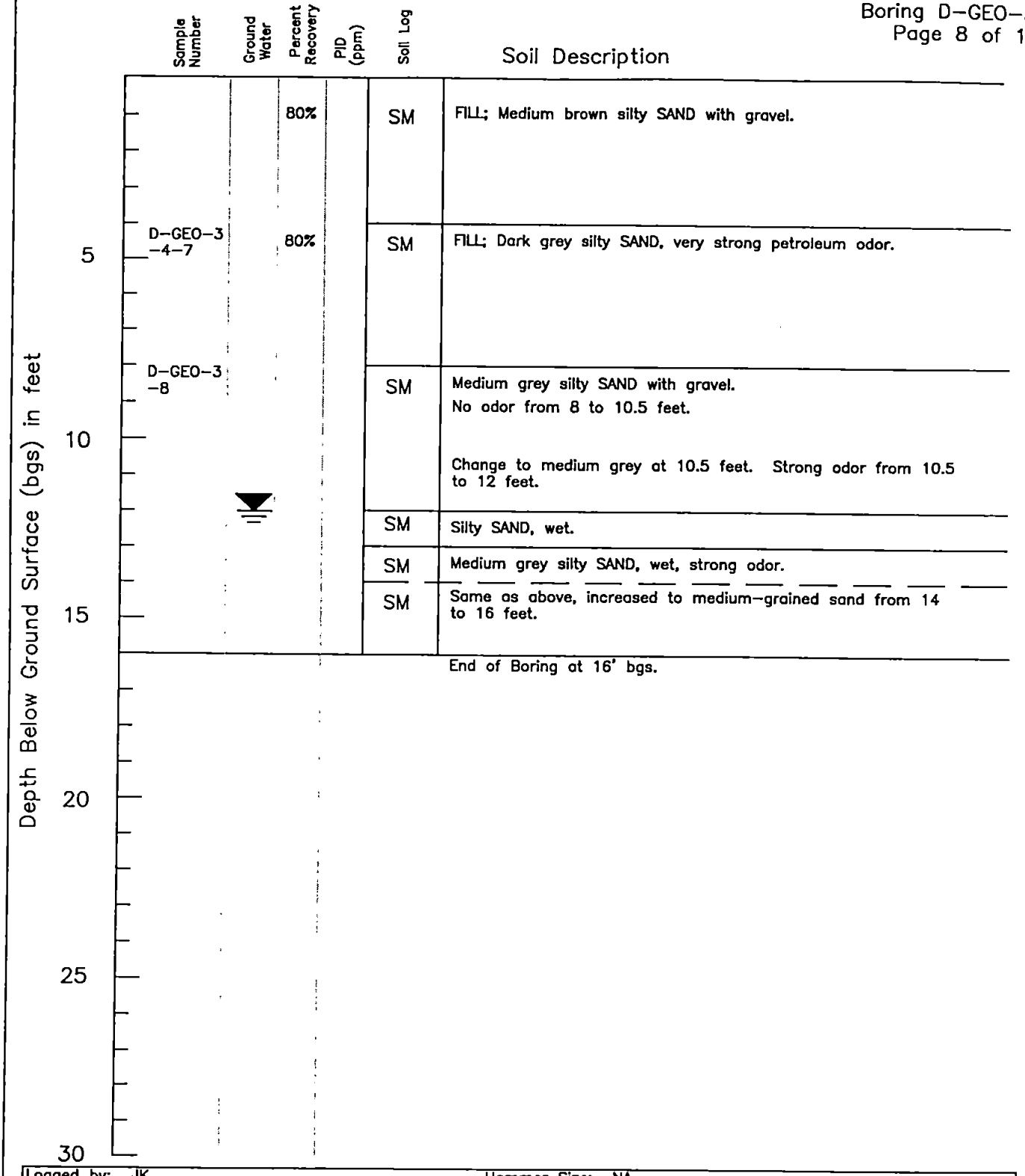
Soils classified visually using the Unified Soils Classification System

Depth Below Ground Surface (bgs) in feet	Sample Number	Ground Water	Percent Recovery	PID (ppm)	Soil Log	Soil Description
			25%			Gravel FILL with large broken stone (1.5-inch diameter), no odor.
5	D-GEO-2 -4-8		90%		SM	Medium brown silty SAND with gravel FILL.
					SM	Same as above with more clay from 6 to 8 feet.
			90%		SC	Medium brown fine SAND.
10					SC	Same as above with more clay from 10 to 11.5 feet. Rust staining at 11 feet.
					SM	Grey silty SAND, strong odor.
					SM	Medium grey SAND lens, strong petroleum odor.
					SM	Medium brown fine SAND with gravel, some odor, saturated.
15	D-GEO-2 -15-17		50%		SM	Medium grey SAND, strong petroleum odor, saturated. Water level not present at the time of drilling.
						End of Boring at 17' bgs.
20						
25						
30						

Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Geoprobe
Sampling Method: Split spoon
Casing Type: NA
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 17 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Soils classified visually using the Unified Soils Classification System



Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Geoprobe
Sampling Method: Split spoon
Casing Type: NA
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 16 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

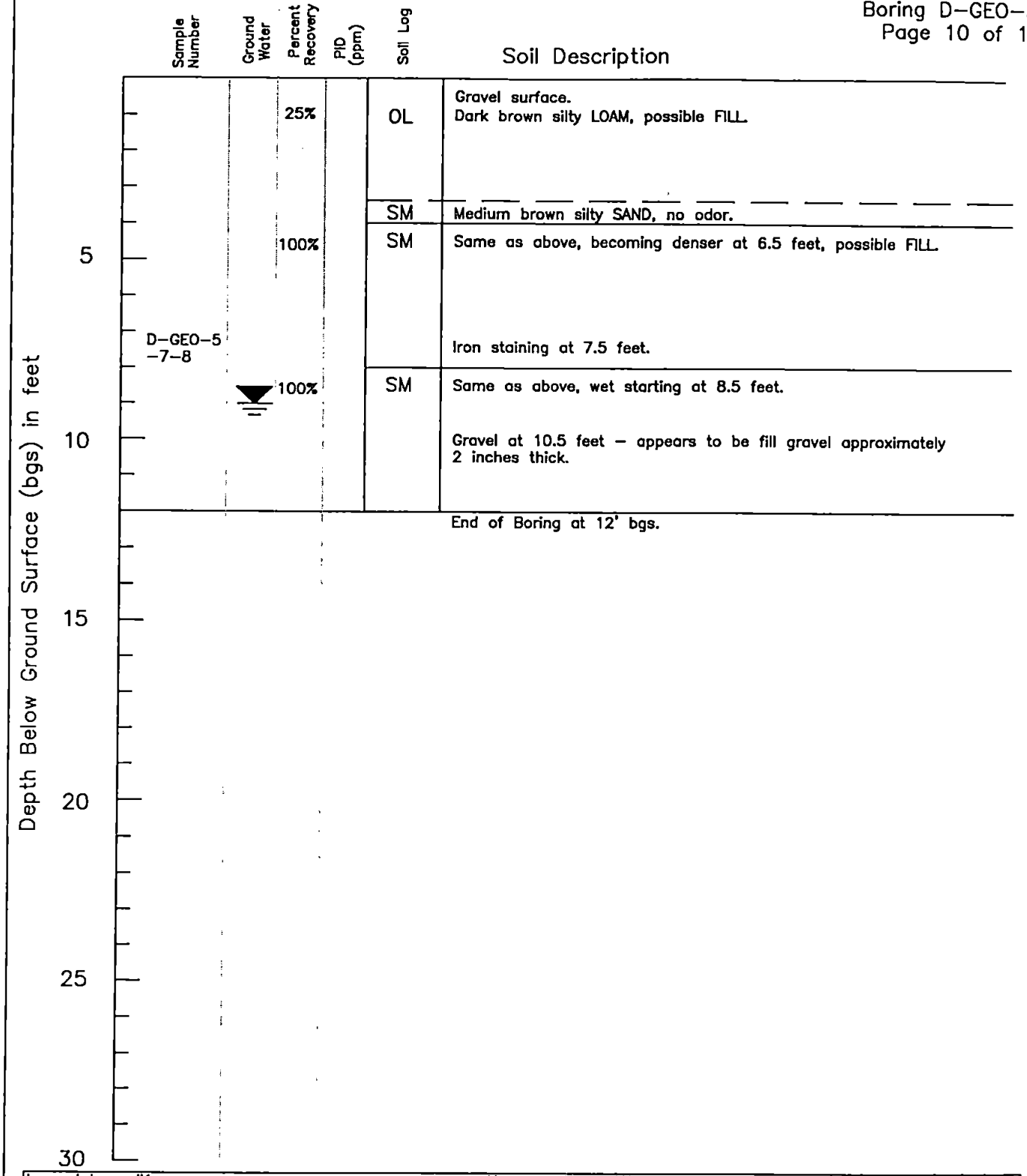
Soils classified visually using the Unified Soils Classification System

Depth Below Ground Surface (bgs) in feet	Sample Number	Ground Water	Percent Recovery	PID (ppm)	Soil Log	Soil Description
			50%		OL	Brown LOAM, no odor.
			75%		SM	Medium brown, fine-grained silty SAND with some gravel, no odor.
5	D-GEO-4 -4-5				SM	Medium brown, fine-grained silty SAND with some gravel, no odor. Refusal at 5 feet.
						End of Boring at 5' bgs.
10						
15						
20						
25						
30						

Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Hand-held rotohammer
Sampling Method: Split spoon
Casing Type: NA
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 5 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

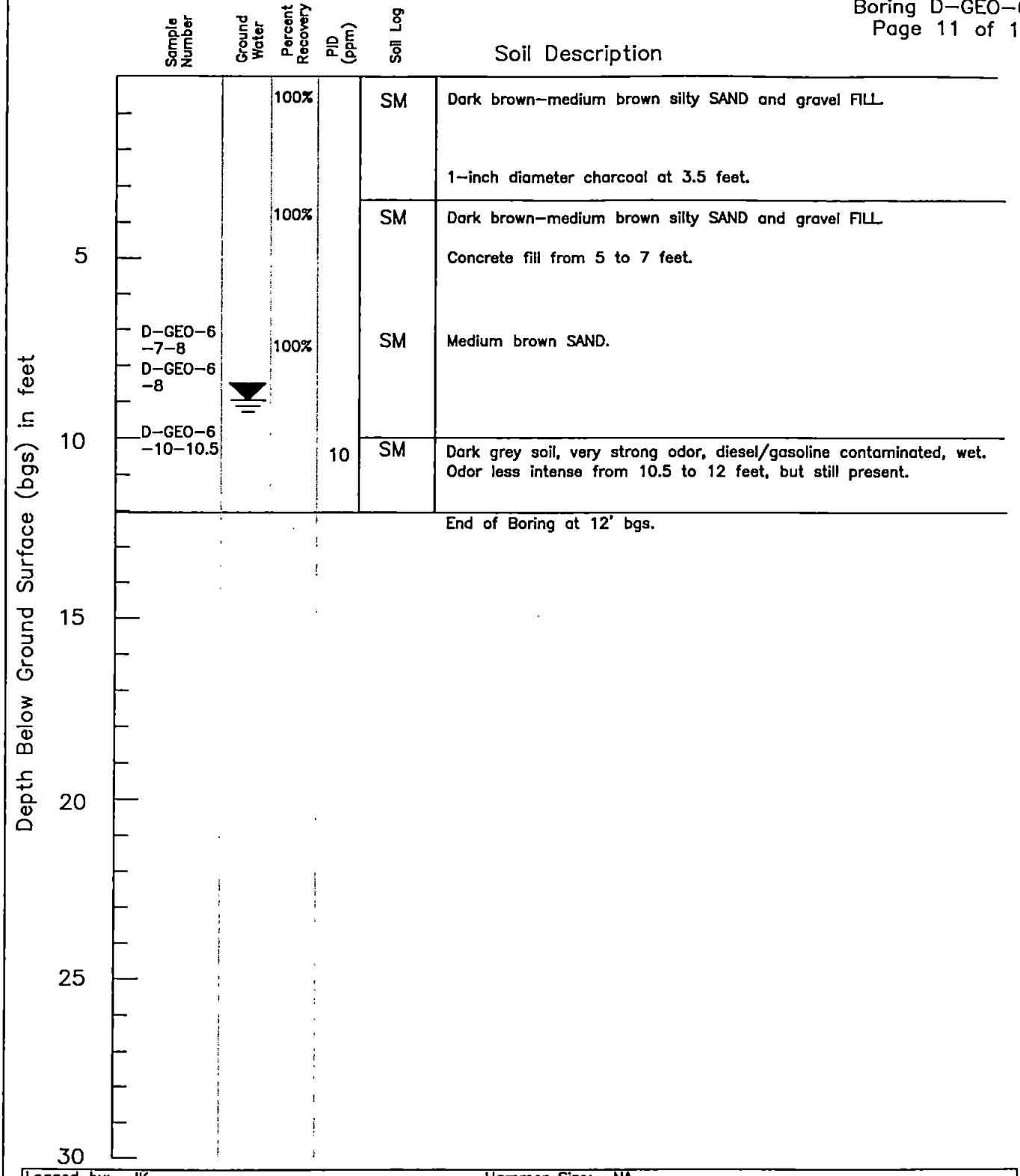
Soils classified visually using the Unified Soils Classification System



Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Geoprobe
Sampling Method: Split spoon
Casing Type: NA
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 12 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Soils classified visually using the Unified Soils Classification System



Logged by: JK
Driller: Cascade Drilling, Inc.
Drilling Method: Geoprobe
Sampling Method: Split spoon
Casing Type: NA
Annular Pack: NA
Slot Size: NA

Hammer Size: NA
Date Drilled: 2/8/03
Hole Diameter: 2 inches
Hole Depth: 12 feet
Well Diameter: NA
Well Depth: NA
Screened Interval: NA

Soils classified visually using the Unified Soils Classification System

Attachment C
Field Notes and
Underground Detection Service Letter

Saturday Feb 8, 2003 — John Kane

Arrive @ 7:30 am.
Meet w/ driller, Cascade & ESK, NW Health and Safety meeting. discuss potential for leaking gasoline product and need for tyvek and respirators, if found.

Marked drilling locations for concrete coring. On-property locate w/ Kelly & Underground Detection Service.

Dan Young on auger w/ John Kane on Geoprobe.
Set up geoprobe in southern gravel parking lot south of Belfor office bldg.

Weather overcast, no rain.

Geoprobe D-Geo-5
start 9am.

0-4 ft. 25% recovery gravel surface, dk. brown silty loam changing to med brown silty sand @ 3.5'

4-8' denser @ 6.5' 100% rec. no odor
med brown to 8' w/ iron staining at 7.5' no odor

8-12 gravel @ 10.5' 100% rec.
sample wet starting at 8.5'. H_2O @ 9.5'
gravel appears to be fill gravel ≈ 2" thick.

H_2O @ 9'

D-Geo-4
outside "alleyway"

0-2' brown loam.
no odor 5%

2-4' fine-grained
red brown silty sand 75%
some gravel: no odor.

4-5' silty; fine-grained
sand red brown no odor
refusal @ 5' bgs.

Thursday February 13, 2003
Bridgeway Property

D-MW-1 – no floating product
19.30 TD
12.22 H_2O
7.08

pH	T (°F)	µS	TDS	
6.58	54.5	1630	813	< 1 gal. cloudy.
6.96	54.7	1084	538	slightly cloudy
7.01	54.9	1030	516	"
7.10	54.2	967	493	clear

D-MW-3 north of D-MW-1
no floating product
19.20 TD
10.41 H_2O
8.79

pH	T	µS	TDS	
7.55	54	635	325	
7.50	55.7	568	285	
7.18	55.9	553	276	
7.34	55.5	549	274	clear

D-MW-2 former N. dispenser
18.72 TD
8.13 H_2O
9.59

pH	T	µS	TDS
7.32	54.1	736	367
7.64	55.2	706	353
7.74	55.4	870	433

well went dry during groundwater sampling; had to turn pump on & off.

D-Geo-2 14:20

1/2" PVC placed in hole for over 1 hr. moisture on bottom but not enough to sample groundwater.

D-Geo-1

Completed as a well. 15-16' TD 1" PVC .010 slot screen 10-20 sand bentonite, concrete cap.

D-Geo-3 15:10

0-4' fill: gravel & red brown silty sand w/ gravel.

4-8' fill to 8' 80%
silty sand @ 8'
v. strong petroleum odor; dk gray.

8-12' silty sand w/ gravel
red brown change to red gray @ 10.5'.
Collected sample 10.5' to 12'
strong odor at 10.5 to 12'
no odor 8-10.5'

12-16 silty sand at 12'-13'
wet, red gray silty sand
strong odor appears ~~more~~
med-grained (larger grained) at 14' to 16'.

H_2O @ 12'

D-Geo-2 12-15' split spoon
sampled @ 15' (grab)
appears to be a lense
of contaminated soil at 12-13'
then med-brown fine sand w/ gravel
from 13-15' with some odor.
Lense @ 12-13' and 15' is
med gray color.
strong petroleum odor in gray
soil.
Gray soil does not appear to be
larger grained than the rest
of the split spoon.

D-Geo-2 14-17

50% recovery med gray
at 15' to darker gray at 17'
dense fine to med. grained
strong petroleum odor,
sweet smell at 15' ketones?
this sample may be a
saturated soil sample.

D-Geo-1

0-4' fill; med brown
silty sand w/ gravel
50% rec.
no odor.

4-8' fill, broken gravel,
silty sand, mixed
color med gray & med. brown
50% rec
no odor

8-12' 100%
mixed dense silty clay
med. gray some odor, med brown
silty sand v. slight odor.

12-15' split spoon. 80% rec.
med to dk gray silty
sand; damp
strong petroleum odor.

13.5-16.5 split spoon. appears 75%
strong odor saturated, setting mini-well bottom
@ 16.5'

D-Geo-6

0-4 gravel silty sandy fill
fill, mixed color
dk. brown, red brown
1" charcoal @ 3.5' 100% rec.

4-8 Concrete fill
5-7' 7-8' silty
red. brown sand. 100% rec.

10' by, diesel/gasoline-contaminated
dk. grey. soil; v. strong odor
Collected sample 10-10.5' for
PID

Diesel/Gas odor less intense to 10.5
to 12, but still present.

Sand lense 10-10.5' appeared
more large-grained than
overlying and underlying soil.

Diesel/Gasoline contaminated soil is
red-gray - overlying soil red. brown.
H2O @ 9'

Photo #100-0840 D-Geo-2

D-Geo-2 SE corner
2nd (southern) storage
area
Using tractor-mounted geoprobe.

0-4' gravel fill w/ large
broken (1.5") rock stone,
no odor. 25% recovery

4-8' fill, more clay 90%
from 6-8' rec.
red brown silty sand
w/ gravel

8-12' red brown fine sand
9-10' 90%
more clay 10-11.5' rec.
rust staining @ 11'; distinct change
to gray silty sand 11.5' strong odor

2/8/03 Bridgeway Property

8:00 Arrive on site.
Meet with Cascade crew.
Conduct H&S Meeting
8:20 Taking well measurements.
MW- : 8.35 ft to TOC
8:50 Beginning drilling on D-MW-1.
9:20 Beginning construction of D-MW-1.
10:00a Moving onto D-MW-3
10:30a Hard drilling. Sampler spoon broken. ~8 ft.
Shoe in hole. Drillers hoping to drill past.
Sampler shoe left in hole.
11:35a Setting up on D-MW-2.
11:45a Noted darkness of shallow soil cuttings, and
PID reading of 2.6 in ambient atmosphere
@ 5-6.5 ft 4.3 ambient
PID ~870 in bagged sample
12:15p Constructing D-MW-2
PID in ambient atmosphere of 2.0-3.0
at borehole 50.0-73.0
Advising caution to drill crew.
12:50 Setting up on D-MW-5.
Crew takes lunch break.
1:20p Resuming drilling on D-MW-5.

2/8/03 Cont'd

2:35p Setting up mobile rig indoors on D-MW-4.
3:40p Refusal on D-MW-4. 8.5 ft bgs.
Raising augers reveals concrete dust on bit.
Probably on old slab.
John says to keep trying to break through.
Crew says they will try, but will not risk breaking rig.
4:10p Encountering what again appears to be a concrete slab at 10.5 ft bgs.
Attempting to break through as before.
4:30p HSA rig unable to break slab.
Will set up GeoProbe on D-MW-4 and see if we can break it. If so, we will set a "mini-well".
4:55p GeoProbe begins hammering at approximately 12 ft. bgs.
5:00p Progress! Hammer advances.
5:30p Setting well.
5:45p Departing site

2/11/03 @ 2:30p - 3:00p
Bridgeway Property - DTW measurements.
D-MW-3: 10.70'
~~D-MW-4~~: 12.40' - odor
~~D-MW~~: 12.87' ~~odor~~
D-Geo-1
D-MW-5: 12.21'

2/13/03 Bridgeway Property
9:50a Arrive on site.
Open D-MW-1. DTW measurement.
10:10a Surging well with bailer.
10:15a Odor noted in D-MW-1, but no product detected by sight.
10:30a Begin purging
10:35a Problem with trash pump. Retrieving a replacement.
10:50a Departing site without purging or sampling.

2/17/03
11:45 Open D-MW-5
11:50 Surging well with bailer.
12:10p Begin purging well.
Removed ~4 gal.

Well	DTW (ToC)	Temp °F	µS	Turb	pH
D-MW-1	11.25'	(Measurement taken on 2/13/03)			
D-MW-5 (2/17/03)	10.30	58.6	383	192	~~7.0~~ 6.77
D-MW-4 (2/17/03)	12.15	54.5	512	~~512~~ 253	6.89
D-Geo-1 (2/17/03)	12.75'	54.9	6	322	6.99

2/17/03 (Cont'd)
1:00p Moving to D-MW-4.
1:30 Begin purging with peristaltic pump. Strong odor. Purge ~3 gal.
1:40p Sampling D-MW-4.
2:15p Moving to D-Geo-1. Strong odor.
2:30p Sampling D-Geo-1 after purging ~3 gal.
3:00p Existing MW DTW Measurements
3:05 MW-1: 6.50'
3:10 MW-2: 6.25'
3:15 MW-3: 8.60'
3:20 MW-4: 9.67'
3:25 MW-5: 11.85'

Boring/Well Name D-MW-1 Page 1 of 1

PE/RG John Kme

Hand Augered to — Total Depth 20

Date Started 2/4/03

Date Completed 2/4/03

Well Development Date (yield)

Ground Surface Elevation

Top of Casing Elevation

Screened Interval 5-20

Depth to water (first encountered) 10.5'

Depth to water (static)

Located

Client Name

Job/Site Name Bridgeway

Location

Project Number

Driller Cascade Drilling

Drilling Method HSA

Boring Diameter 8"

Logged by IY

Depth/Sample Interval	Time	Sample ID	PID/Odor	Well Construction	USC Class	Soil Type and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Percentages: Clay	Silt	Sand	Gravel	Plasticity	Estimated Permeability
0				Blank Conc.		Concrete to 3"									
	8:50					Sandy Gravelly Fill	Brown		Dry	–	10	70 fine	20 fine	–	H
										–	10	60 fine	30 fine	–	H
					SM	Silty Sandy Fill	Brown		Moist	5	35	55 fine			
5	9:00	D-MW-1-5-6.5	0		SW	Sandy Fill	Brown	8 12 8 8	Dry	–	–	80 fine	20 fine	–	H
	9:15	D-MW-1-9-9.5	0		SM	Silty Sand	Mottled Brown/Gray	13 13 15 20	Moist	5	30	60		–	M
10			0		ML	Sandy Silt Some fine gravel	Light Gray	22 P	Moist	10	60	30	–		M
			0		SM	Silty Sand	Dk Gray	20 19	Wet	10	30	60	–	S	M
15			0		SW	Gravelly Sand	Brown/Gray		Wet	–	15	55 fine	30 fine	–	H
					SW	Sand	Gray		Wet	–	5	90 fine	5 fine	–	H
20															
5															
0															

O:\SPECIALTY FIGURES\BORING-SHEET.AI

Boring/Well Name D-MW-2 page 1 of 1
PE/RG John Kana
Hand Augered to — Total Depth 20
Date Started 2/5/03
Date Completed 2/8/03
Well Development Date (yield)
Ground Surface Elevation
Top of Casing Elevation
Screened Interval
Depth to water (first encountered) 7.75'
Depth to water (static)
Located

Client Name
Job/Site Name Bridge Way
Location
Project Number
Driller Cascade Drilling
Drilling Method HSA
Boring Diameter 8"
Logged by IY

Depth/Sample Interval	Time	Sample ID	PID/Odor	Well Construction	USC Class	Soil Type and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Percentages: Clay	Silt	Sand	Gravel	Plasticity	Estimated Permeability
0				Concrete		Concrete to 3"									
	11:35		0	Bent. Cement	SP	Sandy Fill	Dark Brown		Dry	-	25	70 m-c	5 f-c	-	H
			2.6			Sandy Gravelly Fill slight hydrocarbon odor	Dark Grey/ Black		Dry	-	20	60 m-c	20 f-c	-	H
										-	20	65 f-m	15 f-m	-	H
5															
	11:45	D-MW-2 5-6.5	4.3 870		SP	Sand {Green Staining @ 6.25-6.5 {Smudge on side of sample	Dark Grey	10 14 20 D	Moist Damp/Wet	-	10	85 f-m	5 f-c	-	H
					SW	Saturated sample cobble in sampler	Brown Grey	21 46 50/6	Wet	-	5	95 c	-	-	H
10															
				#10	SW	Occasional coarse gravel or cobbles	Dull Grey					95 m-c	5 m-c		
15															
20															
5															
0															

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Boring/Well Name D-MW-3 page 1 of 1
PE/RG John Kane
Hand Augered to — Total Depth 20
Date Started 2/8/03
Date Completed 2/8/03
Well Development Date (yield)
Ground Surface Elevation
Top of Casing Elevation
Screened Interval 5-20
Depth to water (first encountered) 11.0 ft
Depth to water (static)
Located

Client Name
Job/Site Name Bridge Way
Location
Project Number
Driller Cascade Drilling
Drilling Method HSA
Boring Diameter 8"
Logged by IY

Depth/Sample Interval	Time	Sample ID	PID/Odor	Well Construction	USC Class	Soil Type and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Percentages Clay	Silt	Sand	Gravel	Plasticity	Estimated Permeability
0				Concrete		Concrete to 6"									
	10:00			Blank	SP	Sandy Silty Fill Basecock Fill	Brown		Dry	–	35	60 F-m	5	–	H
							Dark Brown		Dry	–	30	60 F-m	10 f	–	H
5	10:20	D-MW-5-6.5	0			Cobble in sampler Asphalt in sample Perched water at 5.5 – very little		7 7	Damp						
					ML	Sandy Silt Some charcoal in sample Baserock / Broke sample spoon		20 30 50/6		10	50	40 F-m	–	–	M
						No sample available		?							
10				.010 / #2/12	ML	Sandy Silt	Dark Brown	50	Damp	10	50	40	–	–	M
					SP	Gravelly Sand	Gray	20	Wet	–	10	55 m	35 f-m	–	H
					SW	Sand	Orange/Brown	35		–	5	95 m	–	–	H
15			0		SW	Sand	Gray		Wet	–	5	95 m	–	–	H
20															
25															
30															

Boring/Well Name D-MW-4 Page 1 of 1
PE/RG John Kane
Hand Augered to — Total Depth 16
Date Started 2/8/03
Date Completed 2/8/03
Well Development Date (yield)
Ground Surface Elevation
Top of Casing Elevation
Screened Interval
Depth to water (first encountered)
Depth to water (static)
Located

Client Name
Job/Site Name Bridge Way
Location
Project Number
Driller Cascade Drilling
Drilling Method HSA / GeoProbe (from 12-16)
Boring Diameter 8" / 2" (from 12-16)
Logged by IV

Depth/Sample Interval	Time	Sample ID	PID/Odor	Well Construction	USC Class	Soil Type and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Percentages: Clay	Silt	Sand	Gravel	Plasticity	Estimated Permeability
0				Concrete		Concrete to 6"									
	3:00p			Bent	SP	Sandy Gravelly Fill	Brown		Dry	—	10	f-m 70	m-c 20	—	H
				Blank		@ 3.5 ft small cobbles on auger					10	f-m 60	m-c 30	—	H
5	3:20p	D-MW-H 5-6.5	0				Grayish brown	6 12 14	Dry	—	5	f-m 70	f-c 25	—	H
					SW	Sand trace fine gravel	Tan	10 14		—	5	f 95		—	H
	3:25p				SP	Silty Sand (extremely rocky) concrete slab?	DK Brown	18	Dry	—	35	f 65	—	—	M
						Concrete	DK Brown	30 29							
10	3:55p		6.2	.010 Slot #10/20	SP	Sandy Gravel very compact matrix	Grey	30 5 20	Damp	—	10	m-c 40	f-c 50	—	H
	4:10p				ML	Sandy Silt w/ gravel concrete slab?	Bluish Grey	39	Damp	—	55	40 f	5 f		
15						?									
						Strong odor at 15.5'									
20															
25															
30															

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Boring/Well Name D-MW-5 page 1 of 1
PE/RG John Hess
Hand Augered to — Total Depth 20
Date Started 2/6/03
Date Completed 2/6/03
Well Development Date (yield)
Ground Surface Elevation
Top of Casing Elevation
Screened Interval
Depth to water (first encountered) 11.5
Depth to water (static)
Located

Client Name
Job/Site Name Bridge Way
Location
Project Number
Driller Cascade Drilling
Drilling Method HSA
Boring Diameter 8"
Logged by JY

Depth/Sample Interval	Time	Sample ID	PID/Odor	Well Construction	USC Class	Soil Type and Comments	Color	Penetration Resistance / Blow Counts	Moisture	Percentages: Clay	Silt	Sand	Gravel	Plasticity	Estimated Permeability
0	12:55			Concrete	SW	Concrete to 5" Sandy Fill	Dull Brown		Dry	—	20	75 fm	5 fm	-	H
5	1:25	D-MW-5 5-6.5	0	Bent.	SM	Silty Sand	Brown	6 5 5 7	Dry	—	35	65 f	—	-	M
	1:30		0		SW	Sand trace fine gravel	Orange Brown	10 15 10	Dry	-	10	90 fm	—	-	H
	1:35		0		SW		Orange Tan	10 10 10 10		—	10	90 f	—	—	H
10	1:40	D-MW-5 9.5-11	0	#2/12	SW	Thin bands of black sand Trace silt	Tan	21 25	Damp	—	—	100 fm	—	-	H
	1:45		0		SP	Thin bands of black sand Gravelly Sand	Tan	21 50/6	Wet	—	—	75 c	25 fm	-	H
15															
20															
25															
30															

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Underground Detection
Services, Corp.

PO Box 5634
Bellevue, WA 98006

425/747-8804, tel
206/282-1866, tel
206/286-9889, fax

Feburary 15, 2003

John Kane
Kane Environmental
3831 Stone Way Ave N
Seattle, WA 98103-8005

Dear John:

This is a report on the equipment, procedures, and results of the geophysical survey performed at 3876 Bridgeway Avenue N. in Seattle, Washington. The survey was executed on Feburary 8, 2003.

The purpose of the survey was to determine if UST's existed on the site.

The equipment used for the survey included but was not limited to a Schonstedt GA-52 magnetic locator, GSSI Gem-300 multi-frequency electromagnetic (EM) profiler, a GSSI Sir System 2000 ground penetrating radar (GPR) with a 400 MHz antenna, and a MetroTech 810 pipe and cable locator.

The magnetic locator measures the magnetic field simultaneously from two separate elevations within the same piece of equipment. A high pitch sound is emitted from the equipment when in the proximity of ferrous material. The equipment is carried over the survey area and swung back and forth to cover as much area as possible in a reasonable time frame.

The EM produces a sinusoidal signal that is transmitted into the subsurface. This transmitted signal induces a flow of electrical current into the soil. These currents in turn induce a secondary electromagnetic field. The presence or absence of metallic objects and voids affects this secondary field. The secondary electromagnetic field is measured, collected, interpreted and stored for later processing.

The EM was initially set up to record 4 separate frequencies for the survey, from 330Hz to 19950Hz in the continuous survey mode. The multiple frequencies allow for variable depth measurements. The lower the frequency, 330Hz, the greater the depth penetration of the frequency. The higher the frequency, 19950Hz, the more shallow the depth penetration of the frequency. The continuous survey mode was set up to generate the frequencies every ½ second.

Underground Detection Services, Corp.

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Bellevue, WA 98006

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Each frequency is made up of two components, in-phase (I) and quadrature (Q). The in-phase response is typically high with metallic conductors while the quadrature response is typically high with non-metallic conductors. The grid maps are color-coded for easy interpretation. The green areas represent neutral readings, while the red areas represent high readings and possible anomalies. The grid maps are set in feet.

The GPR utilizes high frequency radio waves to probe the subsurface. A radio wave is emitted from the antenna and travels through the soil, if there is an anomaly below the antenna; the radio wave is reflected back. The data that is collected is displayed in real-time through a color display. Printouts can be available after processing on a desktop computer.

The data that is produced is a cross section of the geology directly below the antenna. The top of the data represents the ground surface while the bottom of the page is a reading depth of the equipment. The data is collected and displayed from left to right, with left being the beginning and right being the end of the particular survey line. Anomalies typically appear white on a color screen.

The depth of the signal penetration is dependent upon geological factors beyond the control of the surveyor. Conductive soils, clays, and saturated soils, do not allow the GPR signal to penetrate as deeply as resistive soils, sandy soil.

The EM was not used on this site due to the work was to be performed inside the structure. The GPR was used on an area inside the building.

The grid set for the antenna of the GPR to pass over was 24' x 16'. The antenna was pulled both in an east and south direction. No anomalies were indicated during the survey.

A survey was also performed for any private utilities on the site. Lines were indicated. Inaccessibility to sewer and drains provided less than accurate locate

If you have any questions, please feel free to call.

Respectfully,

Kemp Garcia

Attachment D

Photographs

Photo 1. Bridgeway building looking south across Bridge Way North.

Photo 2. Auger rig drilling at D-MW-3 on the Bridgeway property.

Photo 3. Limited access auger rig drilling at D-MW-4 inside the Bridgeway building.

Photo 4. Limited access Geoprobe rig drilling at location D-GEO-2 inside the Bridgeway building.