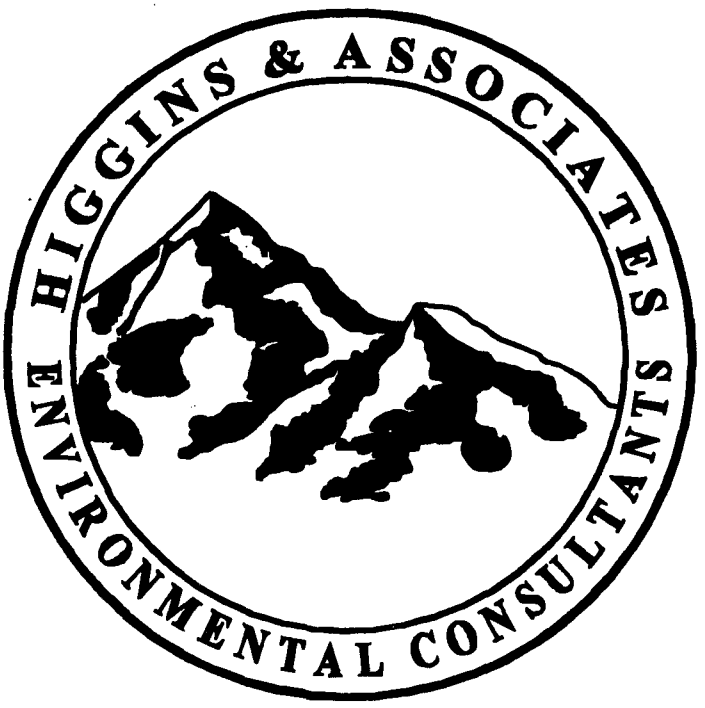
AP - 015

STAGE 1 & 2 REPORTS

DATE: July 5, 2000



Comprehensive Report
for
Groundwater Abatement Plan

East Hobbs Junction Site
Phillips Pipe Line Company

July 5, 2000

Prepared For:

Mr. Anthony "Tony" C. Walker
Staff Environmental Scientist
Phillips Pipe Line Company
3B11 Adams Building
Bartlesville, Oklahoma 74004

Prepared By:

Higgins and Associates, L.L.C.
9940 East Costilla Avenue
Suite B
Englewood, Colorado 80112

Higgins and Associates, LLC

July 5, 2000

Mr. Anthony "Tony" C. Walker
Staff Environmental Scientist
Phillips Pipe Line Company
3B11 Adams Building
Bartlesville, Oklahoma 74004

RE: Comprehensive Report for Groundwater Abatement Plan
East Hobbs Junction
Phillips Pipe Line Company
Hobbs, New Mexico

Dear Mr. Walker:

Higgins and Associates, L.L.C. (Higgins and Associates) has prepared the following Comprehensive Report for assessment activities conducted at the East Hobbs Junction Site located in Hobbs, New Mexico. The above referenced report documents the completion of the scope of work outlined in the Stage I Abatement Plan dated August 25, 1999 as per the New Mexico Oil Conservation Division (OCD) Rule 19.E.3 for conducting assessment activities plus the additional drilling events which were necessary for definition of the petroleum impacts.

Higgins and Associates is pleased to provide environmental consulting services for Phillips Pipe Line Company. If you have any questions or comments regarding the following report please call me at (303) 708-9846.

Sincerely,
Higgins and Associates, L.L.C.

Chris Higgins
NMUSTB Certified Scientist #234
President

9940 East Costilla Avenue, Suite B • Englewood, Colorado 80112
Phone 303-708-9846 • Fax 303-708-9848

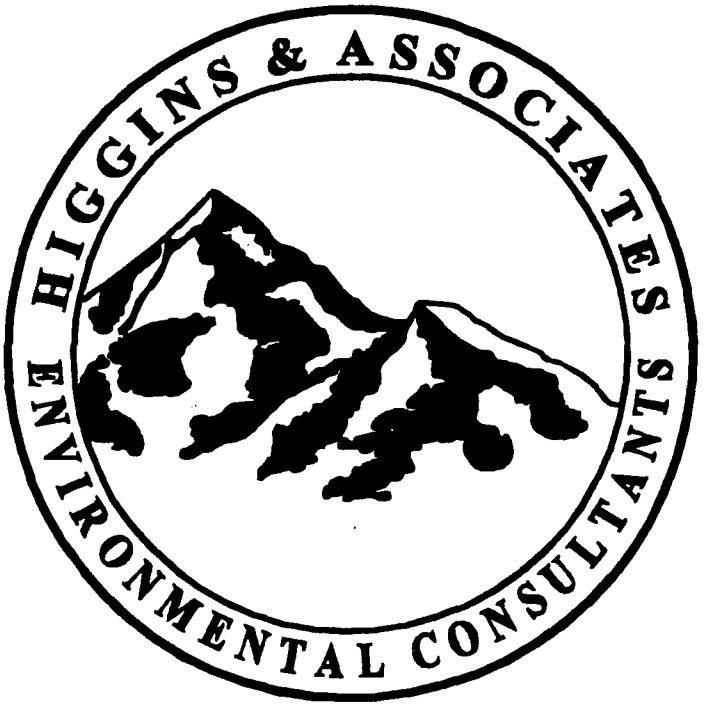


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Table of Contents

1.0 Project Background

The subject site is located in Unit N, NE 1/4, NE 1/4, Section 8, Township 19 South, Range 68 East, N.M.P.M., Lea County, New Mexico. The property on which the release occurred is largely undeveloped arid land. The primary land use is grazing land for cattle. There are no surface bodies of water within 0.5 miles of the site. Several pipelines and crude oil production wells are located near the pipeline release.

On March 23, 1999, Phillips personnel discovered a release of unrefined petroleum products (crude oil) associated with a local well field gathering pipeline system located near the town of Hobbs, New Mexico. This area consists of several gathering lines which meet in one locality. The failed line was a six inch diameter line which was not in service but open to the main line. The line leak was noted by the detection of oil impacts on the ground surface in the area of the release. The quantity of crude oil released is not known.

Phillips excavated approximately 200 cubic yards of petroleum impacted soil from around and below the release location. The limits of the excavation were approximately 10 feet wide by 60 feet long and averaged approximately 6-8 feet deep with the deepest extent around 12 feet. Excavation activities were halted because of other active petroleum pipelines present in the area and the presence of petroleum impacts in the bottom and side walls of the excavation.

On April 27, 1999, Higgins and Associates personnel supervised the installation of three soil borings to 40 feet to investigate for the presence of liquid phase hydrocarbons (LPH). The borings were located to the north and south of the excavation. Groundwater was thought to be encountered at approximately 27 feet. Based upon the soil analytical results of the soil borings, monitoring wells were installed and completed on July 12, 1999. Approximately 3 feet of crude oil was detected on the water table in each monitoring well.

Phillips initiated a LPH recovery program from the three monitoring wells on July 19, 1999. The program consisted of bailing the LPH everyday for one week utilizing a bailer. Approximately 54 gallons of LPH were recovered.

Based on the presence of petroleum impacts in the three wells, additional assessment activities were conducted to complete the definition of the vertical and horizontal extent of petroleum impacts. This report summaries the activities and results of the assessment activities conducted.

2.0 Stage I Abatement Implementation

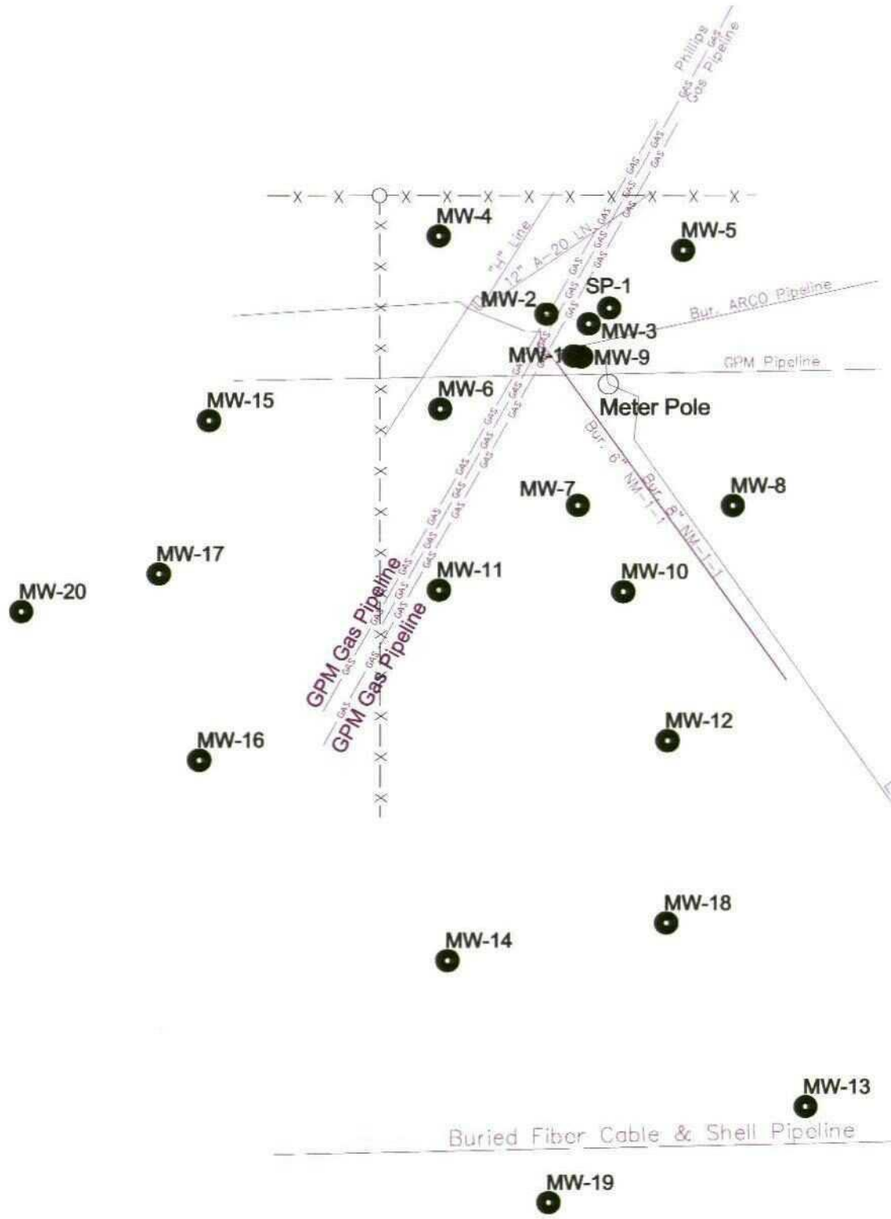
2.1 Drilling Activities

Three drilling events were conducted to define the extent of petroleum impacts. The first event occurred on January 11, 2000 through January 12, 2000 and consisted of the drilling and installation of monitoring wells MW-4 through MW-10. The second drilling event occurred on April 6, 2000 and consisted of the installation of monitoring wells MW-11 and MW-12. The third drilling event occurred on May 30, 2000 through June 01, 2000 and consisted of the installation of wells MW-13 through MW-20 and well SP-1. The drilling activities were accomplished utilizing a truck mounted air rotary drill rig. Figure 1 illustrates the monitoring well locations.

Grab soil samples were collected at a minimum of five foot intervals. The samples were split into representative portions. One sample was placed in an appropriate laboratory container and placed on ice for possible analysis. The remaining portion of the sample was screened with a photoionization detector (PID). One to two soil samples from each boring (except SP-1) were submitted for laboratory analysis of benzene, toluene, ethlybenzene, and total xylenes (BTEX) by EPA Method 8021, and total petroleum hydrocarbons (TPH) by EPA Method 8015 Modified. The soil samples were shipped or transported on ice to a certified New Mexico laboratory under chain-of-custody.

Monitoring wells MW-4 through MW-8 and MW-10 through MW-20 were constructed to depths ranging from 30 to 35 feet utilizing 2-inch diameter schedule 40 PVC screen and casing. A minimum of 15 feet of 0.020 inch slot screen was utilized in the construction of wells MW-4 through MW-20. Three feet of screen was utilized in the construction of well SP-1. The annulus of each well was backfilled with 10/20 silica sand to 0.5 to two feet above the screen. Bentonite and cement was placed above the sand pack in the well annulus. A locking steel protective riser was installed on each monitoring well to a height of three feet above ground surface. Each well was fitted with a J-plug water tight cap and secured with a brass lock. Monitoring well MW-9 was constructed as above except that 4-inch diameter well materials were utilized. Well logs depicting the well construction details are included in Appendix A.

Following installation, each well absent of liquid phase hydrocarbons (LPH) was developed by bailing and surging with a bailer.



LEGEND

MW-1 ● Monitor Well

N

0 200 400

Scale (ft)

HIGGINS AND ASSOCIATES, L.L.C.

Project No.:	Date Map Generated: 7/5/00	Date Data Collected:	Figure No. 1

Authored: CH	Title: SITE MAP
Checked: CH	Client: Phillips Pipe Line
Detailed: ML	ACAD File: \571-17\SITEplan.DWG
	Location: East Hobbs Junction New Mexico

2.2 Groundwater Monitoring and Sampling

Three groundwater sampling events have been conducted at the site. The first sampling event occurred on January 13, 2000 and consisted of wells MW-4 through MW-6, MW-8, and MW-10. The second sampling event was conducted on April 6, 2000 and consisted of the above wells plus MW-11 and MW-12. The latest sampling event occurred on June 2, 2000 and consisted of wells MW-13 through MW-20 and SP-1. Prior to collection of groundwater samples, a minimum of three well volumes of groundwater were purged from each well with a bailer. The groundwater samples were analyzed for BTEX by EPA Method 8021, TPH by EPA Method 8015 Modified and chloride. Groundwater samples from monitoring wells MW-4, MW-5, MW-6, MW-8, and MW-10 were also analyzed for polyaromatic hydrocarbons (PAHs) by EPA Method 8270, heavy metals (including uranium) by EPA Method 6010/6020, alkalinity, chloride, fluoride, sulfate, and total dissolved solids by EPA series 300, bromide by method 4500B, and mercury by EPA Method 7470. The groundwater samples were placed on ice and shipped or transported under chain-of-custody to a certified New Mexico laboratory. The results of the groundwater analytical data will be discussed later in this report.

Industry accepted standard operating practices were followed for all field activities to insure the quality of the data obtained. A quality assurance plan was presented to Phillips Pipe Line Company and the OCD in the Stage I Abatement Plan dated August 25, 1999.

2.3 Rising Head Permeability Tests

On January 13, 2000, rising head permeability tests (slug out tests) were conducted in wells MW-4, MW-5, and MW-6. The tests were conducted by instantaneous removal of a volume of water from the wells and measuring the rate of groundwater recharge into the well. The rate of groundwater recharge was measured using a data logger connected to a transducer probe deployed in the wells. The data was evaluated using the Graphical Well Analysis Package (GWAP). The data from the slug out tests will be discussed in the Hydrogeology section of this report.

2.4 Surveying

The monitoring wells were surveyed for locations and elevations by a New Mexico licensed surveyor. The survey provides data which is used to create the groundwater potentiometric surface map.

3.0 Geology and Hydrogeology

3.1 Regional Setting

The regional geology surrounding the site is alluvium (unconsolidated) overlaying the Ogalalla Formation. The Ogalalla is also known as the High Plains aquifer which extends north to south from South Dakota to New Mexico and Texas. The Ogalalla was formed during the formation of the Rocky Mountains (Larimide orogeny - late Cretaceous to end of Paleocene). The Ogalalla Formation primarily consists of outwash alluvium deposited by the streams draining the newly formed Rocky Mountains. Caliche deposits are encountered in those areas considered under semiarid to arid conditions. The caliche was (and continues to be) formed as a result of the vertical movement of water through the unconsolidated alluvium from rainfall recharge (downward) and evaporation (upward). The calcium carbonate and/or calcium sulfate forms out of solution and creates a cementation effect. The origin of the calcareous material is either eolian (wind blown dust) or eroded limestone within the alluvium of the Ogalalla.

The hydrogeology of the Ogalalla aquifer can vary tremendously on a relatively small scale due to the wide grain-size distribution of the alluvial sediments. The regional water table slopes from west to east. The saturated thickness of the Ogalalla ranges from 0 feet to the west to upwards of 1,000 feet to the east. In the area of Hobbs, New Mexico, the saturated thickness may be 10 to 150 feet. Depth to groundwater is shallower to the west and gradually gets deeper to the east. Aquifer recharge is primarily rainfall; aquifer discharge is a combination of streams or springs and evapotranspiration.

3.2 Local Setting

Based on information obtained from the drilling activities, the site specific geology consists primarily of caliche mixed with sands, limestone and some gravel. The caliche was encountered from ground surface to approximately 6 to 15 feet below ground surface. The sands and gravels were encountered below the caliche to total depth. The drilling logs for each well are in Appendix A for reference.

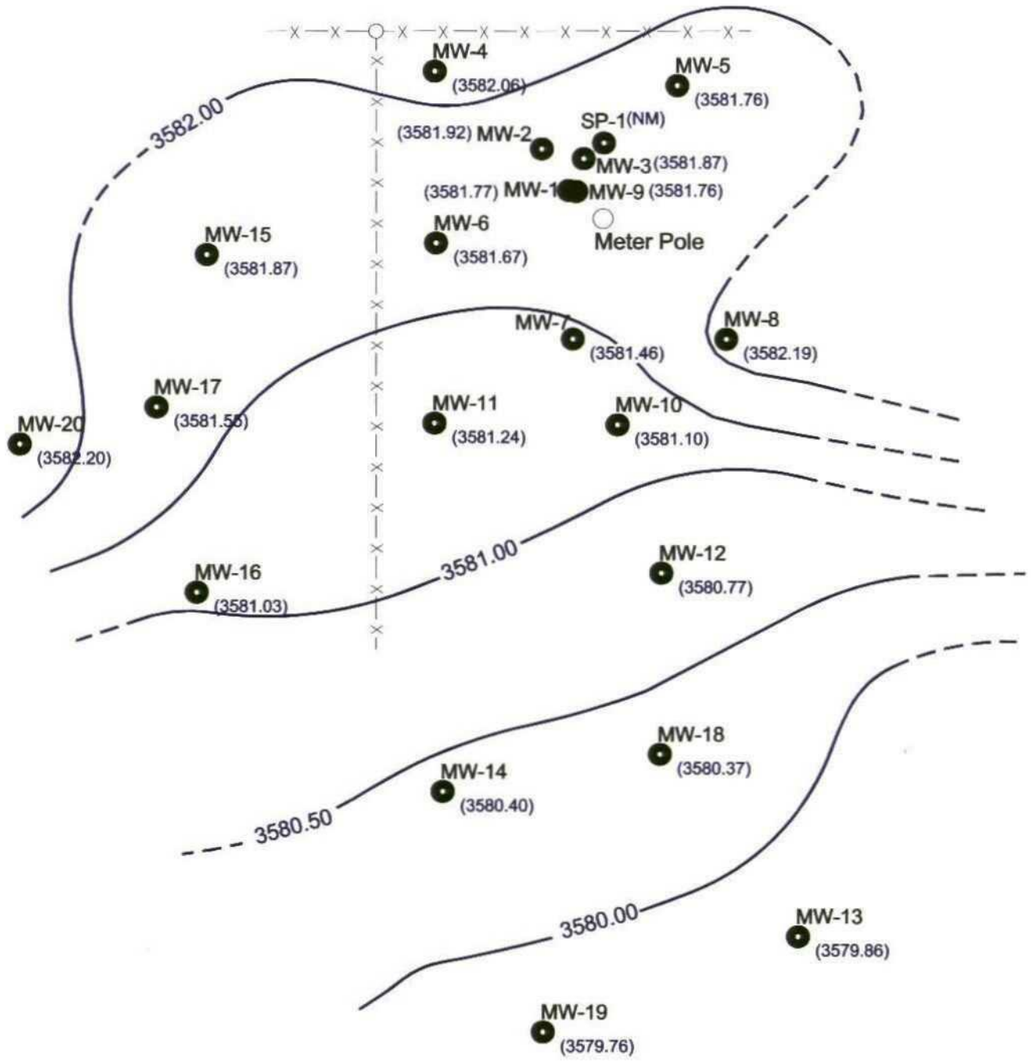
All monitoring wells at the site were gauged for depth to groundwater/depth to product on June 1, 2000. Groundwater was encountered in the monitoring wells at approximately 20 feet to 26 feet below ground surface. LPH was detected in monitoring wells MW-1, MW-2, MW-3, MW-7, and MW-9. A thin film of LPH was also noted in MW-6. The groundwater elevation and LPH thickness data for the April 6, 2000 and June 1, 2000 gauging events are included in Appendix B. Figure 2 depicts the groundwater potentiometric surface map for the June 1, 2000 data. The groundwater flow direction beneath the area is varied. The groundwater flow is predominantly to the south/southeast which is consistent with the regional groundwater flow direction. However in the northeastern portion of the site a southwest component of groundwater flow exists. In the western portion of the site a eastward component of flow exists. The groundwater gradient is approximately 0.002 ft/ft. Based on the rising head permeability test data from wells MW-4, MW-5, and MW-9, the site specific hydraulic conductivity ranges from 1.6×10^{-3} cm/sec to 4.2×10^{-3} cm/sec. Based on an estimated porosity of 30%, average hydraulic conductivity of 2.7×10^{-3} cm/sec, and a gradient of 0.002 ft/ft, the average linear groundwater velocity is approximately

18.62 feet per year. This data is consistent with the lithology encountered during the drilling activities. The test data is included in Appendix C.

3.3 Land Ownership and Well Records Search

A record search for area landownership and water wells within a minimum of 1 mile radius of the site was performed. The New Mexico registered wells are shown in the Baker Water Well record search.

There are 18 New Mexico registered wells within the search area. The installation dates are unknown. Some of the wells are designated domestic/stock or unused. Most of the wells are located upgradient of the project site and all the wells listed are outside the immediate area of the dissolved hydrocarbon plume. The Baker record search with associated maps are in Appendix D.



LEGEND

MW-1 ● Monitor Well

(3582.06) Groundwater Elevation (ft)

(NM) Not Measured

Contour Interval = 0.5 ft

N

0 200 400

Scale (ft)

HIGGINS AND ASSOCIATES, L.L.C.

Project No.:	Date Map Generated: 6/30/00	Date Data Collected: 6/1/00	Figure No. 2

Authored: CH	Title: GROUNDWATER POTENTIOMETRIC SURFACE PLAN
Checked: CH	
Detailed: ML	Client: Phillips Pipe Line
	ACAD File: \571-17\Figure2-7-00.DWG
	Location: East Hobbs Junction New Mexico

4.0 Hydrocarbon Distribution

The known phases of petroleum impacts associated with this site are adsorbed phase, dissolved phase, and liquid phase hydrocarbons. The lateral extent of petroleum impacts to the soil and groundwater have been defined. The following is a summary of each of these phases as defined by the assessment activities.

4.1 Adsorbed Phase Hydrocarbons

Petroleum impacts were apparent throughout the limits of the excavation from near surface to the total depth. Results of the Stage I assessment activities have detected petroleum hydrocarbon impacts exceeding the New Mexico action level of 100 mg/kg TPH for soil in borings for MW-1, MW-2, and MW-3. Soil for wells MW-9 and SP-1 were not submitted to the laboratory for analysis due their proximity to wells MW-1 and MW-3. The following table summarizes the soil analytical data during the assessment activities.

Table 1
Soil Analytical Results for East Hobbs Junction
Hobbs, New Mexico

All results reported in mg/kg.

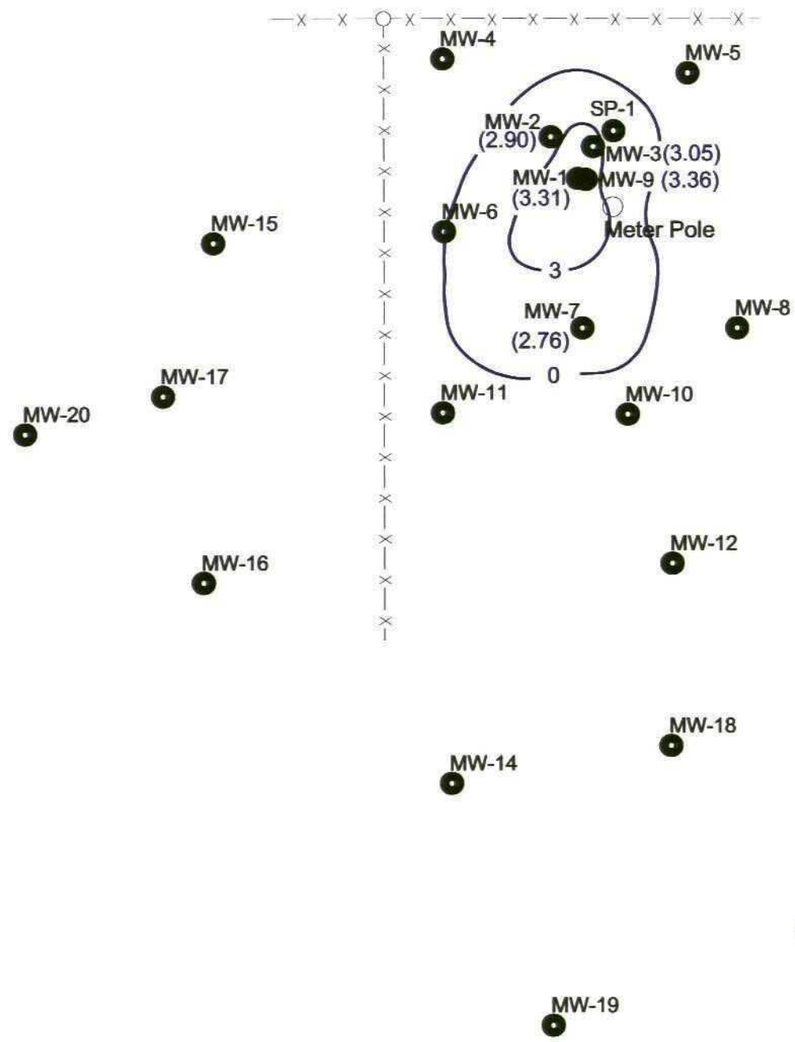
Well ID	Date	Depth (ft)	PID reading (ppmv)	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH
NM Action Levels			**100**	**10**				**100**
MW-1	04/27/99	22 - 24	264	0.071	1.202	1.014	3.487	5,420
MW-1	04/27/99	35 - 36	13	<0.002	0.008	0.007	0.024	372
MW-2	04/27/99	20 - 22	>2,000	0.082	1.589	1.369	5.002	7,930
MW-2	04/27/99	36 - 40	21	0.002	0.023	0.018	0.061	801
MW-3	04/27/99	18 - 20	>2,000	0.448	4.767	2.338	7.485	5,790
MW-3	04/27/99	36 - 38	12	<0.002	0.002	<0.002	0.006	293
MW-4	01/14/00	14 - 16	0.8	<0.025	<0.025	<0.025	<0.025	<10
MW-4	01/14/00	24 - 26	2.8	<0.025	<0.025	<0.025	<0.025	<10
MW-5	01/11/00	14 - 16	0.8	<0.025	<0.025	<0.025	<0.025	<10
MW-5	01/11/00	24 - 26	1.6	<0.025	<0.025	<0.025	<0.025	<10
MW-6	01/11/00	14 - 16	1.7	<0.025	<0.025	<0.025	<0.025	<10
MW-6	01/11/00	24 - 26	20	<0.025	<0.025	<0.025	<0.025	12
MW-7	01/12/00	14 - 16	1.1	<0.025	<0.025	<0.025	<0.025	<10

Well ID	Date	Depth (ft)	PID reading (ppmv)	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH
MW-7	01/12/00	24 - 26	177	<0.025	<0.025	<0.025	<0.025	32.7
MW-8	01/12/00	14 - 16	0.8	<0.025	<0.025	<0.025	<0.025	<10
MW-8	01/11/00	24 - 26	3.3	<0.025	<0.025	<0.025	<0.025	<10
MW-9	01/12/00	14 - 16	66	-	-	-	-	-
MW-9	01/12/00	24 - 26	462	-	-	-	-	-
MW-10	01/12/00	14 - 16	13	<0.025	<0.025	<0.025	<0.025	<10
MW-10	01/12/00	24 - 26	39	<0.025	<0.025	<0.025	<0.025	<10
MW-11	04/06/00	22	1	<0.002	<0.002	<0.002	<0.002	<9.8
MW-11	04/06/00	24 - 26	1.4	<0.002	<0.002	<0.002	<0.002	<9.8
MW-12	04/06/00	14 - 16	0	<0.002	<0.002	<0.002	<0.002	<9.9
MW-12	04/06/00	20 - 22	1.1	<0.002	<0.002	<0.002	<0.002	<9.7
MW-13	05/31/00	20-22	0	<0.002	<0.002	<0.002	<0.002	<9.9
MW-14	05/31/00	20-22	0	<0.002	<0.002	<0.002	<0.002	<9.8
MW-15	05/31/00	5	0	<0.002	<0.002	<0.002	<0.002	<9.8
MW-15	05/31/00	24-26	37	<0.002	<0.002	<0.002	<0.002	<9.7
MW-15	05/31/00	28-30	68	<0.002	<0.002	<0.002	<0.002	<9.8
MW-16	05/31/00	20-22	0	<0.002	<0.002	<0.002	<0.002	<9.7
MW-17	06/01/00	22-24	0	<0.002	<0.002	<0.002	<0.002	<9.9
MW-18	06/01/00	22-24	0	<0.002	<0.002	<0.002	<0.002	<9.9
MW-19	06/01/00	20-22	0	<0.002	<0.002	<0.002	<0.002	<9.8
MW-20	06/01/00	22-24	0	<0.002	<0.002	<0.002	<0.002	<9.9

The migration of petroleum appears to have limited lateral extent prior to reaching the water table. The analytical data shows soil impacts are defined to the north by MW-4, to the east by borings MW-5 and MW-8, to the south by MW-7 and MW-10, and to the west by MW-6. Away from the release area, the zone of hydrocarbon impact is isolated to the water table interface. The soil analytical data is included in Appendix E.

4.2 Liquid Phase Hydrocarbons

On June 1, 2000 liquid phase hydrocarbons (LPH) were detected in wells MW-1, MW-2, MW-3, MW-7, and MW-9. The LPH thickness ranged from 2.76 feet in MW-7 to 3.36 feet in MW-9. Figure 3 is an



LEGEND

MW-1 — Monitor Well

(3.31) — LPH Thickness

N

0 200 400

Scale (ft)

HIGGINS AND ASSOCIATES, L.L.C.

Project No.:	Date Map Generated: 6/30/00	Date Data Collected: 6/1/00	Figure No. 3

Authored: CH

Checked: CH

Detailed: ML

Title: APPARENT LPH THICKNESS MAP

Client: Phillips Pipe Line

Location: East Hobbs Junction New Mexico

ACAD File: \571-17\Figure4-7-00.DWG

isopleth map depicting the apparent LPH plume based on the June 1, 2000 gauging data.

4.3 Dissolved Phase Hydrocarbons

Three groundwater sampling events have been conducted at the site. The first sampling event occurred on January 13, 2000 and consisted of wells MW-4 through MW-6, MW-8, and MW-10. The second sampling event was conducted on April 6, 2000 and consisted of the above wells plus MW-11 and MW-12. The latest sampling event occurred on June 2, 2000 and consisted of wells MW-13 through MW-20 and SP-1. The following table summarizes the groundwater analytical data for BTEX and TPH during the assessment activities.

Table 2
Groundwater Analytical Results for East Hobbs Junction
Hobbs, New Mexico

All results reported in ug/L.

Well ID	Date	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH
NM Action Levels		**10**	**750**	**750**	**620**	
MW-4	01/13/00	<0.5	<0.5	<0.5	<0.5	<2,000
MW-4	04/06/00	**19**	0.83	1.2	3.2	<1,000
MW-5	01/13/00	<0.5	<0.5	<0.5	<0.5	<2,000
MW-5	04/06/00	<0.5	<0.5	<0.5	<2	<1,000
MW-6	01/13/00	**3,300**	**2,000**	240	580	<2,000
MW-6	04/06/00	**3,900**	**1,100**	270	540	<1,000
MW-8	01/13/00	<0.5	<0.5	<0.5	<0.5	<2,000
MW-8	04/06/00	<0.5	<0.5	<0.5	<2	<1,000
MW-10	01/13/00	**4,100**	490	440	**720**	<2,000
MW-10	04/06/00	**400**	53	66	98	<1,000
MW-11	04/06/00	**4,100**	**2,400**	290	420	1,600
MW-12	04/06/00	**2,000**	200	110	200	<1,200
MW-13	06/02/00	<0.5	<0.5	<0.5	<2.0	<1,000
MW-14	06/02/00	**370**	5.3	1.7	11	<1,000
MW-15	06/02/00	**830**	**770**	130	170	2,100
MW-16	06/02/00	0.94	0.96	21	6.9	<1,000
MW-17	06/02/00	<0.5	<0.5	<0.5	<2.0	<1,000

Well ID	Date	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH
MW-18	06/02/00	**600**	0.66	120	45	<1,000
MW-19	06/02/00	<0.5	<0.5	<0.5	<2.0	<1,000
MW-20	06/02/00	<0.5	<0.5	<0.5	<2.0	<1,000
SP-1	06/02/00	9.4	7.4	2.5	7	<1,000

As summarized in the above table, wells MW-4, MW-6, MW-10 through MW-12, MW-14, MW-15, and MW18 contain dissolved phase benzene above the New Mexico action level of 10 ug/l. Figure 4 is the Hydrocarbon Concentration Map which illustrates the lateral distribution of BTEX and TPH beneath the site. As illustrated by Figure 4, the lateral extent of petroleum hydrocarbon impacts have been defined. The dissolved phase impacts are defined to the north by MW-4, to the west/southwest by MW-16, MW-17, and MW-20, to the south by MW-19 and to the east/southeast by MW-8 and MW-13. Monitoring well MW-15 is located approximately 500 feet cross gradient of the release point near a GPM pipeline and a production well. Shallow petroleum impacts to soil were observed during the drilling of this well. The shallow impacts combined with the direction of groundwater flow in this area indicate that the petroleum impacts detected in this area may not be associated with the release from the Phillips pipeline. Well SP-1 was constructed to evaluate the vertical extent of petroleum impacts near the point of release. SP-1 is screened from 30.5 to 33.5 feet, which is representative of the groundwater approximately 10 feet into the saturated zone. The low levels of dissolved phase hydrocarbons detected in this well indicate that the vertical extent of dissolved phase hydrocarbons are isolated to the upper 10 feet of the saturated zone. The groundwater analytical data is included in Appendix E.

4.4 Dissolved Phase Polyaromatic Hydrocarbons

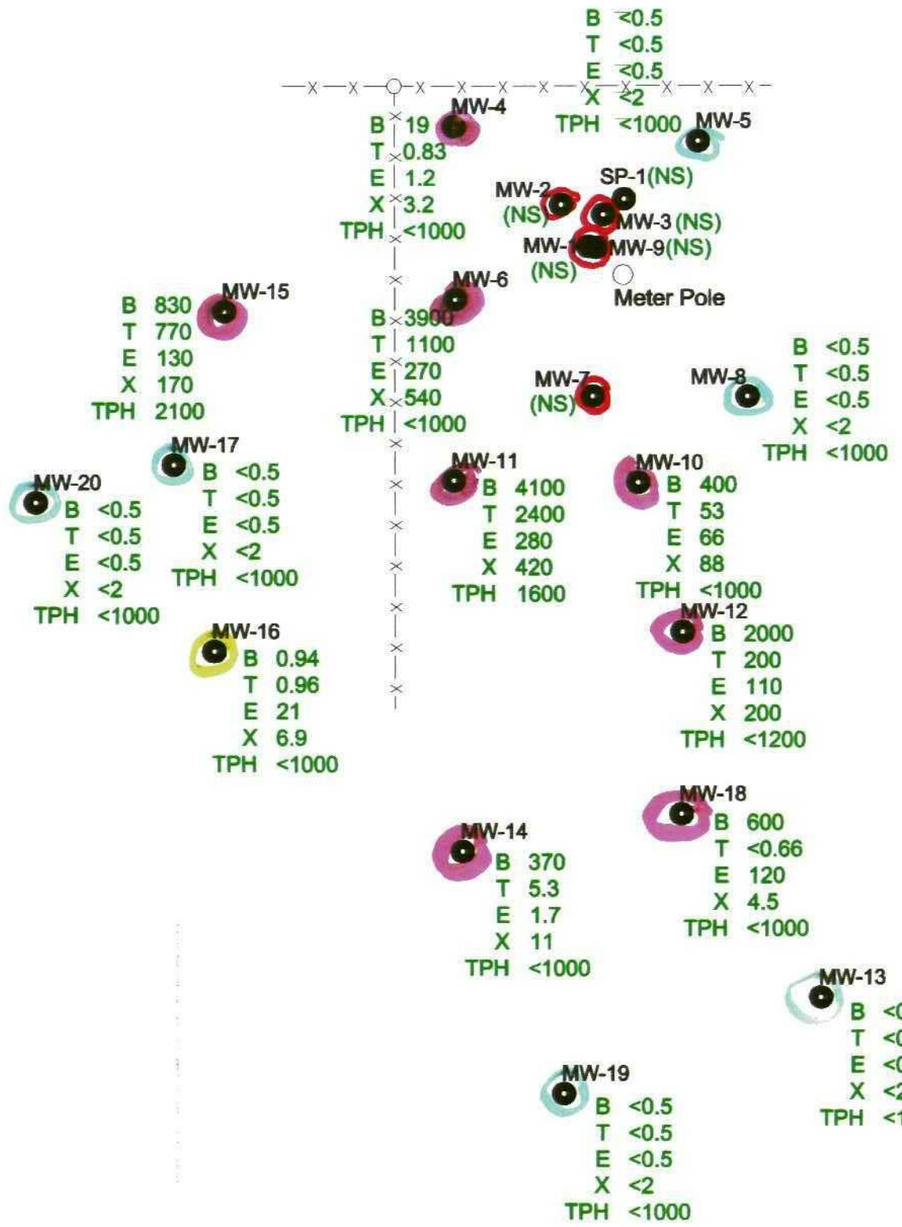
The groundwater samples from select wells (MW-4, MW-5, MW-6, MW-8, and MW-10) were analyzed for polyaromatic hydrocarbons (PAHs). PAHs were not detected in the above referenced wells. The analytical data is included in Appendix E.

4.5 Other Groundwater Analytical Data

The results of the groundwater analytical data other than the BTEX, TPH, and PAH data is summarized on the Inorganic Data Table in Appendix E. The analytical data presented on the table includes the major anion and cations, total dissolved solids (TDS), and the New Mexico Water Quality Control Commission (NMWQCC) metals. Included on the table are field measurements of pH and conductivity. Total dissolved solids ranged from 560 mg/L to 750 mg/L. Chloride ranged from 130 mg/L to 310 mg/L. The NMWQCC standard for groundwater <10,000 mg/L TDS for chloride is 250 mg/L.

Barium was detected above 1 mg/L for well MW-4 (2.89 mg/L) and MW-10 (5.48 mg/L). Well MW-4 is located upgradient of the release point and contains low levels of hydrocarbon impacts. Chromium was detected above 0.05 mg/L in well MW-4 (0.13 mg/L). Fluoride was detected above 1.6 mg/L for wells

MW-4 (2.3 mg/L), MW-5 (2.6 mg/L), and MW-8 (2.4 mg/L). No other analyte was detected above the NMWQCC standards for groundwater with TDS <10,000 mg/L.



LEGEND

MW-1 ● Monitor Well

B - Benzene
T - Toluene
E - Ethylbenzene
X - Xylenes
TPH - Total Petroleum Hydrocarbons

(NS) - Not Sampled

All results reported in µg/L.

N

0 200 400
Scale (ft)

HIGGINS AND ASSOCIATES, L.L.C.

Project No.:	Date Map Generated:	Date Data Collected:	Figure No.
	6/30/00	6/2/00	4

Authored	Checked	Detailed
CH	CH	DG

Title: HYDROCARBON CONCENTRATION MAP

Client: Phillips Pipe Line

ACAD File: \571-17\Figure5-7-00.DWG

Location: East Hobbs Junction New Mexico

5.0 Disposition of Wastes Generated

As reported in the project background section of this report, approximately 200 cubic yards of soil were excavated from the release area. With permission of the New Mexico Oil Commission Department (NMOCD) and the Texas Railroad Commission (TRC), the excavated soil was hauled off site and transported to Gaines County, Texas where it was used as road base material. All drill cuttings during well installation were spread out next to each well.

The crude oil removed from MW-1, MW-2, MW-3, and MW-9 is stored in 55-gallon drums. Once the drums are filled to capacity, the product will be pumped and hauled off to the Phillips Pipe Line - Gaines Pump Station.

6.0 Conclusions and Recommendations

- The migration of crude oil appears to have limited lateral migration prior to reaching the water table. Concentrations of adsorbed phase hydrocarbons appear to be isolated to the water table interface outside of the excavated area. The analytical data shows soil impacts are defined to the north by MW-4, to the south and east by borings MW-8 and MW-10, and to the west by MW-6.

- Measurable accumulations of liquid phase hydrocarbons have been detected in wells MW-1, MW-2, MW-3, MW-7, and MW-9. The LPH thickness on June 1,2000 ranged from 2.76 feet in MW-7 to 3.36 feet in MW-9. A thin film of LPH was also detected in MW-6. The LPH plume has been defined.

- The lateral extent of the dissolved phase hydrocarbons has been defined. The shallow impacts to soil observed during drilling MW-15, combined with the groundwater gradient indicate that the dissolved phase hydrocarbons in this well are not associated with the release of petroleum from the Phillips pipeline.

A Stage II Abatement Plan will be submitted outlining the proposed remedial approach for addressing the petroleum impacts associated with the Phillips Pipe Line release.

Appendix A

Drilling Logs

Lithologic/Drilling Log

Project Information	Well Information		Well Casing Interval:
Project: Hobbs (2)	Borehole completed as well? YES (NO)		Well Screen Interval:
Project Number:	Well Name: SB-1		Sand Pack Interval:
Location: E. Hobbs Tract	Total Depth: 38'		Bentonite Interval:
Date Drilled: 4/27/99	Borehole Diameter: 6"		Cement/Grout Interval:
Client: PPL	Well Elevation: —		
Rig/Core Type: air rotary	Water Level Initial: 36'		
Drilling Company: McDonald	Water Level Static: —		Comments/Notes:
Driller: T. McDonald	Well Type: PVC Sch 40		Backfilled with sand and bentonite chips
Drilling Method: Air rotary	PVC Sch 80		
Field Notes By: C. Jensen	Low Carbon Steel		
Time Start:	Well Diameter: 2 inch		Later re-drilled and Completed as MW-1
Time Stop:	4 inch		
	Other:		

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
4-6'	(Gravel) Sand	Gravelly Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	fine	(rounded)	loose (4-10)	soft (2-4)	plastic
6	Clay	Clayey	very well	medium	(subrounded)	(medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	subangular	dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	Caliche gravel %	(moderately)	(very coarse)	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	(poorly)	cobbles/boulders			hard (>30)	(dry)
2.5		%	very poorly					damp
NOTES: 0-4 topsoil, silt.								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
10-12'	(Gravel) Sand	Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	fine	rounded	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	(medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	subangular	(dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	%	moderately	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	poorly	cobbles/boulders			hard (>30)	(dry)
7.0		%	very poorly					damp
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
14-16'	(Gravel) Sand	Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	fine	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	subangular	(dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	(poorly)	cobbles/boulders			hard (>30)	(dry)
11.3		%	very poorly					damp
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
30-32'	(Gravel) Sand	Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	fine	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	subangular	(dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	(poorly)	cobbles/boulders			hard (>30)	(dry)
16.5		%	very poorly					damp
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
34-36'	(Gravel) Sand	Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	coarse	subangular	(dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	poorly	cobbles/boulders			hard (>30)	(dry)
26.4		%	very poorly					damp
NOTES:								moist
								wet
								saturated

Lithologic/Drilling Log

Project Information	Well Information	
Project: PPL/Hobbs(2)	Borehole completed as well? YES NO	Well Casing Interval:
Project Number:	Well Name: SB-1 continued.	Well Screen Interval:
Location:	Total Depth:	Sand Pack Interval:
Date Drilled: 4/27/99	Borehole Diameter:	Bentonite Interval:
Client:	Well Elevation:	Cement/Grout Interval:
Rig/Core Type:	Water Level Initial:	
Drilling Company:	Water Level Static:	Comments/Notes:
Driller:	Well Type: PVC Sch 40	
Drilling Method:	PVC Sch 80	
Field Notes By:	Low Carbon Steel	
Time Start:	Well Diameter: 2 inch	
Time Stop:	4 inch	
	Other:	

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
30-32	Gravel	Gravelly	TAN-White	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	**Sand**	Sandy	Sorting (sand/gravel)	**fine**	**rounded**	loose (4-10)	soft (2-4)	plastic
	Silt	**Silty**	very well	**medium**	**subrounded**	**medium dense (10-30)**	medium stiff (4-8)	slightly plastic
Blow Counts	Clay	Clayey	well	**coarse**	subangular	dense (30-50)	stiff (8-15)	nonplastic
—	Bedrock	Pebbly	**moderately**	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	(Weathered?) w	%	poorly	cobbles/boulders			hard (>30)	**dry**
47ppm	USCS: Caliche	%	very poorly					**damp**
NOTES:		%						**moist**
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
35-36'	Gravel	Gravelly	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	**Sand**	Sandy	Sorting (sand/gravel)	**fine**	**rounded**	loose (4-10)	soft (2-4)	plastic
	Silt	**Silty**	very well	medium	**subrounded**	**medium dense (10-30)**	medium stiff (4-8)	slightly plastic
Blow Counts	Clay	Clayey	well	**coarse**	subangular	dense (30-50)	stiff (8-15)	nonplastic
—	Bedrock	Pebbly	**moderately**	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	(Weathered?)	%	poorly	cobbles/boulders			hard (>30)	**dry**
13	USCS: Caliche	%	very poorly					**damp**
NOTES:		%						moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
	Gravel	Gravelly		very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Sand	Sandy	Sorting (sand/gravel)	fine	rounded	loose (4-10)	soft (2-4)	plastic
	Silt	Silty	very well	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Clay	Clayey	well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
	Bedrock	Pebbly	moderately	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	(Weathered?)	%	poorly	cobbles/boulders			hard (>30)	dry
	USCS:	%	very poorly					damp
NOTES:		%						moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
	Gravel	Gravelly		very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Sand	Sandy	Sorting (sand/gravel)	fine	rounded	loose (4-10)	soft (2-4)	plastic
	Silt	Silty	very well	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Clay	Clayey	well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
	Bedrock	Pebbly	moderately	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	(Weathered?)	%	poorly	cobbles/boulders			hard (>30)	dry
	USCS:	%	very poorly					damp
NOTES:		%						moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
	Gravel	Gravelly		very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Sand	Sandy	Sorting (sand/gravel)	fine	rounded	loose (4-10)	soft (2-4)	plastic
	Silt	Silty	very well	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Clay	Clayey	well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
	Bedrock	Pebbly	moderately	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	(Weathered?)	%	poorly	cobbles/boulders			hard (>30)	dry
	USCS:	%	very poorly					damp
NOTES:		%						moist
								wet
								saturated

Lithologic/Drilling Log

Project Information	Well Information		
Project: PPL/Hobbs	Borehole completed as well? YES (NO)		Well Casing Interval:
Project Number:	Well Name: SB-2		Well Screen Interval:
Location: East Hobbs Junct.	Total Depth: 74'		Sand Pack Interval:
Date Drilled: 4/27/99	Borehole Diameter: 6"		Bentonite Interval:
Client: PPL	Well Elevation: —		Cement/Grout Interval:
Rig/Core Type: Air Rotary	Water Level Initial: 37'		
Drilling Company: MacDonald	Water Level Static: —		Comments/Notes:
Driller: T. MacDonald	Well Type: PVC Sch 40		Backfilled w/ sand and bentonite chips.
Drilling Method: Air Rotary	PVC Sch 80		
Field Notes By: C. Jensen	Low Carbon Steel		
Time Start:	Well Diameter: 2 inch		Later redrilled and completed as MW-2
Time Stop:	4 inch		
	Other:		

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	(Gravel)	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
4'-6'	(Sand)	Sandy	Tan - white	(fine)	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	fine	(subrounded)	(medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	(medium)	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	angular	very dense (>50)	very stiff (15-30)	Moisture
—	(Weathered?)	⅜"	(moderately)	very coarse			hard (>30)	(dry)
PID/FID	USCS: w/caliche	⅜"	(poorly)	cobbles/boulders				damp
>2000		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	(Gravel)	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
12'-12'	(Sand)	Sandy	Tan - white	(fine)	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	(dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
—	(Weathered?)	⅜"	(moderately)	cobbles/boulders			hard (>30)	(dry)
PID/FID	USCS: w/caliche	⅜"	(poorly)					(damp)
>2000		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	(Gravel)	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
14'-16'	(Sand)	Sandy	Red-Tan - white	(fine)	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(medium)	(subrounded)	(medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	(dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
—	(Weathered?)	⅜"	(moderately)	cobbles/boulders			hard (>30)	(dry)
PID/FID	USCS: w/caliche	⅜"	(poorly)					(damp)
>2000		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	(Gravel)	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
30'-32'	(Sand)	Sandy	Some brown	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	(dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
—	(Weathered?)	⅜"	(moderately)	cobbles/boulders			hard (>30)	(dry)
PID/FID	USCS: w/caliche	⅜"	(poorly)					(damp)
>2000		⅜"	very poorly					moist
NOTES:	Some minor staining							wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	(Gravel)	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
34'-36'	(Sand)	Sandy	Tan - white	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(medium)	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	(dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
—	(Weathered?)	⅜"	(moderately)	cobbles/boulders			hard (>30)	(dry)
PID/FID	USCS: w/caliche	⅜"	(poorly)					(damp)
695		⅜"	very poorly					moist
NOTES:								wet
								saturated

Lithologic/Drilling Log

Project Information		Well Information			
Project:	PPL/Hobbs	Borehole completed as well?	YES	NO	Well Casing Interval:
Project Number:		Well Name:	SB-2 continued.		Well Screen Interval:
Location:		Total Depth:			Sand Pack Interval:
Date Drilled:	4/27/99	Borehole Diameter:			Bentonite Interval:
[redacted]ient:		Well Elevation:			Cement/Grout Interval:
Rig/Core Type:		Water Level Initial:			
Drilling Company:		Water Level Static:			Comments/Notes:
Driller:		Well Type:	PVC Sch 40		
Drilling Method:			PVC Sch 80		
Field Notes By:			Low Carbon Steel		
Time Start:		Well Diameter:	2 inch		
Time Stop:			4 inch		
			Other:		

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
30'-37'	Sand	Sandy	Red-Tan	fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	%	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	%	poorly					damp
24 /		%	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
34-36'	Sand	Sandy	Red-Tan	fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	%	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	%	poorly					damp
11.3		%	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
41'-42'	Sand	Sandy	Red-Tan	fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	%	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	%	poorly					damp
21		%	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interv[illegible]	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
	Sand	Sandy		fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	%	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	%	poorly					damp
		%	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
	Sand	Sandy		fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
[redacted]low Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	%	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	%	poorly					damp
		%	very poorly					moist
NOTES:								wet
								saturated

Lithologic/Drilling Log

Project Information		Well Information			
Project: PPL/Hobbs(2)		Borehole completed as well?	YES (NO)	Well Casing Interval:	
Project Number:		Well Name:	SB-3	Well Screen Interval:	
Location: East Hobbs Junction		Total Depth:	38'	Sand Pack Interval:	
Date Drilled: 4/27/99		Borehole Diameter:	6"	Bentonite Interval:	
Client: PPL		Well Elevation:	—	Cement/Grout Interval:	
Rig/Core Type: Air Rotary		Water Level Initial:	36'		
Drilling Company: McDonald		Water Level Static:	—	Comments/Notes:	
Driller: T. McDonald		Well Type:	PVC Sch 40	Backfilled with sand	
Drilling Method: Air Rotary			PVC Sch 80	and bentonite chips.	
Field Notes By: C. Jensen			Low Carbon Steel		
Time Start:		Well Diameter:	2 inch		
Time Stop:			4 inch	Later redrilled and completed	
			Other:	as MW-3	

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
4'-6'	(Gravel) Sand	Sandy	White	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	fine	rounded	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
—	(Weathered?)	%	moderately	very coarse	angular	(very dense (>50))	very stiff (15-30)	Moisture
PID/FID	USCS:	%	(poorly)	cobbles/boulders			hard (>30)	(dry)
0	Caliche!	%	very poorly					damp
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
8-10'	(Gravel) Sand	Sandy	Tan-white	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	fine	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	coarse	subangular	(dense (30-50))	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS: w/caliche	%	(poorly)	cobbles/boulders			hard (>30)	(dry)
0		%	very poorly					damp
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
14-16	(Gravel) Sand	Sandy	Light brown-Tan	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	coarse	subangular	(dense (30-50))	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS: w/caliche	%	poorly	cobbles/boulders			hard (>30)	(dry)
5.6		%	very poorly					(damp)
NOTES:								moist
								wet
								saturated

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
8-30	(Gravel) Sand	Sandy	Light Brown-Tan	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	coarse	subangular	(dense (30-50))	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
PID/FID	USCS:	%	poorly	cobbles/boulders			hard (>30)	(dry)
>2000		%	very poorly					(damp)
NOTES:								moist
								wet
								saturated

30-37' = 585

Depth/Interval	Primary Lithology	Subordinate Lithology	Color	Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
34-36'	(Gravel) Sand	Sandy	Red-brown-Tan	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
Sample ID	Silt	(Silty)	Sorting (sand/gravel)	(fine)	(rounded)	loose (4-10)	soft (2-4)	plastic
	Clay	Clayey	very well	(medium)	(subrounded)	medium dense (10-30)	medium stiff (4-8)	slightly plastic
Blow Counts	Bedrock	Pebbly	well	(coarse)	subangular	(dense (30-50))	stiff (8-15)	nonplastic
—	(Weathered?)	%	(moderately)	very coarse	angular	(very dense (>50))	very stiff (15-30)	Moisture
PID/FID	USCS: w/caliche	%	poorly	cobbles/boulders			hard (>30)	dry
~~2000~~ 311		%	very poorly					(damp)
NOTES:								moist
								wet
								saturated

Lithologic/Drilling Log

Project Information		Well Information		
Project: PPL/Hobbs(2)	Borehole completed as well?	YES	NO	Well Casing Interval:
Project Number:	Well Name:	SB-3 continued		Well Screen Interval:
Location:	Total Depth:			Sand Pack Interval:
Date Drilled: 4/27/99	Borehole Diameter:			Bentonite Interval:
[redacted]ent:	Well Elevation:			Cement/Grout Interval:
[redacted]g/Core Type:	Water Level Initial:			
Drilling Company:	Water Level Static:			Comments/Notes:
Driller:	Well Type:	PVC Sch 40		
Drilling Method:		PVC Sch 80		
Field Notes By:		Low Carbon Steel		
Time Start:	Well Diameter:	2 inch		
Time Stop:		4 inch		
		Other:		

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
30-32'	Sand	Sandy	Tan-white	fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	⅜"	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	⅜"	poorly					damp
27.2		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
34-36	Sand	Sandy	Tan-white	fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	⅜"	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	⅜"	poorly					damp
12		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
	Sand	Sandy		fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	⅜"	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	⅜"	poorly					damp
		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
	Sand	Sandy		fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
Blow Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	⅜"	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	⅜"	poorly					damp
		⅜"	very poorly					moist
NOTES:								wet
								saturated

	Primary Lithology	Subordinate Lithology		Grain Size (sand/gravel)	Angularity (sand/gravel)	Induration (sand/gravel)	Induration (silt/clay)	Plasticity (silt/clay)
Depth/Interval	Gravel	Gravelly	Color	very fine	well rounded	very loose (<4 blows/ft)	very soft (<2)	very plastic
	Sand	Sandy		fine	rounded	loose (4-10)	soft (2-4)	plastic
Sample ID	Silt	Silty	Sorting (sand/gravel)	medium	subrounded	medium dense (10-30)	medium stiff (4-8)	slightly plastic
	Clay	Clayey	very well	coarse	subangular	dense (30-50)	stiff (8-15)	nonplastic
[redacted]low Counts	Bedrock	Pebbly	well	very coarse	angular	very dense (>50)	very stiff (15-30)	Moisture
	(Weathered?)	⅜"	moderately	cobbles/boulders			hard (>30)	dry
PID/FID	USCS:	⅜"	poorly					damp
		⅜"	very poorly					moist
NOTES:								wet
								saturated

DRILLING LOG

Well No. MW-4

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/11/00 Total Depth 33' Diameter 8"

Surface Elevation Water depth (init.) 24' 24-hrs. 24.35'

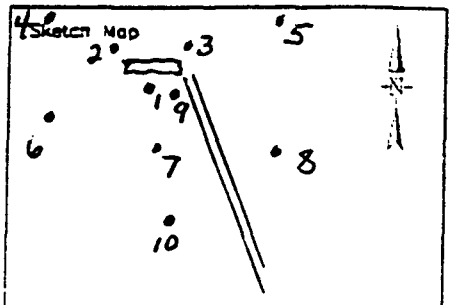
Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB

Sketch Map



Notes Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete			Grab	1.4	0		
4						0		
6						0		
8	Bentonite					0		Caliche, gray, tan to white, very dense, dry.
10						0		
12			MW-4-14'-16'	Grab	5	0		
14						0		
16				Grab	0.8	0		
18						0		
20	Silica Sand					0		
22				Grab	2	0		
24						0		Sand, brown, moderately to well sorted, medium grained, subrounded, dense, moist to wet.
26			MW-4-24'-26'	Grab	2.8	0	SP	
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-5

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/11/00 Total Depth 33' Diameter 8"

Surface Elevation Water depth (init.) 24' 24-hrs. 23.62'

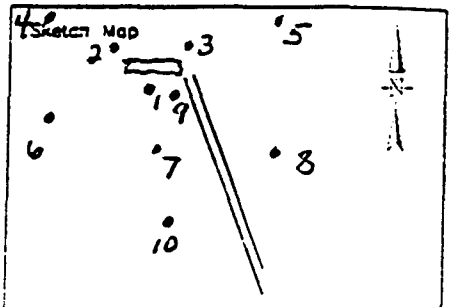
Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB

Sketch Map



Notes Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete							
4								
6				grab	1.8			Silty, sandy CALICHE, tan to white, very dense, dry.
8	Bentonite							
10								
12								
14			MW-5-14'-16'	grab	4.6			
16				grab	0.8			
18								
20	Silica Sand							
22								
24				grab	1.1			
26			MW-5-24'-26'	grab	1.6		SP	SAND, some silt and gravel, brown, fine to coarse grained, subrounded to rounded, dense to very dense, moist to wet.
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-6

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/11/00 Total Depth 33' Diameter 8"

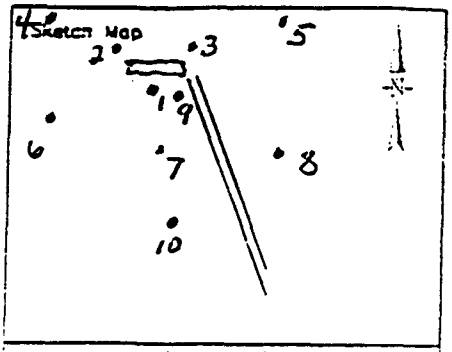
Surface Elevation Water depth (init.) 24' 24-hrs. 24.59'

Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB



Notes: Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete							
4								
6				Grab	3.2			Sandy Caliche, gray to tan, very dense, dry.
8	Bentonite							
10								
12				Grab	0.1			
14			MW-6-14'-16'					
16				Grab	1.7			
18								
20	Silica Sand			Grab	6		SP	SAND, red-brown to brown, medium to coarse grained, subrounded to rounded, dense, moist to wet.
22								
24								
26			MW-6-24'-26'	Grab	30			
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-7

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/12/00 Total Depth 33' Diameter 8"

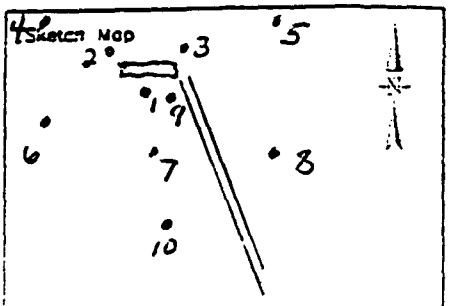
Surface Elevation Water depth (init.) 24' 24-hrs. 24.57'

Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB



Notes: Well Locations are approximate.

Depth (ft)	Well Construction	Holes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2		Concrete						
4				Grab	0			Caliche, tan to white, very dense, dry.
6								
8		Bentonite						
10			MW-7-14'-16'	Grab	0.8			
12								
14				Grab	1.1			
16								
18		Silica Sand						
20				Grab	61.6	SF		SAND, some gravel, light brown to brown, moderately to well sorted, fine to medium grained, subrounded to rounded, very dense, moist to wet.
22			MW-7-34'-36'	Grab	177			
24								
26								
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-8

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/11/00 Total Depth 33' Diameter 8"

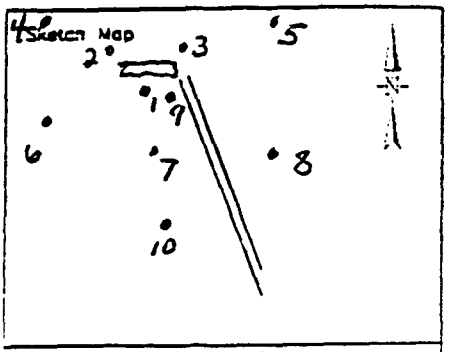
Surface Elevation Water depth (init.) 24' 24-hrs. 24.31'

Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB



Notes Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete							
4				Grab	0.5			Sandy Caliche, tan to white, very dense, dry.
6								
8	Bentonite							
10			MW-8-14-16'	Grab	0.4			
12								
14				Grab	0.8			
16								
18								
20	Silica Sand							
22				Grab	1.8			
24			MW-8-34-36'					SAND, some silt and gravel, light brown to brown, moderately sorted, fine to medium grained, subrounded, very dense, moist to wet.
26				Grab	3.3		SP	
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-9

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/11/00 Total Depth 33' Diameter 8"

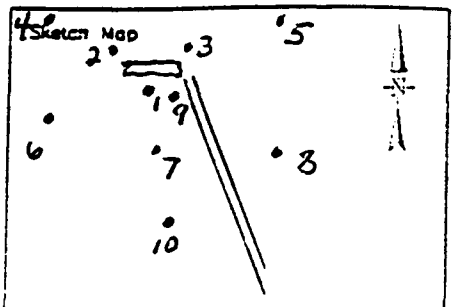
Surface Elevation Water depth (init.) 24' 24-hrs. 26.82'

Screen: Dia. Length Slot Size 0.020"

Casing: Dia. Length Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB



Notes: Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	Hit (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete		GRAB	13		0		Silty, sandy CALICHE, light brown to white, very dense, dry
4								
6	Bentonite							
8								
10								
12			GRAB	6		0		
14								
16			GRAB	66		0		
18	Silica Sand							
20								
22			GRAB	797		0	SP	SAND, some silt and gravel, brown, moderately sorted, fine to coarse grained, subrounded to rounded, dense, moist to wet.
24								
26			GRAB	462		0		
28								
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-10

Project PPL/East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 1/12/00 Total Depth 33' Diameter 8"

Surface Elevation Water depth (init.) 24' 24-hrs. 23.55'

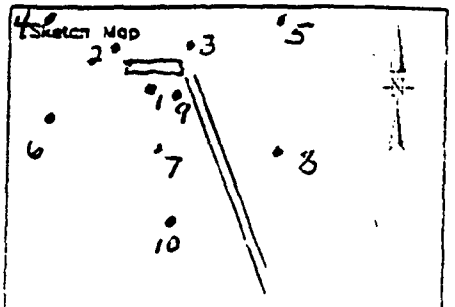
Screen: Dia. 2" Length 15' Slot Size 0.020"

Casing: Dia. 2" Length 20' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method GRAB

Sketch Map



Notes Well Locations are approximate.

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
2	Concrete							
4				grab	1.2	0.0		Silty, sandy Caliche, white, very dense, dry.
6						0.0		
8	Bentonite					0.0		
10						0.0		
12			MW-10 14'-16'	grab	1.0	0.0		
14						0.0		
16				grab	13	0.0		
18						0.0		
20	Silica Sand					0.0		SAND, some silt and gravel, light brown to brown, moderately sorted, fine to medium grained, subrounded, very dense, moist.
22						0.0		
24				grab	42	0.0	SP	
26						0.0		
28						0.0		
30			MW-10 34'-36'			0.0		
32				grab	39	0.0		
34						0.0		
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-11

Project PPL / East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 4/6/00 Total Depth 30' Diameter 5 1/8"

Surface Elevation Water depth (init.) — 24-hrs. 26.74'

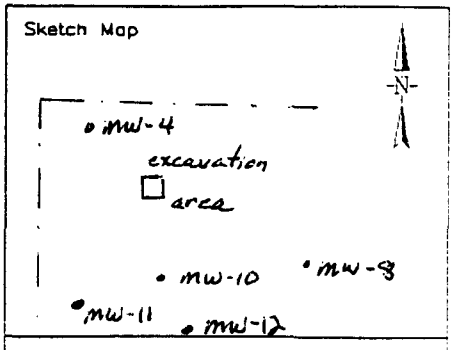
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 13' Type PVC sch 40

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method Grab

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0–2		Concrete						
2–6		Bentonite						Caliche, white to tan, very dense, dry.
6–8						0		
8–10								
10–12						0		Silty, pebbly, SAND, moderately sorted, fine to medium grained, white to light brown, subangular to subrounded, loose, dry to damp.
12–14								
14–16		Silica Sand				0		
16–18								
18–20							SW	
20–22			SS-11-24-26' SS-11-28-30'			0.6		
22–24								Silty, pebbly SAND, as above, moist.
24–26						1.4		
26–28								
28–30						0.3		
30–32								
32–34								
34–36								
36–38								
38–40								
40–42								
42–44								
44–46								
46–48								
48–50								

DRILLING LOG

Well No. MW-12

Project PPL / East Hobbs Client Phillips Pipe Line

Location Hobbs, NM Project Number

Date Drilled 4/6/00 Total Depth 35' Diameter 5 1/8"

Surface Elevation Water depth (init.) — 24-hrs. 23.58'

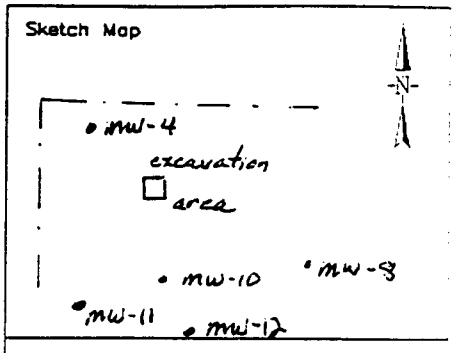
Screen: Dia. 2" Length 25' Slot Size 0.020"

Casing: Dia. 2" Length 13' Type PVC sch 40

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller L. Scarborough Log by C. Jensen Sampling Method Grab

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0–2		Concrete				0		
2–8		Bentonite						Caliche, white to tan, very dense, dry - some interbedded limestone.
8–10						0		
10–12						0		
12–14								
14–16		Silica Sand				0		
16–18								Pebbly SAND, tan to light brown, moderately sorted, fine to medium grained, subangular to subrounded, loose, dry to damp.
18–20								
20–22			SS-13-20'-22'	SS-13-14-16'		1.1	SW	
22–24								
24–26						0.3		
26–28								
28–30						0		SAND, as above, moist.
30–32								
32–34								
34–36						0		
36–38								
38–40								
40–42								
42–44								
44–46								
46–48								
48–50								

DRILLING LOG

Well No. MW-13

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 5/31/00 Total Depth 34' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

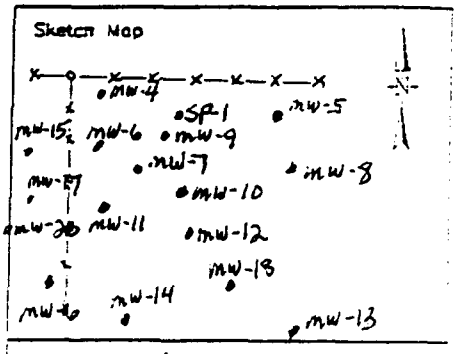
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 17' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. / Blow Count	Recovery / PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0						
2						
4		Concrete				
6				0		Caliche, white to light gray, very dense, dry.
8						
10				0		
12		Bentonite				
14						SAND, pebbly, white to light gray, well sorted, fine grained, subrounded, loose, damp.
16				0		
18						
20		Silica Sand		0	SW	
22						SAND, as above, light brown, wet.
24						
26				0		
28						
30				0		
32						
34				0		
36						
38						
40						
42						
44						
46						
48						
50						

DRILLING LOG

Well No. MW-14

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 5/31/00 Total Depth 33' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

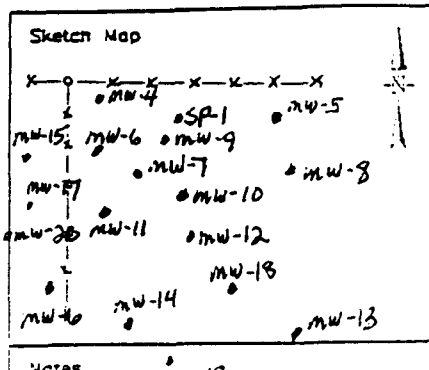
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 16' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0								
2								Caliche, and Limestone, some sand, dense, dry.
4		Concrete						
6					0			
8								
10		bentonite			0			
12								
14								Silty, pebbly, SAND, moderately to well sorted, fine to coarse grained, subangular to subrounded, loose, moist to wet.
16					0		SW	
18		Silica Sand						
20					0			
22								
24								
26					0			
28								Silty, pebbly SAND, as above.
30					0			
32								
34					0			
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-15

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 5/31/00 Total Depth 34' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

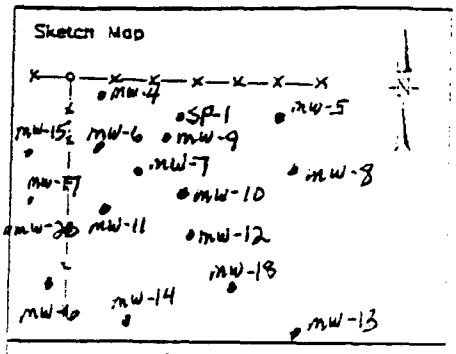
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 17' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. / Blow Count	Recovery / PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0–2						Sand to limestone to Caliche, light gray to Tan, dense, dry. Poss. hydrocarbon odor noted in samples
2–4		Concrete				
4–6				0		
6–8						
8–10		bentonite				
10–12				0		Pebbly SAND, tan to light brown, moderately to well sorted, fine grained, subrounded, loose, dry to damp.
12–14						
14–16		Silica Sand		0		
16–18					SW	
18–20						
20–22				0		
22–24						
24–26						Silty, pebbly SAND, brown, poorly sorted, medium to coarse grained, subrounded, loose, wet.
26–28				57		
28–30						
30–32				68		
32–34						
34–36				0		
36–38						
38–40						
40–42						
42–44						
44–46						
46–48						
48–50						

DRILLING LOG

Well No. MW-16

Project APL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 5/31/00 Total Depth 35' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

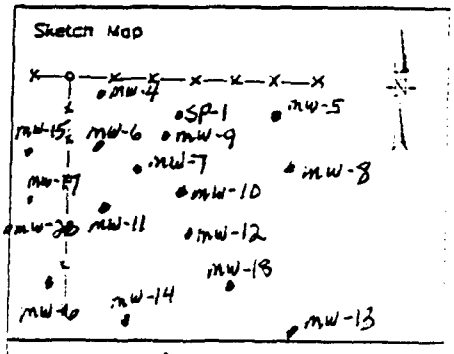
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 18' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. / Blow Count	Recovery / PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0						
2						
4		concrete				Caliche, white to gray, very dense, dry.
6				0		
8						
10		bentonite		0		
12						
14						
16				0		
18						
20		Silica sand		0	SW	Silty, pebbly SAND, light gray to brown, fine to medium grained, subangular, loose, moist to wet.
22						
24						
26				0		
28						
30				0		
32						
34				0		
36						
38						
40						
42						
44						
46						
48						
50						

DRILLING LOG

Well No. MW-17

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 6/1/00 Total Depth 34' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

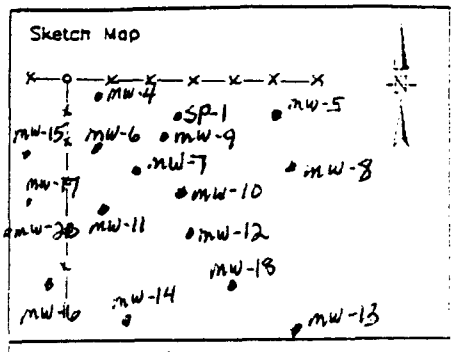
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 17' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0								
2								Caliche, light gray, dense, dry.
4		Concrete						
6						0		
8								
10		bentonite				0		
12								
14								
16						0		
18								
20		Silica Sand				0	SW	Silty, pebbly, SAND, light brown to brown, moderately to poorly sorted, subangular to subrounded, loose, moist to wet.
22								
24								
26						0		
28								
30						0		
32								
34						0		
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-18

Project APL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 6/1/00 Total Depth 34' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

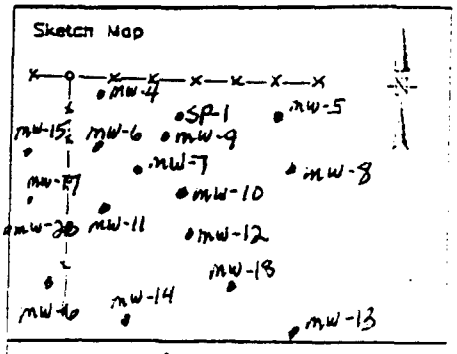
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 17' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No.	Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0								
2								
4								Caliche, some limestone, light gray, very dense, dry.
6		Concrete						
8								
10		bentonite						
12								
14								
16		Silica sand				0		
18								
20						0	SW	Silty, pebbly SAND, tan to brown, moderately to poorly sorted, fine to coarse grained, subangular to subrounded, medium dense, damp to wet.
22								
24								
26						0		
28								
30						0		
32								
34						0		
36								
38								
40								
42								
44								
46								
48								
50								

DRILLING LOG

Well No. MW-19

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 6/1/00 Total Depth 34' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

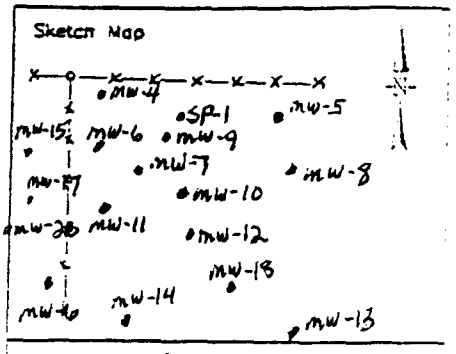
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 17' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. (Blow Count)	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0–12		Concrete; bentonite		0			Caliche, with limestone, light gray, dense, dry.
14–34		Silica Sand		0		SW	Silty, pebbly SAND, tan to brown, moderately sorted, fine to medium grained, subangular to subrounded, loose, damp to wet.

DRILLING LOG

Well No. MW-20

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 6/1/00 Total Depth 35' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

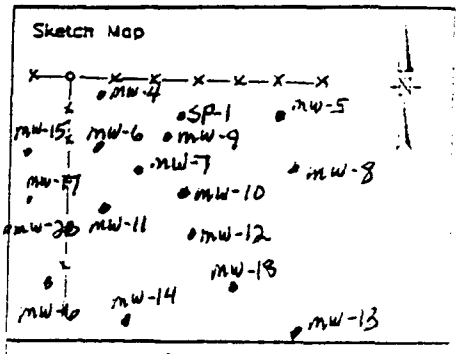
Screen: Dia. 2" Length 20' Slot Size 0.020"

Casing: Dia. 2" Length 18' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. / Blow Count	Recovery (ft) (gpm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0						
2						
4		Concrete				Caliche w/limestone, light gray, dense, dry.
6				0		
8						
10		bentonite				
12				0		
14						
16				0		
18						
20				0	SW	Silty, pebbly SAND, tan to brown, moderately to poorly sorted, fine to medium grained, subangular to subrounded, loose to dense, moist to wet.
22						
24		Silica sand				
26				0		
28						
30				0		
32						
34				0		
36						
38						
40						
42						
44						
46						
48						
50						

DRILLING LOG

Well No. SP-1

Project PPL/East Hobbs Client Phillips Pipe Line

Location East Hobbs Junction Project Number

Date Drilled 5/31/00 Total Depth 33.5' Diameter 5"

Surface Elevation Water depth (init.) 24-hrs.

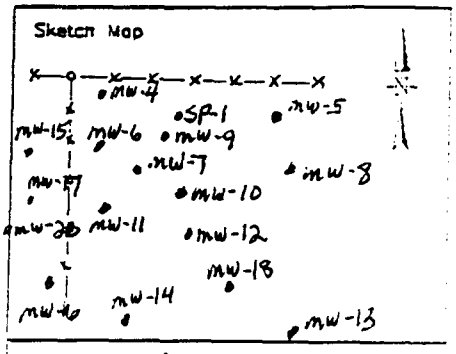
Screen: Dia. 2" Length 3' Slot Size 0.020"

Casing: Dia. 2" Length 33.5' Type Sch 40 PVC

Drilling Company Scarborough Drilling Drilling Method Air Rotary

Driller S. Scarborough Log by C. Higgins Sampling Method GRAB

Sketch Map



Notes

Depth (ft)	Well Construction	Notes	Sample No. Blow Count	Recovery	PID (ppm)	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0							
2				2			Caliche, some limestone, light gray, dense, dry.
4							
6							
8							
10		Concrete		0			
12							
14							
16				4			
18							
20						SW	Pebbly SAND, tan to brown, fine to medium grained, well to poorly sorted, subangular to subrounded, loose, wet.
22				30			
24		bentonite					
26							
28				290			
30							
32		Silica Sand		23			
34							
36				10.2			
38							
40							
42							
44							
46							
48							
50							

Appendix B

Groundwater Elevation and LPH Thickness Data

GROUNDWATER ELEVATION DATA

CLIENT: Phillips Pipe Line
FACILITY: East Hobbs Junction, NM
LOCATION: Section 8, Township 19 S, Range 38 E
Hobbs, New Mexico
DATE: July 14, 1999

WELL ID	ETC	DTW	DTP	PT	PT X.8	ADJ DTW	WTE	COMMENTS
MW-1	3606.28	27.01	24.30	2.71	2.17	24.84	3581.44	
MW-2	3606.45	26.95	23.52	3.43	2.74	24.21	3582.24	
MW-3	3606.33	27.10	23.34	3.76	3.01	24.09	3582.24	

ETC = Elevation Top of Casing
DTW = Depth to water
DTP = Depth to Petroleum Hydrocarbons
PT = Measured Petroleum Thickness

ADJ. DTW = Adjusted Depth to Water
WTE = Water Table Elevation
PTE = Elevation Top of Petroleum
N.A. = Not Applicable
All measurements in linear feet

Higgins and Associates, LLC

GROUNDWATER ELEVATION DATA

CLIENT: Phillips Pipe Line
FACILITY: East Hobbs Junction, NM
LOCATION: Section 8, Township 19 S, Range 38 E
Hobbs, New Mexico
DATE: January 12, 2000

WELL ID	ETC	DTW	DTP	PT	PT X.8	ADJ DTW	WTE	COMMENTS
MW-1	3606.28	27.15	23.48	3.67	2.94	24.21	3582.07	
MW-2	3606.45	26.73	23.61	3.12	2.50	24.23	3582.22	
MW-3	3606.33	26.85	23.49	3.36	2.69	24.16	3582.17	
MW-4	3606.69	24.35		0.00	0.00	24.35	3582.34	
MW-5	3605.52	23.46		0.00	0.00	23.46	3582.06	
MW-6	3606.14	24.17		0.00	0.00	24.17	3581.97	
MW-7	3605.50	23.87	23.85	0.02	0.02	23.85	3581.65	
MW-8	3606.25	23.72		0.00	0.00	23.72	3582.53	
MW-9	3605.75	26.82	22.94	3.88	3.10	23.72	3582.03	
MW-10	3604.94	23.55		0.00	0.00	23.55	3581.39	

ETC = Elevation Top of Casing
DTW = Depth to water
DTP = Depth to Petroleum Hydrocarbons
PT = Measured Petroleum Thickness
ADJ. DTW = Adjusted Depth to Water
WTE = Water Table Elevation
PTE = Elevation Top of Petroleum
N.A. = Not Applicable
All measurements in linear feet

Higgins and Associates, LLC

GROUNDWATER ELEVATION DATA

CLIENT: Phillips Pipe Line
FACILITY: East Hobbs Junction, NM
LOCATION: Section 8, Township 19 S, Range 38 E
Hobbs, New Mexico
DATE: April 6, 2000

WELL ID	ETC	DTW	DTP	PT	PT X.8	ADJ DTW	WTE	COMMENTS
MW-1	3606.28	27.14	23.73	3.41	2.73	24.41	3581.87	
MW-2	3606.45	26.83	23.84	2.99	2.39	24.44	3582.01	
MW-3	3606.33	26.90	23.73	3.17	2.54	24.36	3581.97	
MW-4	3606.69	24.53		0.00	0.00	24.53	3582.16	
MW-5	3605.52	23.67		0.00	0.00	23.67	3581.85	
MW-6	3606.14	24.42		0.00	0.00	24.42	3581.72	
MW-7	3605.50	26.08	23.46	2.62	2.10	23.98	3581.52	
MW-8	3606.25	24.01		0.00	0.00	24.01	3582.24	
MW-9	3605.75	26.72	23.19	3.53	2.82	23.90	3581.85	
MW-10	3604.94	23.78		0.00	0.00	23.78	3581.16	
MW-11	3608.06	26.74		0.00	0.00	26.74	3581.32	
MW-12	3604.40	23.58		0.00	0.00	23.58	3580.82	

ETC = Elevation Top of Casing
DTW = Depth to water
DTP = Depth to Petroleum Hydrocarbons
PT = Measured Petroleum Thickness
ADJ. DTW = Adjusted Depth to Water
WTE = Water Table Elevation
PTE = Elevation Top of Petroleum
N.A. = Not Applicable
All measurements in linear feet

Higgins and Associates, LLC

GROUNDWATER ELEVATION DATA

CLIENT: Phillips Pipe Line
FACILITY: East Hobbs Junction, NM
LOCATION: Section 8, Township 19 S, Range 38 E
Hobbs, New Mexico
DATE: June 1, 2000

WELL ID	ETC	DTW	DTP	PT	PT X.8	ADJ DTW	WTE	COMMENTS
MW-1	3606.28	27.16	23.85	3.31	2.65	24.51	3581.77	
MW-2	3606.45	26.85	23.95	2.90	2.32	24.53	3581.92	
MW-3	3606.33	26.90	23.85	3.05	2.44	24.46	3581.87	
MW-4	3606.69	24.63		0.00	0.00	24.63	3582.06	
MW-5	3605.52	23.76		0.00	0.00	23.76	3581.76	
MW-6	3606.14	24.47		0.00	0.00	24.47	3581.67	
MW-7	3605.50	26.25	23.49	2.76	2.21	24.04	3581.46	
MW-8	3606.25	24.06		0.00	0.00	24.06	3582.19	
MW-9	3605.75	26.68	23.32	3.36	2.69	23.99	3581.76	
MW-10	3604.94	23.84		0.00	0.00	23.84	3581.10	
MW-11	3608.06	26.82		0.00	0.00	26.82	3581.24	
MW-12	3604.40	23.63		0.00	0.00	23.63	3580.77	
MW-13	3604.31	24.45		0.00	0.00	24.45	3579.86	
MW-14	3604.11	23.71		0.00	0.00	23.71	3580.40	
MW-15	3609.78	27.91		0.00	0.00	27.91	3581.87	
MW-16	3606.31	25.28		0.00	0.00	25.28	3581.03	
MW-17	3609.03	27.48		0.00	0.00	27.48	3581.55	
MW-18	3605.71	25.34		0.00	0.00	25.34	3580.37	
MW-19	3606.69	26.93		0.00	0.00	26.93	3579.76	
MW-20	3611.50	29.30		0.00	0.00	29.30	3582.20	
SP-1	3606.21			0.00	0.00	0.00		

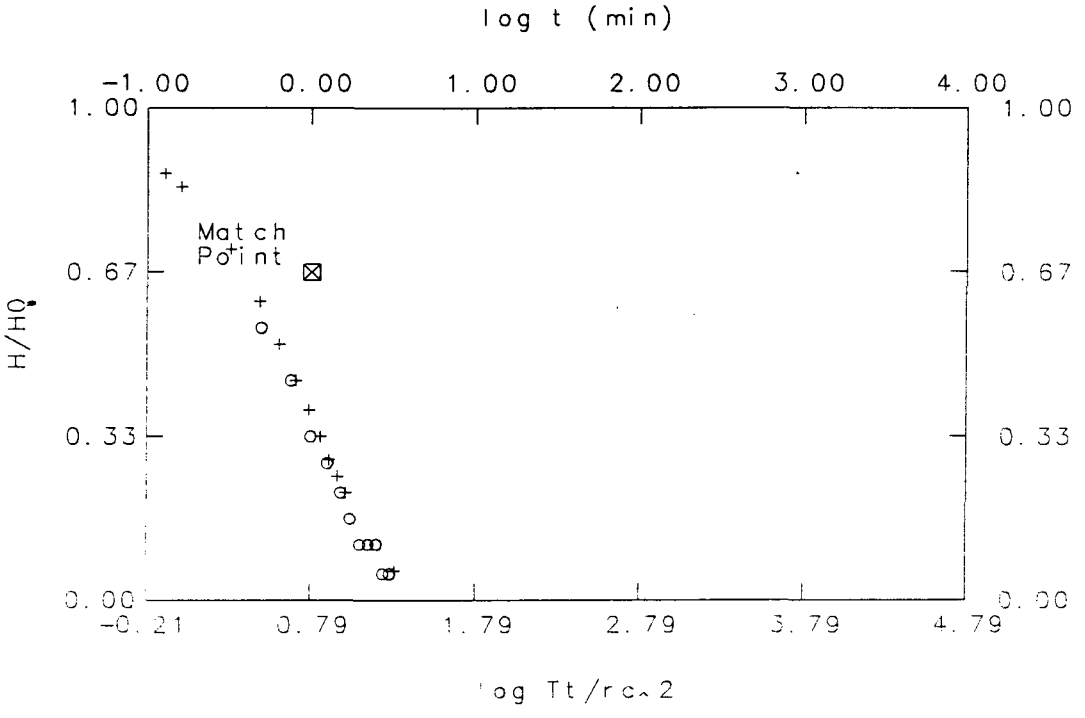
ETC = Elevation Top of Casing
DTW = Depth to water
DTP = Depth to Petroleum Hydrocarbons
PT = Measured Petroleum Thickness
ADJ. DTW = Adjusted Depth to Water
WTE = Water Table Elevation
PTE = Elevation Top of Petroleum
N.A. = Not Applicable
All measurements in linear feet

Higgins and Associates, LLC

Appendix C

Rising Head Permeability Test Data

East Hobbs/MW-4



o – Data
\+ – Type Curve
Slug Test: alpha =-10.0

MATCH POINT			SOLUTION		
t	=	1.000E+0000	Transmissivity	=	4.612E+0002 gpd/ft
			Hydraulic. Cond.	=	5.124E+0001 gpd/sq ft
Tt/rc^2	=	6.166E+0000	Storativity	=	1.000E-0010

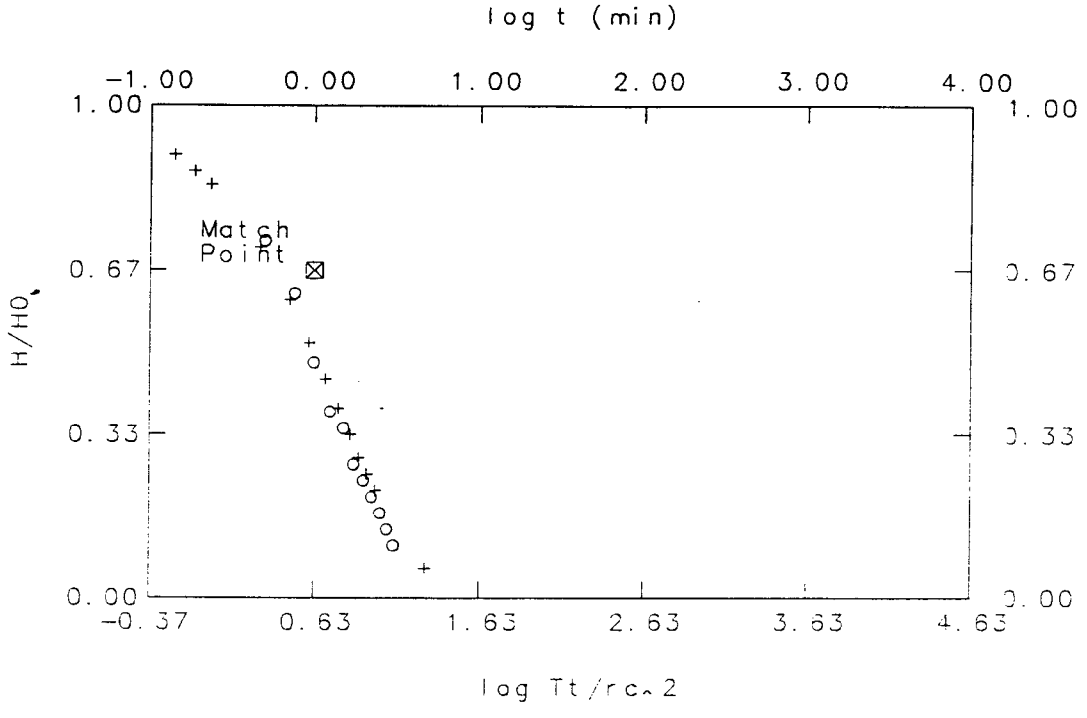
WELL INFORMATION	
WELL IDENTIFICATION	: MW-4
DATE OF AQUIFER TEST	: 1/13/00
AQUIFER THICKNESS (b)	: 9.000E+0000 ft
VOLUME OF SLUG (V)	: 3.531E-0002 cu ft
EFFECTIVE RADIUS	: 8.333E-0002 cu ft
WELL RADIUS AT MEASURED WATER LEVELS (rc)	: 8.333E-0002 ft

Data for Slug Injection/Withdrawal Test

Well Name: MW-4 Date of Test: 1/13/00
Aquifer Thickness (b): 9.000 ft
Change in Vol.of Water = 0.035 cu ft
Effective Radius of Well = 0.083 ft
Radius of Casing(rc) over Water Level Decline = 0.083 ft

Entry No.	Time(t) (min)	Head (ft)	H (ft)	H/H0
1	0.000	24.370		
2	0.250	24.550	0.180	1.000
3	0.500	24.470	0.100	0.556
4	0.750	24.450	0.080	0.444
5	1.000	24.430	0.060	0.333
6	1.250	24.420	0.050	0.278
7	1.500	24.410	0.040	0.222
8	1.750	24.400	0.030	0.167
9	2.000	24.390	0.020	0.111
10	2.250	24.390	0.020	0.111
11	2.500	24.390	0.020	0.111
12	2.750	24.380	0.010	0.056
13	3.000	24.380	0.010	0.056

East Hobbs/MW-5



o - Data
\+ - Type Curve
Slug Test: alpha =-10.0

MATCH POINT		SOLUTION		
t	= 1.000E+0000	Transmissivity	= 3.190E+0002	gpd/ft
		Hydraulic. Cond.	= 3.545E+0001	gpd/sq ft
Tt/rc^2	= 4.266E+0000	Storativity	= 1.000E-0010	

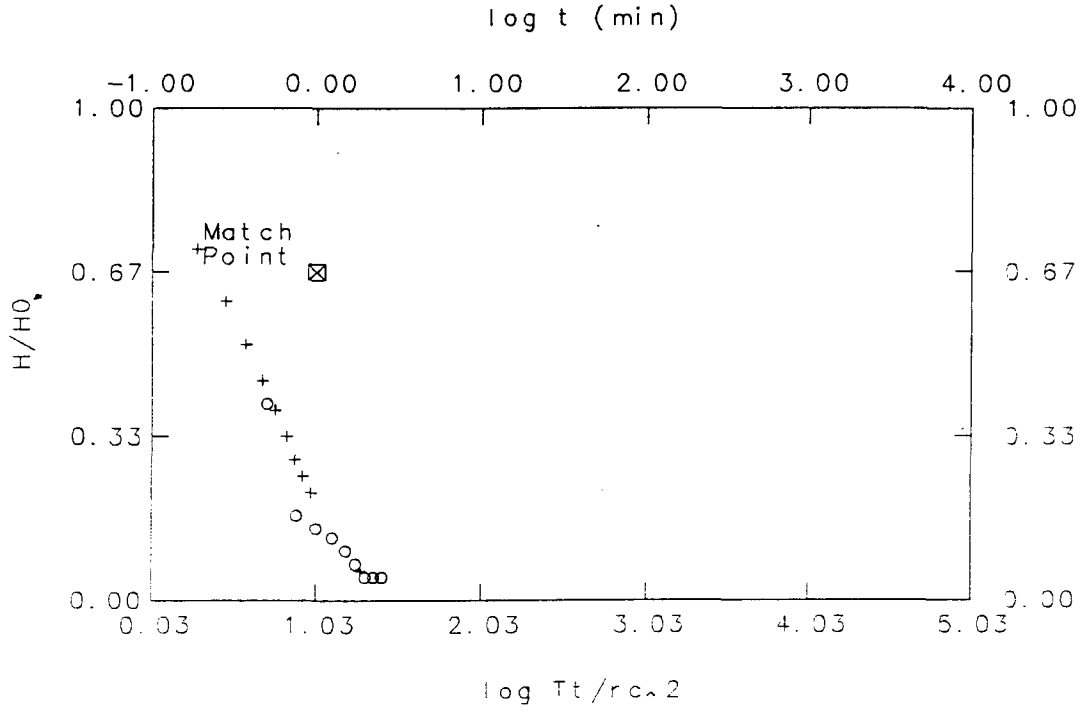
WELL INFORMATION	
WELL IDENTIFICATION	: MW-5
DATE OF AQUIFER TEST	: 1/13/00
AQUIFER THICKNESS (b)	: 9.000E+0000 ft
VOLUME OF SLUG (V)	: 3.500E-0002 cu ft
EFFECTIVE RADIUS	: 8.333E-0002 cu ft
WELL RADIUS AT MEASURED WATER LEVELS (rc)	: 8.333E-0002 ft

Data for Slug Injection/Withdrawal Test

Well Name: MW-5 Date of Test: 1/13/00
Aquifer Thickness (b): 9.000 ft
Change in Vol.of Water = 0.035 cu ft
Effective Radius of Well = 0.083 ft
Radius of Casing(rc) over Water Level Decline = 0.083 ft

Entry No.	Time(t) (min)	Head (ft)	H (ft)	H/H0
1	0.000	23.420		
2	0.250	23.710	0.290	1.000
3	0.500	23.630	0.210	0.724
4	0.750	23.600	0.180	0.621
5	1.000	23.560	0.140	0.483
6	1.250	23.530	0.110	0.379
7	1.500	23.520	0.100	0.345
8	1.750	23.500	0.080	0.276
9	2.000	23.490	0.070	0.241
10	2.250	23.480	0.060	0.207
11	2.500	23.470	0.050	0.172
12	2.750	23.460	0.040	0.138
13	3.000	23.450	0.030	0.103

East Hobbs/MW-6



MATCH POINT			SOLUTION		
t	=	1.000E+0000	Transmissivity	=	3.014E+0002 gpd/ft
			Hydraulic. Cond.	=	3.904E+0001 gpd/sq ft
Tt/rc^2	=	1.072E+0001	Storativity	=	1.000E-0010

WELL INFORMATION	
WELL IDENTIFICATION	: MW-6
DATE OF AQUIFER TEST	: 1/13/00
AQUIFER THICKNESS (b)	: 9.000E+0000 ft
VOLUME OF SLUG (V)	: 3.500E-0002 cu ft
EFFECTIVE RADIUS	: 8.333E-0002 cu ft
WELL RADIUS AT MEASURED WATER LEVELS (rc)	: 8.333E-0002 ft

Data for Slug Injection/Withdrawal Test

Well Name: MW-6 Date of Test: 1/13/00
Aquifer Thickness (b): 9.000 ft
Change in Vol.of Water = 0.035 cu ft
Effective Radius of Well = 0.083 ft
Radius of Casing(rc) over Water Level Decline = 0.083 ft

Entry No.	Time(t) (min)	Head (ft)	H (ft)	H/H0
1	0.000	24.200		
2	0.250	24.600	0.400	1.000
3	0.500	24.360	0.160	0.400
4	0.750	24.270	0.070	0.175
5	1.000	24.260	0.060	0.150
6	1.250	24.250	0.050	0.125
7	1.500	24.240	0.040	0.100
8	1.750	24.230	0.030	0.075
9	2.000	24.220	0.020	0.050
10	2.250	24.220	0.020	0.050
11	2.500	24.220	0.020	0.050
12	2.750	24.210	0.010	0.025
13	3.000	24.210	0.010	0.025

Appendix D

Well Record Search

Banks Information Solutions, Inc.

Water Well Report™

October 1, 1999

CLIENT

Higgins and Associates
9940 East Costilla Avenue, Suite B
Englewood, CO 80112

SITE

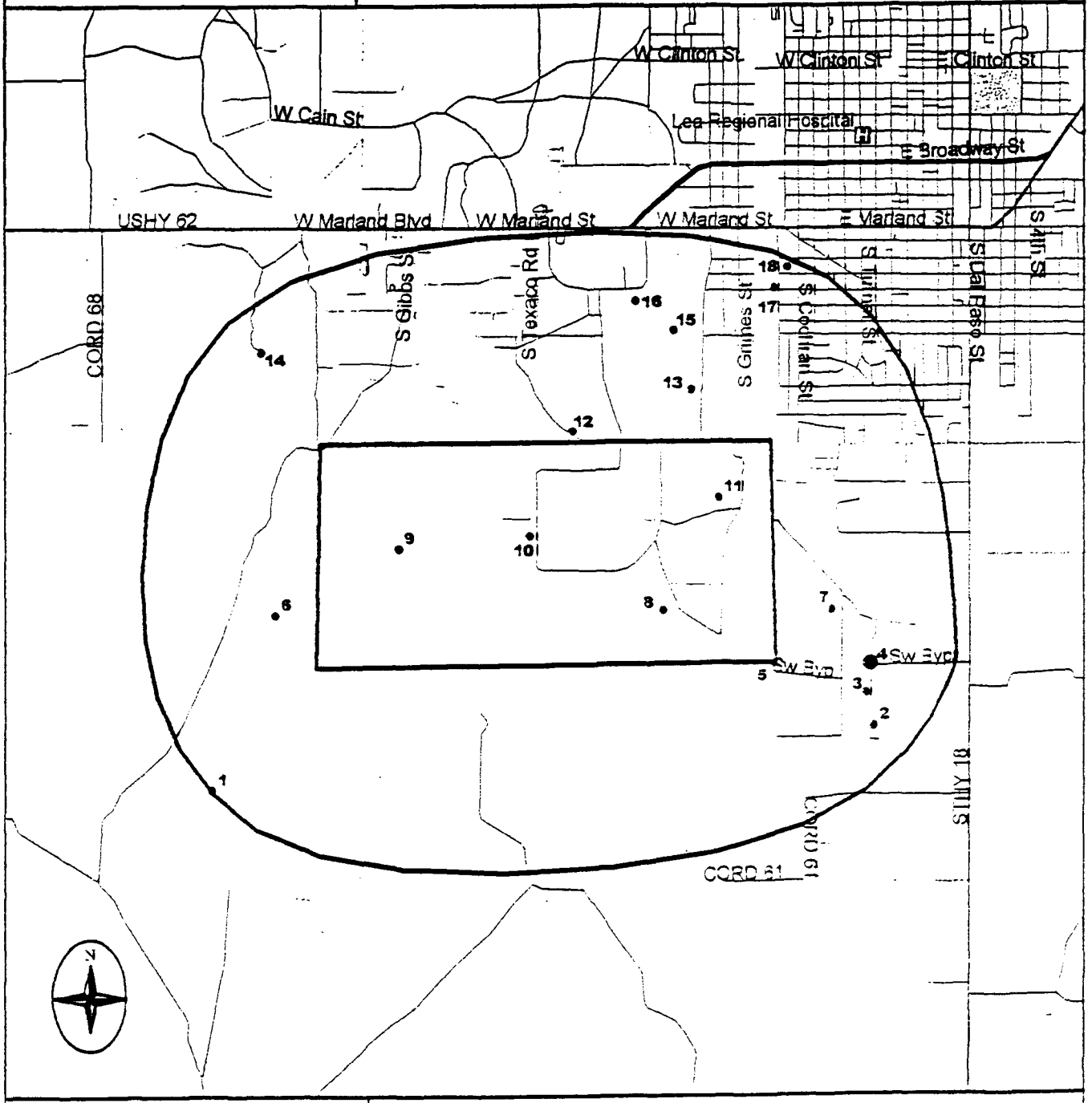
Hobbs and East Hobbs
Sections 8 & 9
Hobbs, New Mexico
100199-044

P.O. Box 12851, Capitol Station, Austin, TX 78711
1701 Nueces, Austin, TX 78701
512.478.0059 FAX 512.478.1433 e-mail banks@banksinfo.com

Banks Information Solutions, Inc.

Water Well Report™

Map of Wells within Defined Polygon

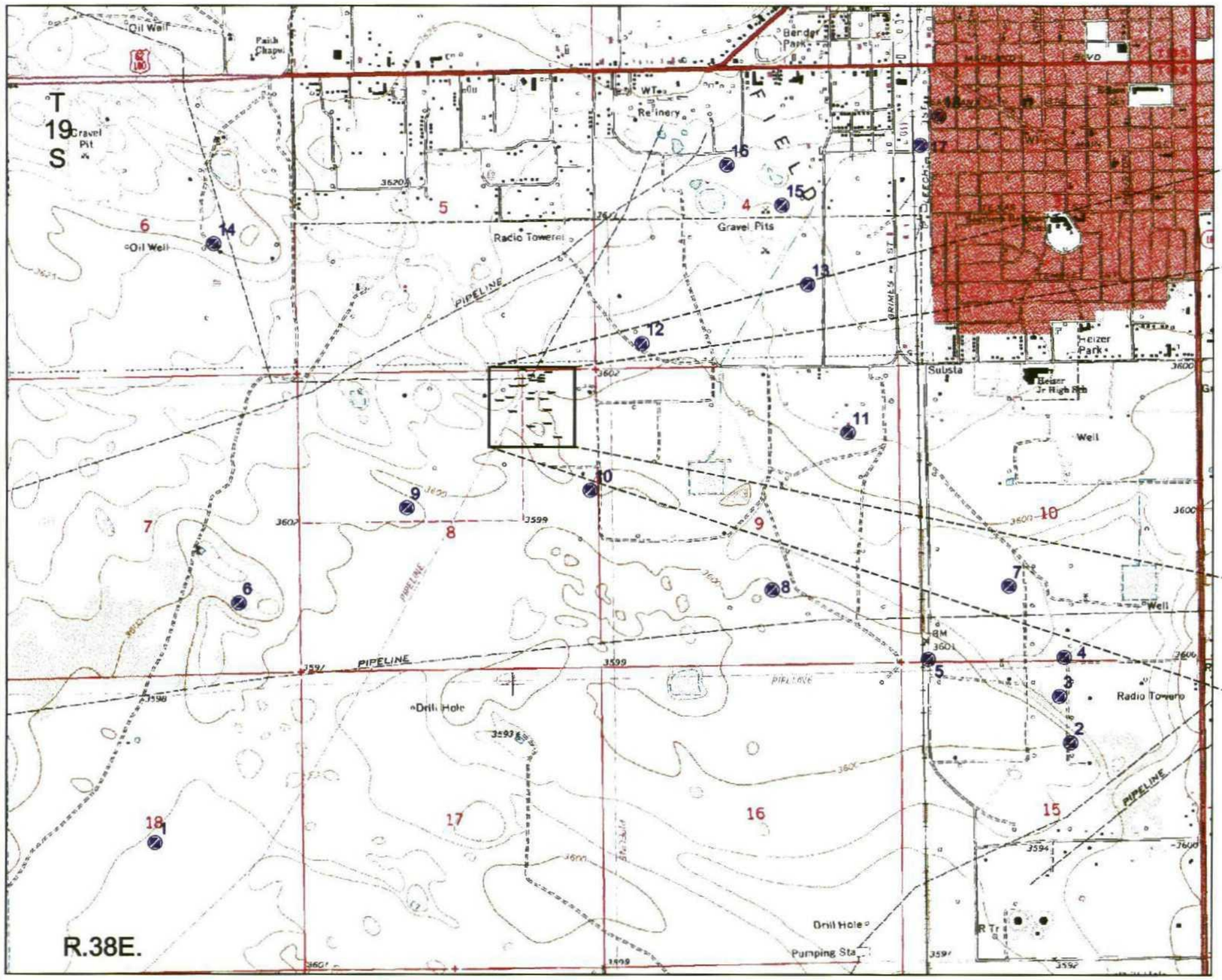


Subject Site
Ground Water Wells (Cluster)
Ground Water Well
Airport
Hospital
Highway
Primary road
Secondary and connecting road
Local road
Access road
Water body
Park
State

0 0.464787 Miles

Banks Information Solutions, Inc.
P.O. Box 12851, Capitol Station Austin, Texas 78711
1701 Nueces Austin, Texas 78701
512-478-0059 FAX 512-478-1433 E Mail: BANKS@BANKSINFO.COM

October 1, 1999



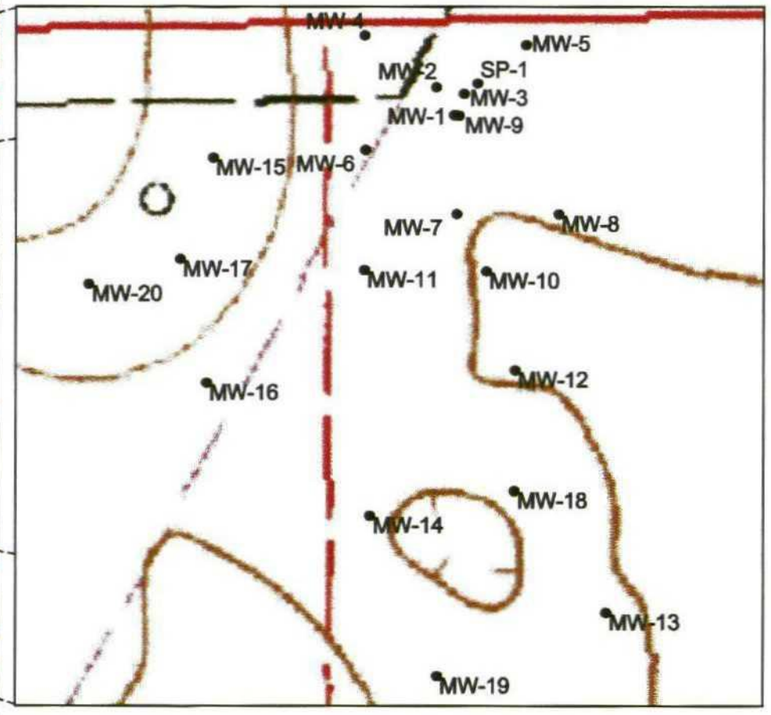
Topographics Source: USGS 7.5' Quad.;Hobbs West, NM

0 2000 4000
Scale (ft)

LEGEND

- Ground Water Well
- Monitor Well

Note: ground water well label refers to Water Well Report 10/1/1999



0 300 600
Scale (ft)

N

HIGGINS AND ASSOCIATES, L.L.C.

Project No.:	Date Map Generated:	Date Data Collected:	Figure No.
571-17	7/5/00	6/1/00	-

Authored: CH	Title: PPL Line East Hobbs Junction Water Well Locations
Checked: CJ	Client: Phillips Pipe Line Company
Detailed: ML	ACAD File: 571-17\waterwells-utm.dwg
	Location: Hobbs New Mexico

Banks Information Solutions, Inc.

Water Well Report™

DETAILS

State ID	323933103111401
Banks ID	3502501220
Owner Of Well	COCHRAN, C.B.
Type Of Well	Domestic
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.18722222
Latitude	32.6591666667

MAP ID: 1

State ID	323948103080501
Banks ID	3502501233
Owner Of Well	WALKER OIL CORP.
Type Of Well	Unused
Depth Drilled	58 '
Completion Date	N/A
Longitude	-103.13472222
Latitude	32.6633333333

MAP ID: 2

State ID	323956103080701
Banks ID	3502501238
Owner Of Well	MIDWEST OIL CO.
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.13527778
Latitude	32.6655555556

MAP ID: 3

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Water Well Report™

DETAILS

State ID	324003103080601
Banks ID	3502501242
Owner Of Well	SHELL OIL CO.
Type Of Well	Unused
Depth Drilled	37 '
Completion Date	N/A
Longitude	-103.135
Latitude	32.6675

MAP ID
4

State ID	324003103080602
Banks ID	3502501243
Owner Of Well	SHELL OIL CO.
Type Of Well	Unused
Depth Drilled	49 '
Completion Date	N/A
Longitude	-103.135
Latitude	32.6675

MAP ID
4

State ID	324003103083401
Banks ID	3502501244
Owner Of Well	PAN AMERICAN PET.
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.14277778
Latitude	32.6675

MAP ID
5

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Water Well Report™

DETAILS

State ID	324015103105601	MAP ID
Banks ID	3502501249	6
Owner Of Well	COCHRAN,	
Type Of Well	Stock	
Depth Drilled	N/A '	
Completion Date	N/A	
Longitude	-103.18222222	
Latitude	32.6708333333	

State ID	324016103081701	MAP ID
Banks ID	3502501252	7
Owner Of Well	THORP, D.C.	
Type Of Well	Irrigation	
Depth Drilled	125 '	
Completion Date	N/A	
Longitude	-103.13805556	
Latitude	32.6711111111	

State ID	324016103090601	MAP ID
Banks ID	3502501253	8
Owner Of Well	TERRY, WILL	
Type Of Well	Stock	
Depth Drilled	N/A '	
Completion Date	N/A	
Longitude	-103.15166667	
Latitude	32.6711111111	

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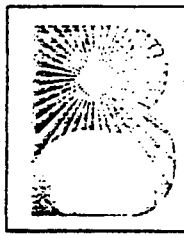

Water Well Report™

DETAILS

State ID	324031103102101
Banks ID	3502501263
Owner Of Well	BYROM, W.K.
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.1725
Latitude	32.6752777778

MAP ID
9

State ID	324034103094401
Banks ID	3502501265
Owner Of Well	GACKLE, ALBERT
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.16222222
Latitude	32.6761111111

MAP ID
10

State ID	324043103085001
Banks ID	3502501273
Owner Of Well	AMOCO PRODUCTION CO.
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.14722222
Latitude	32.6786111111

MAP ID
11

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Banks Information Solutions, Inc.

Water Well Report™

DETAILS

State ID	324059103093201
Banks ID	3502501282
Owner Of Well	TEXACO
Type Of Well	Unused
Depth Drilled	35 '
Completion Date	N/A
Longitude	-103.15888889
Latitude	32.6830555556

MAP ID
12

State ID	324109103085801
Banks ID	3502501297
Owner Of Well	LAMBERT
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.14944444
Latitude	32.6858333333

MAP ID
13

State ID	324118103110001
Banks ID	3502501303
Owner Of Well	FOWLER, CLARA
Type Of Well	Stock
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.18333333
Latitude	32.6883333333

MAP ID
14

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Water Well Report™

DETAILS

State ID	324123103090301
Banks ID	3502501309
Owner Of Well	STANOLIND OIL
Type Of Well	Unused
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.15083333
Latitude	32.6897222222

MAP ID: 15

State ID	324130103091401
Banks ID	3502501319
Owner Of Well	PECOS VALLEY OIL CO.
Type Of Well	Domestic
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.15388889
Latitude	32.6916666667

MAP ID: 16

State ID	324133103083401
Banks ID	3502501324
Owner Of Well	N/A
Type Of Well	N/A
Depth Drilled	N/A '
Completion Date	N/A
Longitude	-103.14277778
Latitude	32.6925

MAP ID: 17

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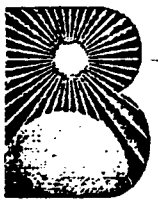

Banks Information Solutions, Inc.

Water Well Report™

DETAILS

State ID	324138103083001
Banks ID	3502501332
Owner Of Well	MR. PROLLACK
Type Of Well	Unused
Depth Drilled	70 '
Completion Date	N/A
Longitude	-103.14166667
Latitude	32.6938888889

MAP ID
18

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Banks Information Solutions, Inc.

Water Well Report™

SUMMARY

Water Well Report™ Research Mapping Protocol

Banks Information Solutions, Inc. Water Well Report™ is prepared from existing state water well databases and additional file data/records research conducted at the State Engineers Office located in Roswell, New Mexico. In New Mexico, water wells are located within a grid system using section, township, and range. The locations of these wells on the enclosed map were plotted using a GIS program, ArcView 3.0a, with the aid of the section, township, and range of the wells provided by the drillers logs.

Banks Information Solutions, Inc. has performed a thorough and diligent search of all groundwater well information provided and recorded with the New Mexico State Engineers Office. All mapped locations are based on information obtained from the NMSEO. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped well locations could possibly be traced to the appropriate regulatory authority or the actual driller. It may be possible that some water well schedules and logs have never been submitted to the regulatory authority by the water driller and, thus, may explain the possible unaccountability of privately drilled wells. It is uncertain if the above listing provides 100% of the existing wells within the area of review. Therefore, Banks Information Solutions, Inc. cannot fully guarantee the accuracy of the data or well location(s) of those maps and records maintained by the New Mexico State Engineer regulatory authorities.

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Appendix E

Soil and Groundwater Analytical Data

PPL/East Hobbs
Hobbs, NM
Inorganic Data

(Results in mg/L unless otherwise noted)

Analyte	NM Standards for Groundwater with <10,000 mg/L TDS	MW-4	MW-5	MW-6	MW-8	MW-10
Date		01/13/00	01/13/00	01/13/00	01/13/00	01/13/00
Lithium (ug/L)		<100	<100	<100	<100	<100
Silicon		103	44	34	32	80
Strontium		1.7	1.3	1.3	1.1	2.5
Uranium (ug/L)	**5,000 ug/L**	<20.0	<20.0	<20.0	<20.0	<20.0
Mercury	**0.002**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	**0.1**	0.016	0.01	0.0085	0.0085	0.015
Barium	**1**	2.89	0.185	0.841	0.119	5.48
Boron	**0.75**	0.18	0.15	0.14	0.16	0.19
Cadmium	**0.01**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
Calcium		710	120	170	89	540
Chromium	**0.05**	0.13	<0.02	<0.02	<0.02	0.036
Lead	**0.05**	0.0099	<0.002	<0.002	<0.002	0.0065
Magnesium		44	23	28	22	54
Potassium		12	6.4	5.8	6.3	6.5
Selenium	**0.05**	<0.015	<0.003	<0.003	<0.003	<0.015
Silver	**0.05**	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium		170	43	93	58	62
Alkalinity		660	170	230	110	400
Bromide						
Chloride	**0.1**	210	130	230	160	180
Fluoride	**1.6**	2.3	2.6	1.5	2.40	1.3
Sulfate	**600**	140	82	<5.0	84	14
Total Dissolved Solids	**1,000**	750	560	730	570	750
pH	**Between 6 and 9**	7.70	7.70	7.60	7.90	7.40
Conductivity		1,090	840	1,160	980	1,040

Groundwater Analytical Data
PPL/East Hobbs
Hobbs, NM

Well	Date	Chloride (mg/L)
MW-4	01/13/00	210
MW-4	04/06/00	180
MW-5	01/13/00	130
MW-5	04/06/00	130
MW-6	01/13/00	230
MW-6	04/06/00	200
MW-8	01/13/00	160
MW-8	04/06/00	90
MW-10	01/13/00	180
MW-10	04/06/00	180
MW-11	04/06/00	310
MW-12	04/06/00	190
MW-13	6/2/2000	91
MW-14	6/2/2000	180
MW-15	06/02/00	170
MW-16	06/02/00	220
MW-17	06/02/00	140
MW-18	06/02/00	190
MW-19	06/02/00	140
MW-20	06/02/00	83
SP-1	06/02/00	180

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 05/05/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM

Analysis Date: 05/05/99
Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)
H4118-1	SB-1-22'-24'	2810*
H4118-2	SB-1-35'-36'	120**
H4118-3	SB-2-20'-22'	5440*
H4118-4	SB-2-36'-40'	311**
H4118-5	SB-3-18'-20'	3480*
H4118-6	SB-3-36'-38'	189**
H4118-7	COMPOSITE	20300*
Quality Control		3070
True Value QC		3000
% Accuracy		102
Relative Percent Difference		2.2

METHOD: EPA SW-846 8015 M
*Alkane range: C8-C30
**Alkane range: C11-C30

Chemist

5/5/99
Date

H4118T.XLS

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 04/28/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM
Lab Number: H4118-7
Sample ID: COMPOSITE

Analysis Date: 04/28/99
Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

TCLP PESTICIDES & HERBICIDES (mg/L)	EPA Limit	Sample Result H4118-7	Method Blank	QC Observed	QC %IA	QC True Value
Endrin	0.020	<0.005	<0.005	0.051	102	0.050
Lindane (gamma-BHC)	0.400	<0.005	<0.005	0.050	100	0.050
Heptachlor	0.008	<0.005	<0.005	0.042	84	0.050
Heptachlor epoxide	0.008	<0.005	<0.005	0.049	98	0.050
Methoxychlor	10	<0.005	<0.005	0.042	84	0.050
Chlordane	0.03	<0.010	<0.010	0.109	109	0.100
Toxaphene	0.5	<0.100	<0.100	0.197	99	0.200
2,4-D	10	<0.010	<0.010	0.083	83	0.100
2,4,5-T-P (Silvex)	1	<0.010	<0.010	0.095	95	0.100

	% Recovery
Nitrobenzene-d5	99
2-Fluorobiphenyl	67
Terphenyl-d14	74

METHODS: EPA SW-846 1311, 3510, 8270

Chemist

4/28/99
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 04/29/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM
Lab Number: H4118-7
Sample ID: COMPOSITE

Analysis Date: 04/28/99
Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H4118-7	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	0.20	<0.005	<0.005	0.102	102	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.104	104	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.116	116	0.100
Chloroform	6.0	<0.005	<0.005	0.106	106	0.100
1,2-Dichloroethane	0.5	<0.005	<0.005	0.099	99	0.100
Benzene	0.5	0.059	<0.005	0.111	111	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.094	94	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.097	97	0.100
Tetrachloroethylene	0.7	<0.005	<0.005	0.090	90	0.100
Chlorobenzene	100	<0.005	<0.005	0.099	99	0.100
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.093	93	0.100

	% RECOVERY
Dibromofluoromethane	99
Toluene-d8	98
Bromofluorobenzene	88

METHODS: EPA SW 846-8260, 1311

Burgess J. A. Cooke, Ph. D.

4/28/99
Date

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ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 04/28/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM
Lab Number: H4118-7
Sample ID: COMPOSITE

Analysis Date: 04/28/99
Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H4118-7	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.020	<0.005	0.016	32	0.050
1,4-Dichlorobenzene	7.50	<0.020	<0.005	0.034	68	0.050
o-Cresol	200	<0.020	<0.005	0.034	68	0.050
m, p-Cresol	200	<0.020	<0.005	0.034	68	0.050
Hexachloroethane	3.00	<0.020	<0.005	0.033	66	0.050
Nitrobenzene	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadiene	0.500	<0.020	<0.005	0.039	78	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.041	82	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.042	84	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.042	84	0.050
Hexachlorobenzene	0.130	<0.020	<0.005	0.044	88	0.050
Pentachlorophenol	100	<0.020	<0.005	0.041	82	0.050

	% RECOVERY
Fluorophenol	46
Phenol-d5	32
Nitrobenzene-d5	99
2-Fluorobiphenyl	67
2,4,6-Tribromophenol	103
Terphenyl-d14	74

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. A. Cooke, Ph. D.

4/28/99
Date

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ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 05/04/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM

Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	REACTIVITY Sulfide (ppm)	REACTIVITY Cyanide (ppm)	CORROSIVITY (pH)	IGNITABILITY (°F)
ANALYSIS DATE:		04/30/99	04/30/99	04/29/99	04/27/99
H4118-7	COMPOSITE	Not reactive	Not reactive	6.48	Nonflammable
Quality Control		NR	NR	7.02	NR
True Value QC		NR	NR	7.00	NR
% Recovery		NR	NR	100	NR
Relative Percent Difference		NR	NR	0.1	NR

METHOD: EPA SW 846-7.3, 7.2, 1030 (proposed), 1311, *40 CFR 261*
NOTE: The composite (sample 7) does not exhibit the characteristic of toxicity as set forth in SW-846 7.4.3. and *40 CFR 268.41*.

Chemist

5/4/99
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 05/04/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM

Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

TCLP METALS

LAB NO.	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		05/03/99	05/04/99	05/04/99	05/04/99	05/04/99	05/04/99	04/30/99	04/30/99
EPA LIMITS:		5	5	100	1	5	5	0.2	1
H4118-7	COMPOSITE	<1	<1	<10	<0.1	<1	<1	<0.02	<0.1
Quality Control		0.054	3.017	49.67	0.982	1.031	0.937	0.0087	0.051
True Value QC		0.050	3.000	50.00	1.000	1.000	1.000	0.0100	0.050
% Recovery		108	101	99	98	103	94	87	102
Relative Standard Deviation		7.7	0.1	0.7	0.5	3.4	6.4	6.9	4.6
METHODS: EPA 1311, 600/4-91/		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Gayle A. Potter, Chemist

05/04/99
Date

H4118M.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 05/04/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM

Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NO.	SAMPLE ID	TPH (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		04/27/99	04/27/99	04/27/99	04/27/99	04/27/99
H4118-1	SB-1-22'-24'	5420	0.071	1.202	1.014	3.487
H4118-2	SB-1-35'-36'	372	<0.002	0.008	0.007	0.024
H4118-3	SB-2-20'-22'	7930	0.082	1.589	1.369	5.002
H4118-4	SB-2-36'-40'	801	0.002	0.023	0.018	0.061
H4118-5	SB-3-18'-20'	5790	0.448	4.767	2.338	7.485
H4118-6	SB-3-36'-38'	293	<0.002	0.002	<0.002	0.006
H4118-7	COMPOSITE	52800	2.088	20.399	11.373	41.67
Quality Control		254	0.093	0.097	0.096	0.284
True Value QC		240	0.100	0.100	0.100	0.300
% Recovery		106	93.4	96.9	95.5	94.7
Relative Percent Difference		1.9	2.5	0.2	1.0	1.9

METHODS: TRPHC - EPA 600/7-79-020, 418.1; BTEX - EPA SW846-8020, 8260
NOTE: The composite (sample 7) does not exhibit the characteristic of toxicity as set forth in SW-846 7.4.3. and *40 CFR 268.41*.

Chemist

5/4/99
Date

H4118A.XLS

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
HIGGINS AND ASSOC.
ATTN: CHRIS HIGGINS
9940 EAST COSTILLA AVE. STE. B
ENGLEWOOD, CO 80112
FAX TO: (303) 708-9848

Receiving Date: 04/27/99
Reporting Date: 05/04/99
Project Owner: PHILLIPS PIPELINE
Project Name: HOBBS-EAST HOBBS JUNCTION
Project Location: HOBBS, NM

Sampling Date: 04/27/99
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

TCLP METALS

LAB NO.	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		05/03/99	05/04/99	05/04/99	05/04/99	05/04/99	05/04/99	04/30/99	04/30/99
EPA LIMITS:		5	5	100	1	5	5	0.2	1
H4118-7	COMPOSITE	<1	<1	<10	<0.1	<1	<1	<0.02	<0.1
Quality Control		0.054	3.017	49.67	0.982	1.031	0.937	0.0087	0.051
True Value QC		0.050	3.000	50.00	1.000	1.000	1.000	0.0100	0.050
% Recovery		108	101	99	98	103	94	87	102
Relative Standard Deviation		7.7	0.1	0.7	0.5	3.4	6.4	6.9	4.6
METHODS: EPA 1311, 600/4-91/		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Gayle A. Potter, Chemist

05/04/99
Date

H4118M.XLS

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of____

Company Name:	Higgins and Assoc.	BILL TO	PO #:
Project Manager:	Chris Higgins	Company:	Phillips Pipe Line
Address:	9940 East Costilla Ave Ste. B	Attn:	Tony Walker
City:	Englewood State: CO Zip: 80112	Address:	3811 Adams Bldg.
Phone #:	303-708-9846	City:	Bartlesville,
Fax #:	303-708-9848	State:	OK Zip: 74004
Project #:	Project Owner: Phillips Pipe Line	Phone #:	918-661-3557
Project Name:	Hobbs - East Hobbs Junction	Fax #:	918-662-3304
Project Location:	Hobbs, NM		

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST										
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	BTEX, 8020	TPH, 418.1	TCLP metals	TCLP volatiles	TCLP semivolatiles	Toxicity	Reactivity	Ign. Feb. Ity			
~~SB~~ H4118-1	SB-1-33'-34'	X	1			X					X		4/27	10:30	X	X									
-2	SB-1-35'-36'	X	1			X					X		4/27	10:45	X	X									
-3	SB-2-20-22'	X	1			X					X		4/27	12:10	X	X									
-4	SB-2-36'-40'	X	1			X					X		4/27	12:35	X	X									
-5	SB-3-18'-20'	X	1			X					X		4/27	1:00	X	X									
-6	SB-3-36'-38'	X	1			X					X		4/27	1:30	X	X									
-7	composite	X	1			X					X		4/27	2:00	X	X	X	X	X	X	X	X			

Sampler Relinquished: Charles H. Jansen Jr.	Date: 4/27/99 Time: 3:45	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
Relinquished By:	Date: 4/27/99 Time: 2:45	Received By: (Lab Staff) Amy Hill	Fax Result: ☒ Yes ☐ No REMARKS: Fax results.
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☑ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **001025**
February 10, 2000

HIGGINS & ASSOCIATES, L.L.C
9940 EAST COSTILLA AVE., STE.B
ENGLEWOOD, CO 80112

Project Name PPL/EAST HOBBS
Project Number (none)

Attention: CHRIS HIGGINS

On 01/14/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous and non-aq** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA methods 8015 and 8021 were performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

Metals were performed by ATEL, Marion, OH.

All other parameters were performed by Severn Trent (FL) Inc., Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: HIGGINS & ASSOCIATES, L.L.C	PINNACLE ID	: 001025
PROJECT #	: (none)	DATE RECEIVED	: 01/14/00
PROJECT NAME	: PPL/EAST HOBBS	REPORT DATE	: 02/10/00

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-4-14'-16'	NON-AQ	01/11/00
02	MW-4-24'-26'	NON-AQ	01/11/00
03	MW-5-14'-16'	NON-AQ	01/11/00
04	MW-5-24'-26'	NON-AQ	01/11/00
05	MW-6-14'-16'	NON-AQ	01/11/00
06	MW-6-24'-26'	NON-AQ	01/11/00
07	MW-8-14'-16'	NON-AQ	01/11/00
08	MW-8-24'-26'	NON-AQ	01/11/00
09	MW-7-14'-16'	NON-AQ	01/12/00
10	MW-7-24'-26'	NON-AQ	01/12/00
11	MW-10-14'-16'	NON-AQ	01/12/00
12	MW-10-24'-26'	NON-AQ	01/12/00
13	MW-4	AQUEOUS	01/13/00
14	MW-5	AQUEOUS	01/13/00
15	MW-6	AQUEOUS	01/13/00
16	MW-8	AQUEOUS	01/13/00
17	MW-10	AQUEOUS	01/13/00

PINNACLE LABORATORIES

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Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

PINNACLE I.D.: 001025

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-4-14'-16'	NON-AQ	01/11/00	01/18/00	01/19/00	1
02	MW-4-24'-26'	NON-AQ	01/11/00	01/18/00	01/19/00	1
03	MW-5-14'-16'	NON-AQ	01/11/00	01/18/00	01/19/00	1

PARAMETER	DET. LIMIT	UNITS	MW-4-14'-16'	MW-4-24'-26'	MW-5-14'-16'
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025
SURROGATE:					
BROMOFLUOROBENZENE (%)			96	102	101
SURROGATE LIMITS	(65 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

PINNACLE I.D.: 001025

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-5-24'-26'	NON-AQ	01/11/00	01/18/00	01/19/00	1
05	MW-6-14'-16'	NON-AQ	01/11/00	01/18/00	01/19/00	1
06	MW-6-24'-26'	NON-AQ	01/11/00	01/18/00	01/19/00	1

PARAMETER	DET. LIMIT	UNITS	MW-5-24'-26'	MW-6-14'-16'	MW-6-24'-26'
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	104	104
SURROGATE LIMITS	(65 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-8-14'-16'	NON-AQ	01/11/00	01/18/00	01/19/00	1
08	MW-8-24'-26'	NON-AQ	01/11/00	01/18/00	01/19/00	1
09	MW-7-14'-16'	NON-AQ	01/12/00	01/18/00	01/19/00	1

PARAMETER	DET. LIMIT	UNITS	MW-8-14'-16'	MW-8-24'-26'	MW-7-14'-16'
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025
SURROGATE:					
BROMOFLUOROBENZENE (%)			100	99	101
SURROGATE LIMITS	(65 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-7-24'-26'	NON-AQ	01/12/00	01/18/00	01/19/00	1
11	MW-10-14'-16'	NON-AQ	01/12/00	01/18/00	01/19/00	1
12	MW-10-24'-26'	NON-AQ	01/12/00	01/18/00	01/19/00	1

PARAMETER	DET. LIMIT	UNITS	MW-7-24'-26'	MW-10-14'-16'	MW-10-24'-26'
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	100	101
SURROGATE LIMITS	(65 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 001025
BLANK I. D.	: 011800	DATE EXTRACTED	: 01/18/00
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE ANALYZED	: 01/18/00
PROJECT #	: (none)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: PPL/EAST HOBBS		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 100
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 011800	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXTRACTED	: 01/18/00
PROJECT #	: (none)	DATE ANALYZED	: 01/18/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: NON-AQ
		UNITS	: MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.025	1.00	1.14	114	1.14	114	0	(68 - 120)	20
TOLUENE	<0.025	1.00	1.06	106	1.05	105	1	(64 - 120)	20
ETHYLBENZENE	<0.025	1.00	1.14	114	1.14	114	0	(49 - 127)	20
TOTAL XYLENES	<0.025	3.00	3.35	112	3.29	110	2	(58 - 120)	20

CHEMIST NOTES:
N/A

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

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

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-4	AQUEOUS	01/13/00	NA	01/18/00	1
14	MW-5	AQUEOUS	01/13/00	NA	01/18/00	1
15	MW-6	AQUEOUS	01/13/00	NA	01/18/00	20

PARAMETER	DET. LIMIT	UNITS	MW-4	MW-5	MW-6
BENZENE	0.5	**UG/L**	< 0.5	< 0.5	**3300**
TOLUENE	0.5	**UG/L**	< 0.5	< 0.5	**2000**
ETHYLBENZENE	0.5	**UG/L**	< 0.5	< 0.5	**240**
TOTAL XYLENES	0.5	**UG/L**	< 0.5	< 0.5	**580**

SURROGATE:				
BROMOFLUOROBENZENE (%)		99	100	102
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

PINNACLE I.D.: 001025

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-8	AQUEOUS	01/13/00	NA	01/18/00	1
17	MW-10	AQUEOUS	01/13/00	NA	01/18/00	20

PARAMETER	DET. LIMIT	UNITS	MW-8	MW-10
BENZENE	0.5	**UG/L**	< 0.5	**4100**
TOLUENE	0.5	**UG/L**	< 0.5	**490**
ETHYLBENZENE	0.5	**UG/L**	< 0.5	**440**
TOTAL XYLENES	0.5	**UG/L**	< 0.5	**720**

SURROGATE:			
BROMOFLUOROBENZENE (%)		90	87
SURROGATE LIMITS	(80 - 120)		

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 001025
BLANK I. D.	: 011700	DATE EXTRACTED	: NA
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE ANALYZED	: 01/17/00
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PPL/EAST HOBBS		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		96
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 001025
BLANK I. D.	: 011800	DATE EXTRACTED	: NA
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE ANALYZED	: 01/18/00
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PPL/EAST HOBBS		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		91
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 001006-03	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 01/17/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.9	110	20.9	105	5	(80 - 120)	20
TOLUENE	<0.5	20.0	22.2	111	21.0	105	6	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	23.4	117	22.6	113	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	68.0	113	66.5	111	2	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

PINNACLE LABORATORIES

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Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-4-14'-16'	NON-AQ	01/11/00	01/21/00	01/21/00	1
02	MW-4-24'-26'	NON-AQ	01/11/00	01/21/00	01/21/00	1
03	MW-5-14'-16'	NON-AQ	01/11/00	01/21/00	01/22/00	1

PARAMETER	DET. LIMIT	UNITS	MW-4-14'-16'	MW-4-24'-26'	MW-5-14'-16'
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0
CALCULATED SUM:					
SURROGATE:					
O-TERPHENYL (%)			107	105	102
SURROGATE LIMITS	(66 - 151)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-5-24'-26'	NON-AQ	01/11/00	01/21/00	01/22/00	1
05	MW-6-14'-16'	NON-AQ	01/11/00	01/21/00	01/24/00	1
06	MW-6-24'-26'	NON-AQ	01/11/00	01/21/00	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	MW-5-24'-26'	MW-6-14'-16'	MW-6-24'-26'
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	**MG/KG**	< 5.0	< 5.0	**12**
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0
CALCULATED SUM:					**12.0**
SURROGATE:					
O-TERPHENYL (%)			87	105	102
SURROGATE LIMITS	(66 - 151)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-8-14'-16'	NON-AQ	01/11/00	01/21/00	01/24/00	1
08	MW-8-24'-26'	NON-AQ	01/11/00	01/21/00	01/24/00	1
09	MW-7-14'-16'	NON-AQ	01/12/00	01/21/00	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	MW-8-14'-16'	MW-8-24'-26'	MW-7-14'-16'
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0
CALCULATED SUM:					
SURROGATE:					
O-TERPHENYL (%)			100	103	102
SURROGATE LIMITS	(66 - 151)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-7-24'-26'	NON-AQ	01/12/00	01/21/00	01/24/00	1
11	MW-10-14'-16'	NON-AQ	01/12/00	01/21/00	01/24/00	1
12	MW-10-24'-26'	NON-AQ	01/12/00	01/21/00	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	MW-7-24'-26'	MW-10-14'-16'	MW-10-24'-26'
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	**MG/KG**	**26**	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	**MG/KG**	**6.7**	< 5.0	< 5.0
CALCULATED SUM:			**32.7**		
SURROGATE:					
O-TERPHENYL (%)			107	103	103
SURROGATE LIMITS	(66 - 151)				

CHEMIST NOTES:

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
BLANK I.D.	: 012100	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXTRACTED	: 01/21/00
PROJECT #	: (none)	DATE ANALYZED	: 01/21/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: NON-AQ

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/KG	< 10
HYDROCARBON RANGE		< 5.0
HYDROCARBONS QUANTITATED USING		< 5.0
SURROGATE:		
O-TERPHENYL (%)		101
SURROGATE LIMITS (80 - 151)		

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
MSMSD #	: 001025-12	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXRACTED	: 01/21/00
PROJECT #	: (none)	DATE ANALYZED	: 01/24/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: NON-AQ
		UNITS	:

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<5.0	200	216	108	197	99	9	(56 - 148)	20

CHEMIST NOTES:
N/A

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

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

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C PINNACLE I.D.: 001025
PROJECT # : (none)
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-4	AQUEOUS	01/13/00	01/17/00	01/20/00	1
14	MW-5	AQUEOUS	01/13/00	01/17/00	01/21/00	1
15	MW-6	AQUEOUS	01/13/00	01/17/00	01/21/00	1

PARAMETER	DET. LIMIT	UNITS	MW-4	MW-5	MW-6
FUEL HYDROCARBONS, C6-C10	2.0	MG/L	< 2.0	< 2.0	< 2.0
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0	< 1.0
CALCULATED SUM:					
SURROGATE:					
O-TERPHENYL (%)			117	124	121
SURROGATE LIMITS	(79 - 124)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : HIGGINS & ASSOCIATES, L.L.C
PINNACLE I.D.: 001025
PROJECT # : *(none)*
PROJECT NAME : PPL/EAST HOBBS

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-8	NON-AQ	01/13/00	01/17/00	01/21/00	1
17	MW-10	NON-AQ	01/13/00	01/17/00	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	MW-8	MW-10
FUEL HYDROCARBONS, C6-C10	2.0	MG/L	< 2.0	< 2.0
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0
CALCULATED SUM:				
SURROGATE:				
O-TERPHENYL (%)			122	124
SURROGATE LIMITS	(79 - 124)			

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
BLANK I.D.	: 011700	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXTRACTED	: 01/17/00
PROJECT #	: (none)	DATE ANALYZED	: 01/20/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: AQUEOUS

PARAMETER	UNITS	
FUEL HYDROCARBONS, C6-C10	MG/L	< 2.0
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0
SURROGATE:		
O-TERPHENYL (%)		111
SURROGATE LIMITS	(78 - 128)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
MSMSD #	: 011700	PINNACLE I.D.	: 001025
CLIENT	: HIGGINS & ASSOCIATES, L.L.C	DATE EXTRACTED	: 01/17/00
PROJECT #	: (none)	DATE ANALYZED	: 01/20/00
PROJECT NAME	: PPL/EAST HOBBS	SAMPLE MATRIX	: AQUEOUS
		UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	33.3	34.2	103	33.4	100	2	(64 - 127)	20

CHEMIST NOTES:
N/A

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

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

- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-.

Attn:

Phone: (505) 344-3777 **Ext:**
FAX: (505) 344-4413

Report Date: *08-Feb-00*

Our Lab #: MAR00-01651
Date Logged-In: 1/20/00
Matrix: Water
Project #: 011800-17

Your Sample ID: 001025-13
Sample Source: RCRA
Client Project #:
Date Submitted to Lab: 1/19/2000

PO#: 001025/011817

- COLLECTION INFORMATION -

Date/Time/By: 1/13/00 11:00 AM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AS-MS	6020	Arsenic, As	16	UG/L	1/27/00	KRG	2E+04
BA-ICP	6010A	Barium, Ba	2890	UG/L	1/20/00	BLD	2E+04
B-MS	6020	Boron, B	180	UG/L	1/28/00	SMM	2E+04
CD-GFAA	3113B/7131	Cadmium, Cd	< 0.5	UG/L	1/31/00	SMM	2E+04
CA-ICP	200.7/6010B	Calcium, Ca	710	MG/L	1/26/00	SMM	2E+04
CR-ICP	6010A	Chromium, Cr	130	UG/L	1/20/00	BLD	2E+04
PB-MS	6020	Lead, Pb	9.9	UG/L	1/26/00	KRG	2E+04
LI-MS	6020	Lithium, Li	< 100	UG/L	1/26/00	KRG	2E+04
MG-ICP	200.7/6010B	Magnesium, Mg	44	MG/L	1/20/00	BLD	2E+04
HG	7470	Mercury, Hg	< 0.2	UG/L	1/26/00	TMB	2E+04
K-ICP	200.7/6010B	Potassium, K	12	MG/L	1/26/00	SMM	2E+04
SE-GFAA	7740	Selenium, Se	< 15.0	UG/L	1/21/00	BLD	2E+04
SI-MS	200.8	Silicon, Si	103	MG/L	1/26/00	KRG	2E+04
AG-ICP	6010A	Silver, Ag	< 10	UG/L	1/20/00	BLD	2E+04
NA-ICP	200.7/6010B	Sodium, Na	170	MG/L	1/20/00	BLD	2E+04
SR-MS	200.8/6020	Strontium, Sr	1700	UG/L	1/26/00	KRG	2E+04
U-MS	6020	Uranium, U	< 20.0	UG/L	1/27/00	KRG	2E+04

Note: The selenium practical quantitation limit has been elevated due to matrix interference.

End of Report

Report Approved By: _____

Deborah K. Johnson

- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-

Attn:

Phone: (505) 344-3777 **Ext:**
FAX: (505) 344-4413

Report Date: *08-Feb-00*

Our Lab #: MAR00-01652 **Your Sample ID:** 001025-14
Date Logged-In: 1/20/00 **Sample Source:** RCRA
Matrix: Water **Client Project #:** **PO#:** 001025/011817
Project #: 011800-18 **Date Submitted to Lab:** 1/19/2000

- COLLECTION INFORMATION -

Date/Time/By: 1/13/00 11:15 AM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AS-MS	6020	Arsenic, As	10	UG/L	1/27/00	KRG	2E+04
BA-ICP	6010A	Barium, Ba	185	UG/L	1/20/00	BLD	2E+04
B-MS	6020	Boron, B	150	UG/L	1/28/00	SMM	2E+04
CD-GFAA	3113B/7131	Cadmium, Cd	< 0.5	UG/L	1/31/00	SMM	2E+04
CA-ICP	200.7/6010B	Calcium, Ca	120	MG/L	1/20/00	BLD	2E+04
CR-ICP	6010A	Chromium, Cr	< 20	UG/L	1/20/00	BLD	2E+04
PB-MS	6020	Lead, Pb	< 2.0	UG/L	1/26/00	KRG	2E+04
LI-MS	6020	Lithium, Li	< 100	UG/L	1/26/00	KRG	2E+04
MG-ICP	200.7/6010B	Magnesium, Mg	23	MG/L	1/20/00	BLD	2E+04
HG	7470	Mercury, Hg	< 0.2	UG/L	1/26/00	TMB	2E+04
K-ICP	200.7/6010B	Potassium, K	6.4	MG/L	1/26/00	SMM	2E+04
SE-GFAA	7740	Selenium, Se	< 3.0	UG/L	1/21/00	BLD	2E+04
SI-MS	200.8	Silicon, Si	44	MG/L	1/26/00	KRG	2E+04
AG-ICP	6010A	Silver, Ag	< 10	UG/L	1/20/00	BLD	2E+04
NA-ICP	200.7/6010B	Sodium, Na	43	MG/L	1/20/00	BLD	2E+04
SR-MS	200.8/6020	Strontium, Sr	1300	UG/L	1/26/00	KRG	2E+04
U-MS	6020	Uranium, U	< 20.0	UG/L	1/27/00	KRG	2E+04

End of Report

Report Approved By: _____

Deborah K. Johnson

- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-

Attn:

Phone: (505) 344-3777 **Ext:**
FAX: (505) 344-4413

Report Date: *08-Feb-00*

Our Lab #: MAR00-01653
Date Logged-In: 1/20/00
Matrix: Water
Project #: 011800-19

Your Sample ID: 001025-15
Sample Source: RCRA
Client Project #:
Date Submitted to Lab: 1/19/2000

PO#: 001025/011817

- COLLECTION INFORMATION -

Date/Time/By: 1/13/00 11:30 AM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AS-MS	6020	Arsenic, As	8.5	UG/L	1/26/00	KRG	2E+04
BA-ICP	6010A	Barium, Ba	841	UG/L	1/20/00	BLD	2E+04
B-MS	6020	Boron, B	140	UG/L	1/28/00	SMM	2E+04
CD-MS	6020	Cadmium, Cd	< 1.0	UG/L	1/26/00	KRG	2E+04
CD-GFAA	3113B/7131	Cadmium, Cd	< 0.5	UG/L	1/31/00	SMM	2E+04
CA-ICP	200.7/6010B	Calcium, Ca	170	MG/L	1/20/00	BLD	2E+04
CR-ICP	6010A	Chromium, Cr	< 20	UG/L	1/20/00	BLD	2E+04
PB-MS	6020	Lead, Pb	< 2.0	UG/L	1/26/00	KRG	2E+04
LI-MS	6020	Lithium, Li	< 100	UG/L	1/26/00	KRG	2E+04
MG-ICP	200.7/6010B	Magnesium, Mg	28	MG/L	1/20/00	BLD	2E+04
HG	7470	Mercury, Hg	< 0.2	UG/L	1/26/00	TMB	2E+04
K-ICP	200.7/6010B	Potassium, K	5.8	MG/L	1/26/00	SMM	2E+04
SE-GFAA	7740	Selenium, Se	< 3.0	UG/L	1/21/00	BLD	2E+04
SI-MS	200.8	Silicon, Si	34	MG/L	1/26/00	KRG	2E+04
AG-ICP	6010A	Silver, Ag	< 10	UG/L	1/20/00	BLD	2E+04
NA-ICP	200.7/6010B	Sodium, Na	93	MG/L	1/20/00	BLD	2E+04
SR-MS	200.8/6020	Strontium, Sr	1300	UG/L	1/26/00	KRG	2E+04
U-MS	6020	Uranium, U	< 20.0	UG/L	1/27/00	KRG	2E+04

Note: The results for the cadmium, arsenic, selenium, silver, and lithium matrix spikes/ matrix spike duplicates were not within recovery limits and thus the sample result should be qualified due to a matrix effect. The analytical run was not rejected since the method quality control checks were within limits.

End of Report

Report Approved By: _____

Deborah K. Johnson

- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-

Attn:

Phone: (505) 344-3777 **Ext:**
FAX: (505) 344-4413

Report Date: *08-Feb-00*

Our Lab #: MAR00-01654 **Your Sample ID:** 001025-16
Date Logged-In: 1/20/00 **Sample Source:** RCRA
Matrix: Water **Client Project #:** **PO#:** 001025/011817
Project #: 011800-20 **Date Submitted to Lab:** 1/19/2000

- COLLECTION INFORMATION -

Date/Time/By: 1/13/00 11:45 AM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AS-MS	6020	Arsenic, As	8.5	UG/L	1/26/00	KRG	2E+04
BA-ICP	6010A	Barium, Ba	119	UG/L	1/20/00	BLD	2E+04
B-MS	6020	Boron, B	160	UG/L	1/28/00	SMM	2E+04
CD-GFAA	3113B/7131	Cadmium, Cd	< 0.5	UG/L	1/31/00	SMM	2E+04
CA-ICP	200.7/6010B	Calcium, Ca	89	MG/L	1/20/00	BLD	2E+04
CR-ICP	6010A	Chromium, Cr	< 20	UG/L	1/20/00	BLD	2E+04
PB-MS	6020	Lead, Pb	< 2.0	UG/L	1/26/00	KRG	2E+04
LI-MS	6020	Lithium, Li	< 100	UG/L	1/26/00	KRG	2E+04
MG-ICP	200.7/6010B	Magnesium, Mg	22	MG/L	1/20/00	BLD	2E+04
HG	7470	Mercury, Hg	< 0.2	UG/L	1/26/00	TMB	2E+04
K-ICP	200.7/6010B	Potassium, K	6.3	MG/L	1/26/00	SMM	2E+04
SE-GFAA	7740	Selenium, Se	< 3.0	UG/L	1/21/00	BLD	2E+04
SI-MS	200.8	Silicon, Si	32	MG/L	1/26/00	KRG	2E+04
AG-ICP	6010A	Silver, Ag	< 10	UG/L	1/20/00	BLD	2E+04
NA-ICP	200.7/6010B	Sodium, Na	58	MG/L	1/20/00	BLD	2E+04
SR-MS	200.8/6020	Strontium, Sr	1100	UG/L	1/26/00	KRG	2E+04
U-MS	6020	Uranium, U	< 20.0	UG/L	1/27/00	KRG	2E+04

End of Report

Report Approved By: _____

Deborah K. Johnson

- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-

Attn:

Phone: (505) 344-3777 **Ext:**
FAX: (505) 344-4413

Report Date: *08-Feb-00*

Our Lab #: MAR00-01655 **Your Sample ID:** 001025-17
Date Logged-In: 1/20/00 **Sample Source:** RCRA
Matrix: Water **Client Project #:** **PO#:** 001025/011817
Project #: 011800-21 **Date Submitted to Lab:** 1/19/2000

- COLLECTION INFORMATION -

Date/Time/By: 1/13/00 12:00 PM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AS-MS	6020	Arsenic, As	15	UG/L	1/26/00	KRG	2E+04
BA-ICP	6010A	Barium, Ba	5480	UG/L	1/20/00	BLD	2E+04
B-MS	6020	Boron, B	190	UG/L	1/28/00	SMM	2E+04
CD-GFAA	3113B/7131	Cadmium, Cd	< 0.5	UG/L	1/31/00	SMM	2E+04
CA-ICP	200.7/6010B	Calcium, Ca	540	MG/L	1/26/00	SMM	2E+04
CR-ICP	6010A	Chromium, Cr	36	UG/L	1/20/00	BLD	2E+04
PB-MS	6020	Lead, Pb	6.5	UG/L	1/26/00	KRG	2E+04
LI-MS	6020	Lithium, Li	< 100	UG/L	1/26/00	KRG	2E+04
MG-ICP	200.7/6010B	Magnesium, Mg	54	MG/L	1/20/00	BLD	2E+04
HG	7470	Mercury, Hg	< 0.2	UG/L	1/26/00	TMB	2E+04
K-ICP	200.7/6010B	Potassium, K	6.5	MG/L	1/26/00	SMM	2E+04
SE-GFAA	7740	Selenium, Se	< 15.0	UG/L	1/21/00	BLD	2E+04
SI-MS	200.8	Silicon, Si	80	MG/L	1/26/00	KRG	2E+04
AG-ICP	6010A	Silver, Ag	< 10	UG/L	1/20/00	BLD	2E+04
NA-ICP	200.7/6010B	Sodium, Na	62	MG/L	1/20/00	BLD	2E+04
SR-MS	200.8/6020	Strontium, Sr	2500	UG/L	1/26/00	KRG	2E+04
U-MS	6020	Uranium, U	< 20.0	UG/L	1/27/00	KRG	2E+04

Note: The selenium practical quantitation limit has been elevated due to matrix interference.

End of Report

Report Approved By: _____

Deborah K. Johnson

STL
Commited To *Your* Success

LOG NO: C0-01306
Received: 15 JAN 00
Reported: 28 JAN 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: HIGG 001025
Sampled By: Client
Code: 081400128

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
01306-1	001025-13	01-13-00/11:00
01306-2	001025-14	01-13-00/11:15
01306-3	001025-15	01-13-00/11:30
01306-4	001025-16	01-13-00/11:45
01306-5	001025-17	01-13-00/12:00

PARAMETER	01306-1	01306-2	01306-3	01306-4	01306-5
Chloride (SM4500E), mg/l	210	130	230	160	180
Analyst	WH	WH	WH	WH	WH
Prep Date	01.18.00	01.18.00	01.18.00	01.18.00	01.24.00
Analysis Date	01.21.00	01.21.00	01.21.00	01.21.00	01.24.00
Batch ID	CKW04A	CKW04A	CKW04A	CKW04A	CKW05A
Prep Method	325.2	325.2	325.2	325.2	325.2
Dilution Factor	5	5	5	5	5
Fluoride (340.2), mg/l	2.3	2.6	1.5	2.4	1.3
Analyst	ED	ED	ED	ED	ED
Prep Date	01.20.00	01.20.00	01.20.00	01.20.00	01.20.00
Analysis Date	01.20.00	01.20.00	01.20.00	01.20.00	01.29.00
Batch ID	FLW004	FLW004	FLW004	FLW004	FLW004
Prep Method	340.2	340.2	340.2	340.2	340.2
Dilution Factor	1	1	1	1	1
Sulfate as SO4 (375.2), mg/l	140	82	<5.0	84	14
Analyst	BE	BE	BE	BE	BE
Prep Date	01.19.00	01.19.00	01.19.00	01.19.00	01.19.00
Analysis Date	01.19.00	01.19.00	01.19.00	01.19.00	01.19.00
Batch ID	SEW011	SEW011	SEW011	SEW011	SEW011
Prep Method	375.4	375.4	375.4	375.4	375.4
Dilution Factor	5	4	1	5	1

STL
Commited To *Your* Success

LOG NO: C0-01306
Received: 15 JAN 00
Reported: 28 JAN 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: HIGG 001025
Sampled By: Client
Code: 081400128

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
01306-1	001025-13	01-13-00/11:00
01306-2	001025-14	01-13-00/11:15
01306-3	001025-15	01-13-00/11:30
01306-4	001025-16	01-13-00/11:45
01306-5	001025-17	01-13-00/12:00

PARAMETER	01306-1	01306-2	01306-3	01306-4	01306-5
Alkalinity Series					
Alkalinity (to pH 4.5) as CaCO3, mg/l	660	170	230	110	400
Bicarbonate (2320/4500), mg/l	3.0	1.0	1.0	1.0	1.0
Carbon Dioxide, mg/l	26	7.0	12	3.0	32
pH, mg/l	7.7	7.7	7.6	7.9	7.4
Analyst	BE	BE	BE	BE	BE
Prep Date	01.19.00	01.19.00	01.19.00	01.19.00	01.19.00
Analysis Date	01.19.00	01.19.00	01.19.00	01.19.00	01.19.00
Batch ID	AEW007	AEW007	AEW007	AEW007	AEW007
Prep Method	310.1	310.1	310.1	310.1	310.1
Dilution Factor	1	1	1	1	1
Total Dissolved Solids (160.1), mg/l	750	560	730	570	750
Analyst	ED	ED	ED	ED	ED
Prep Date	01.18.00	01.18.00	01.18.00	01.18.00	01.18.00
Analysis Date	01.20.00	01.20.00	01.20.00	01.20.00	01.20.00
Batch ID	TDW003	TDW003	TDW003	TDW003	TDW003
Prep Method	160.1	160.1	160.1	160.1	160.1
Dilution Factor	1	1	1	1	1

STL
Commited To *Your* Success

LOG NO: C0-01306
Received: 15 JAN 00
Reported: 28 JAN 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: HIGG 001025
Sampled By: Client
Code: 081400128

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
01306-1	001025-13	01-13-00/11:00
01306-2	001025-14	01-13-00/11:15
01306-3	001025-15	01-13-00/11:30
01306-4	001025-16	01-13-00/11:45
01306-5	001025-17	01-13-00/12:00

PARAMETER	01306-1	01306-2	01306-3	01306-4	01306-5
Polynuclear Aromatic Hydrocarbons (8310)					
Acenaphthene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthracene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene, ug/l	<0.7	<0.7	<0.7	<0.7	<0.7
Benzo(b)fluoranthene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzo(a,h)anthracene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
1-Methylnaphthalene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
2-Methylnaphthalene, ug/l	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate - 2-Chloroanthracene	69 %	77 %	119 %	110 %	76 %
Analyst	MG	MG	MG	MG	MG
Prep Date	01.18.00	01.18.00	01.18.00	01.18.00	01.18.00
Analysis Date	01.23.00	01.23.00	01.23.00	01.23.00	01.23.00
Batch ID	PAW378	PAW378	PAW378	PAW378	PAW378
Prep Method	3520	3520	3520	3520	3520
Dilution Factor	1	1	1	1	1

STL
Commited To *Your* Success

LOG NO: C0-01306
Received: 15 JAN 00
Reported: 28 JAN 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: HIGG 001025
Sampled By: Client
Code: 081400128

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
01306-6	Method Blank	
01306-7	Lab Control Standard % Recovery	
01306-8	Matrix Spike % Recovery	
01306-9	Matrix Spike Duplicate % Recovery	

PARAMETER	01306-6	01306-7	01306-8	01306-9
Polynuclear Aromatic Hydrocarbons (8310)				
Acenaphthene, ug/l	<1.0	---	---	---
Acenaphthylene, ug/l	<1.0	114 %	186 %	147 %
Anthracene, ug/l	<1.0	---	---	---
Benzo(a)anthracene, ug/l	<1.0	---	---	---
Benzo(a)pyrene, ug/l	<0.7	---	---	---
Benzo(b)fluoranthene, ug/l	<1.0	---	---	---
Benzo(g,h,i)perylene, ug/l	<1.0	---	---	---
Benzo(k)fluoranthene, ug/l	<1.0	117 %	93 %	67 %
Chrysene, ug/l	<1.0	167 %	142 %	112 %
Dibenzo(a,h)anthracene, ug/l	<1.0	---	---	---
Fluoranthene, ug/l	<1.0	---	---	---
Fluorene, ug/l	<1.0	---	---	---
Indeno(1,2,3-cd)pyrene, ug/l	<1.0	---	---	---
Naphthalene, ug/l	<1.0	---	---	---
Phenanthrene, ug/l	<1.0	126 %	300 %	250 %
Pyrene, ug/l	<1.0	135 %	106 %	86 %
1-Methylnaphthalene, ug/l	<1.0	---	---	---
2-Methylnaphthalene, ug/l	<1.0	---	---	---
Surrogate - 2-Chloroanthracene	127 %	130 %	109 %	109 %
Analyst	MG	MG	MG	MG
Prep Date	01.18.00	01.18.00	01.18.00	01.18.00
Analysis Date	01.23.00	01.23.00	01.23.00	01.23.00
Batch ID	PAW378	PAW378	PAW378	PAW378
Prep Method	3520	3520	3520	3520
Dilution Factor	1	1	1	1

Lance Larson, Project Manager

Severn Trent Laboratories, Inc.
Pensacola, FL 32514
Tel: (850) 474-1001
Fax: (850) 478-2671

Committed to *Your* Success

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded (≤2°C or ≥ 6°C)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL)
J7	(For positive results)	The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded (≤2°C or ≥ 6°C)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R10	Holding time exceeded, non-reportable for NDPES compliance monitoring	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects	
R7	Internal standard area outside –50% to +100% of initial calibration midpoint standard.	
R8	Initial calibration or any calibration verification exceeds acceptance criteria.	
R9	Improper preservation, sample not filtered in the field.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	< laboratory or AFCEE RL and > laboratory MDL; estimated numerical value	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
B1	Analyte was detected in the associated method blank.	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
** (Organics)	Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs.	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	
T	Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound.	
TIC	Samples are searched for qualitatively as Tentatively Identified Compounds.	
E	Compound concentration exceeds the upper calibration range of the instrument.	
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.	

ND = Not Detected at or above the STL-Pensacola reporting limit (RL) N/S = Not Submitted N/A = Not Applicable
IDL = Laboratory Instrument Detection Limit MDL = Laboratory Method Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze.
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

I changed due date: 1-26-00

Pinnacle Laboratories, Inc. Interlab Chain of Custody

Date: 1/14 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

Pinnacle Laboratories, Inc.
2709-D Pan American Freeway, NE C00/306
Albuquerque, New Mexico 87107
(505) 344-3777 Fax (505) 344-4413

Use both bottles for 8310!!
Benzo (a) pyrene DL = 0.7

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL		TOX	TOC	Gen Chemistry: Cl, F, SO4	Alkalinity, TDS	Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
001025 -13	1/13	1100	AQ	1								X	X							X								
-14		1115		2								X	X							X								
-15		1130		3								X	X							X								
-16		1145		4								X	X							X								
-17	↓	1200	↓	5								X	X							X								

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT #:	001025	Total Number of Containers	
PROJ. NAME:	HIGG	Chain of Custody Seals	
QC LEVEL:	(STD) IV	Received Intact?	
QC REQUIRED:	(MS) MSD BLANK	Received Good Cond./Cold	
TAT:	(STANDARD) RUSH!!	LAB NUMBER:	
DUE DATE:	1/26		
RUSH SURCHARGE:	—		
CLIENT DISCOUNT:	—		
SPECIAL CERTIFICATION REQUIRED:	YES (NO)		

COMMENTS:

SAMPLES SENT TO:	
PENSACOLA - STL-FL	X
PORTLAND - ESL-OR	
STL - CT	
STL- NEW JERSEY	
N. CREEK	
BARRINGER	
SEQUOIA	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Francine Torino Time: 1700	Signature: Time:
Printed Name: Francine Torino Date: 1/14/00	Printed Name: Date:
Pinnacle Laboratories, Inc.	Company
RECEIVED BY: 1.	**RECEIVED BY: 2**
Signature: Bob Esperman Time: 0945	Signature: Time:
Printed Name: R. ELSPERMAN Date: 1/15/00	Printed Name: Date:
Company STL-PNS	Company

Severn Trent Laboratories of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: CO01306 Date Received: 15-Jan-00

1.	Was there a Chain of Custody?	(Yes)	No♣		
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No♣		
3.	Were samples received cold? (Criteria: 2° - 6°C: STL-SOP 1055)	(Yes)	No♣	N/A	
4.	Were all samples properly labeled and identified?	(Yes)	No♣		
5.	Did samples require splitting? Req By: PM Client Other♦	Yes♣	(No)		
6.	Were samples received in proper containers for analysis requested?	(Yes)	No♣		
7.	Were all sample containers received intact?	(Yes)	No♣		
8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+*	(Yes)	No♣	N/A	
9.	Is there sufficient volume for analysis requested?	(Yes)	No♣	N/A (Can)	
10.	Were samples received within Holding Time? (REFER TO STL-SOP 1040)	(Yes)	No♣		
11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes♣	No	(N/A)	
12.	If sent, were matrix spike bottles returned?	Yes	No♣	(N/A)	
13.	Was Project Manager notified of problems? (initials:_____)	Yes	No♣	(N/A)	

Airbill Number(s): 128781684443582782 Shipped By: UPS

Cooler Number(s): Client Cooler Shipping Charges: N/A

Cooler Weight(s): N/A Cooler Temp(s) (°C): 2.0°C - CC41

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIFFOR ADDITIONAL NOTES AND COMMENTS) ☞

Inspected By: MSC Date: 1/15/00 Logged By: PJS Date: 1/15/00

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*

♦ *Note who requested the splitting of samples on the Comment Section of this form.*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938).*

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 1/13/00 PAGE: 1 OF 2

PLI Accession #: 001025

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Chris Higgins

COMPANY: Higgins and Associates
ADDRESS: 9940 East Costilla Ave.
Suite B, Englewood, CO 80112
PHONE: 303-708-9846
FAX: 303-708-9848

BILL TO: as above
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	BTEX, TRPH	(M8015) Gas/Purge & Trap	3021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
mw-4-14'-16'	1/11/00	13:05	Soil	01			X																									1
mw-4-24'-26'		13:25		02			X																									1
mw-5-14'-16'		1:10		03			X																									1
mw-5-24'-26'		1:15		04			X																									1
mw-6-14'-16'		10:30		05			X																									1
mw-6-24'-26'		10:45		06			X																									1
mw-8-14'-16'		2:05		07			X																									1
mw-8-24'-26'		2:20		08			X																									1
mw-7-14'-16'	1/12/00	8:15	Soil	09			X																									1
mw-7-24'-26'	1/12/00	8:40	Soil	10			X																									1

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: PPL/East Hobbs
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	10
CUSTODY SEALS	Y/N (NA)
RECEIVED INTACT	Yes
BLUE ICE/ICE	4°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

Fax Results

RELINQUISHED BY: 1.

Signature: CJS Time: 1:00
Printed Name: C. Jensen Date: 1/13/00
Company:
See reverse side (Force Magure)

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: Time: 1215
Printed Name: Date: 1/14/00
Pinnacle Laboratories Inc.

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 1/13/00 PAGE: 2 OF 2

PLI Accession #: 001025

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY: Higgins and Associates
ADDRESS: 9840 East Costilla Ave, Ste. B
Englewood, CO ~~800~~ 80112
PHONE: 303-708-9846
FAX: 303-708-9848

BILL TO: as above
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	BTEX, TPH	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: Uranium		NUMBER OF CONTAINERS
mw-10-14'-16'	1/12/00	9:35	Soil	11			X																X	Cations/anions/TDS			~~X~~				1
mw-10-24'-26'	1/12/00	9:45	Soil	12			X																X				X				1
mw-4	1/13/00	11:00	wtr	13			X																X				X	X	X		9
mw-5	"	11:15	"	14			X																X				X	X	X		9
mw-6	"	11:30	"	15			X																X				X	X	X		9
~~mw-7~~	"	→	"	~~16~~			~~X~~																								
mw-8	"	11:45	"	16			X																X				X	X	X		9
mw-10	"	12:00	"	17			X																X				X	X	X		9

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: PPL/East Hobbs
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	47
CUSTODY SEALS	Y/N/(NA)
RECEIVED INTACT	Yes
BLUE ICE/ICE	4°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

Fax Results

RELINQUISHED BY: 1.

Signature: [signature] Time: 1:00
Printed Name: C. Jensen Date: 1/13/00
Company:
See reverse side (Force Magure)

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: [signature] Time: 1215
Printed Name: Francine Tinnio Date: 1/14/00
Pinnacle Laboratories Inc.

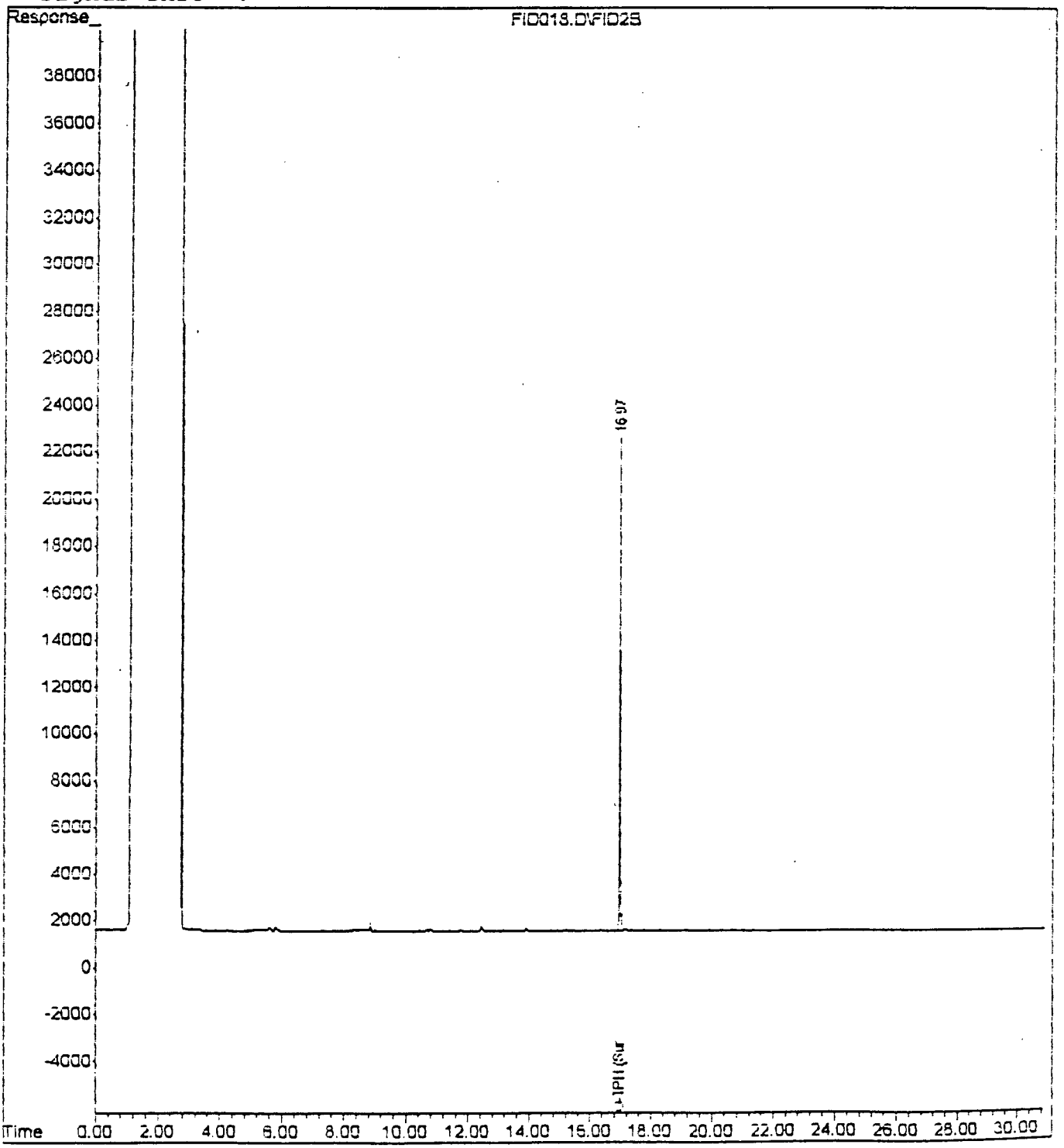
Data File : C:\HPCHEM\2\DATA\012100\FID018.D
Acq On : 21 Jan 2000 22:23
Sample : 001025-01
Misc : naq
IntFile : EVENTS.E

Vial: 18
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 10:40 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



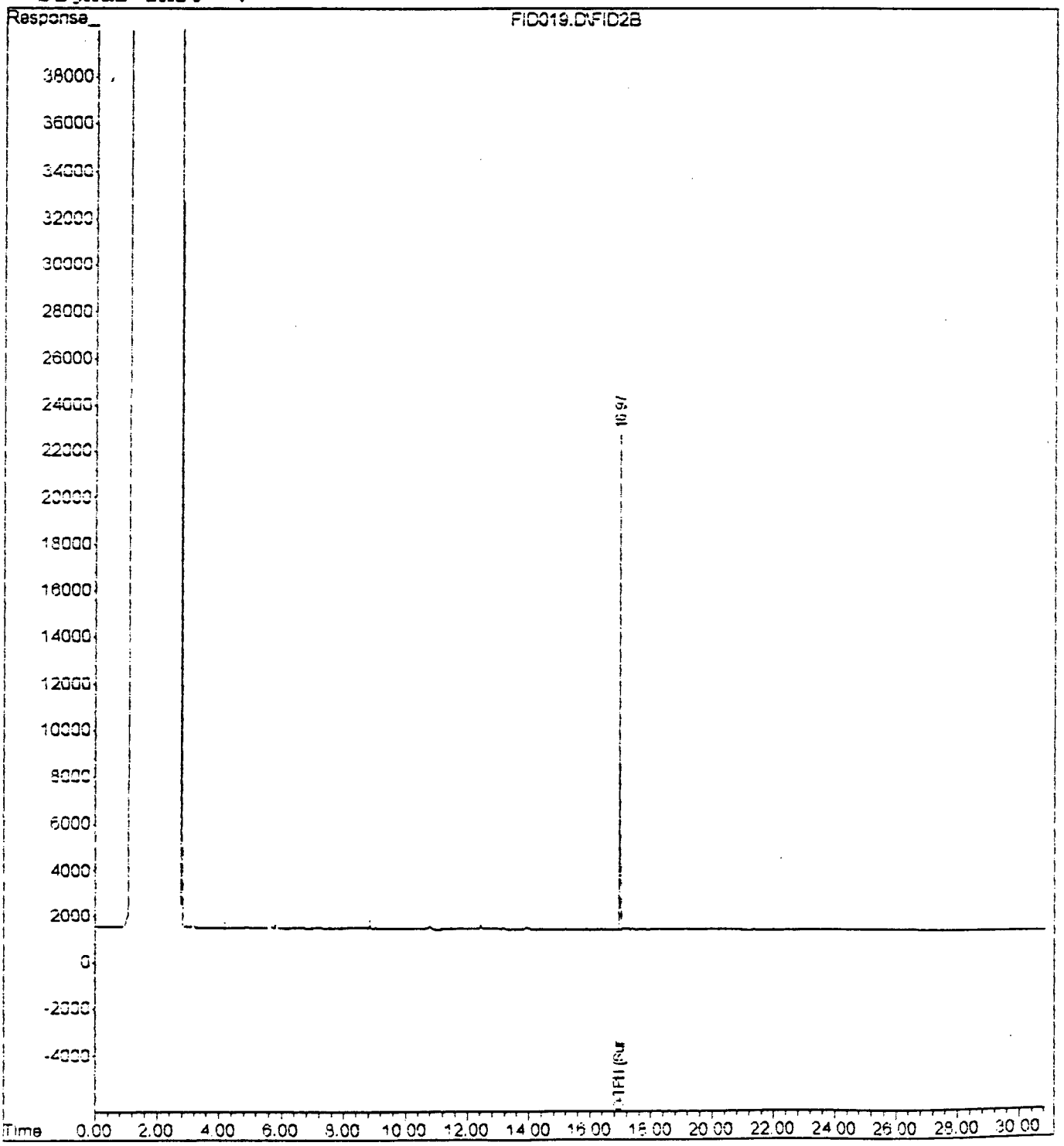
Data File : C:\HPCHEM\2\DATA\012100\FID019.D
Acq On : 21 Jan 2000 23:14
Sample : 001025-02
Misc : naq
IntFile : EVENTS.E

Vial: 19
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 9:31 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



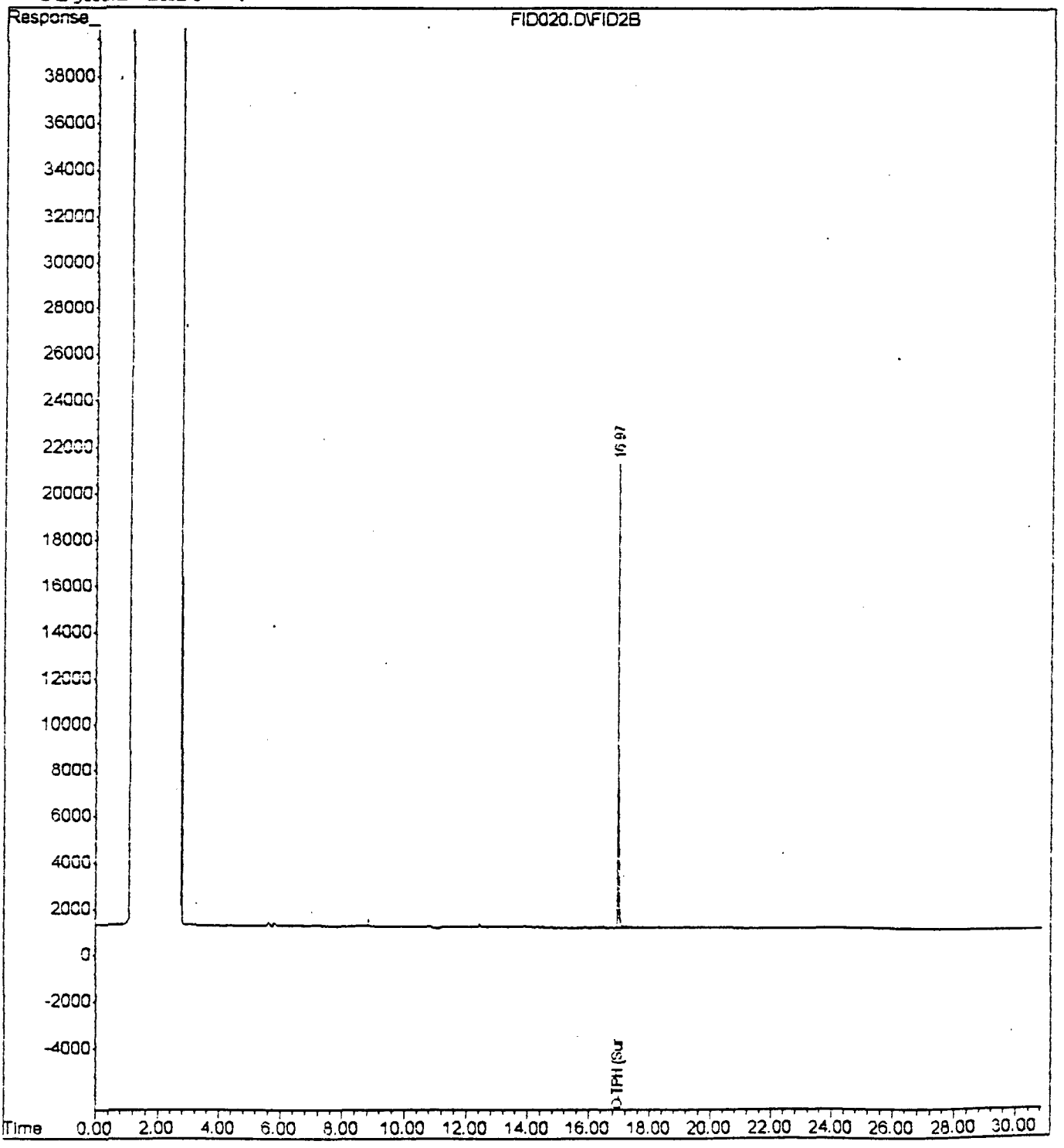
Data File : C:\HPCHEM\2\DATA\012100\FID020.D
Acq On : 22 Jan 2000 00:05
Sample : 001025-03
Misc : naq
IntFile : EVENTS.E

Vial: 20
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 9:32 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



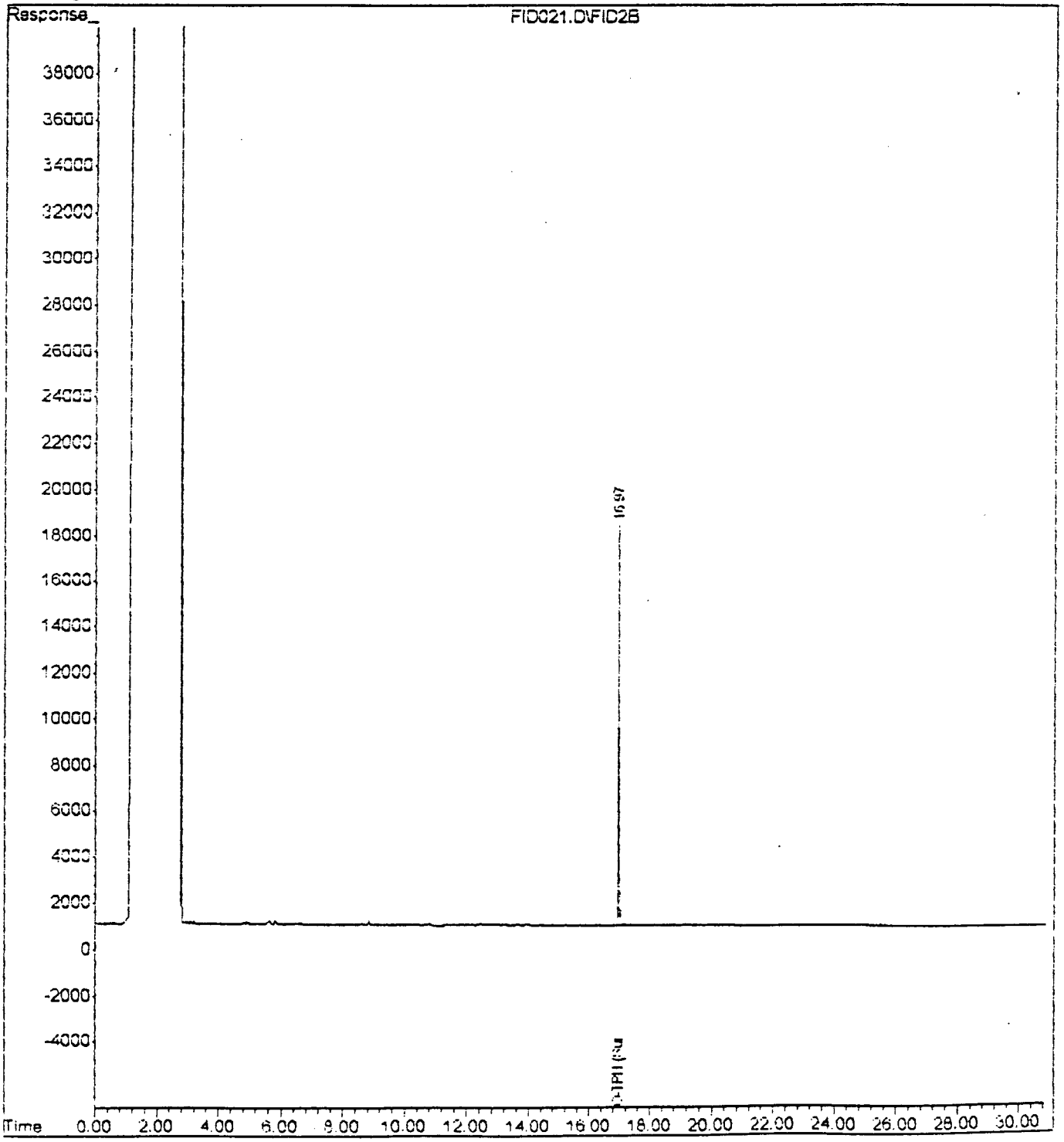
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012100\FID021.D Vial: 21
Acq On : 22 Jan 2000 00:55 Operator: cff
Sample : 001025-04 Inst : FID-1
Misc : naq Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 24 9:32 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



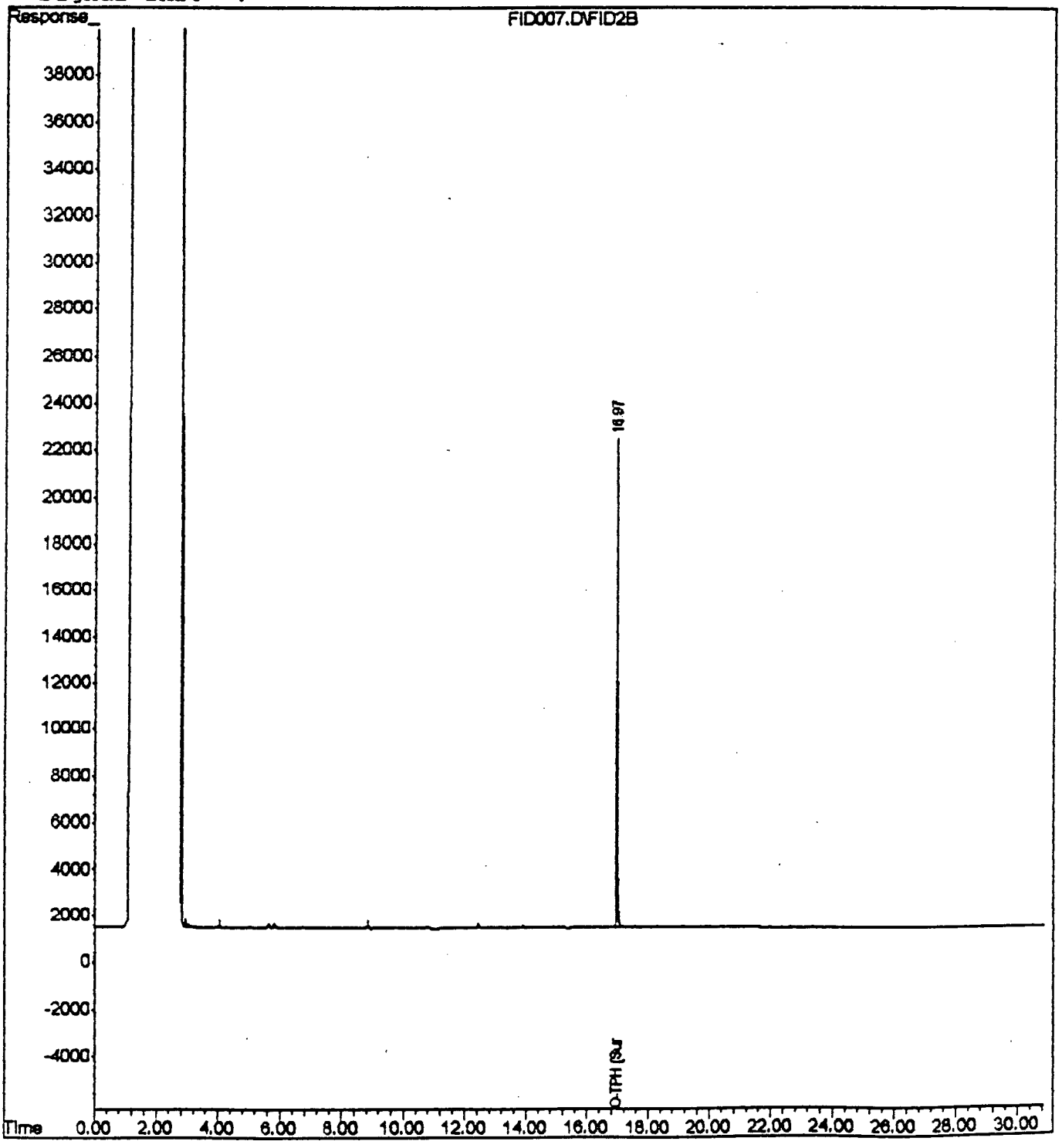
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012400\FID007.D Vial: 7
Acq On : 24 Jan 2000 14:15 Operator: cff
Sample : 001025-05 Inst : FID-1
Misc : non-aq Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 26 8:59 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



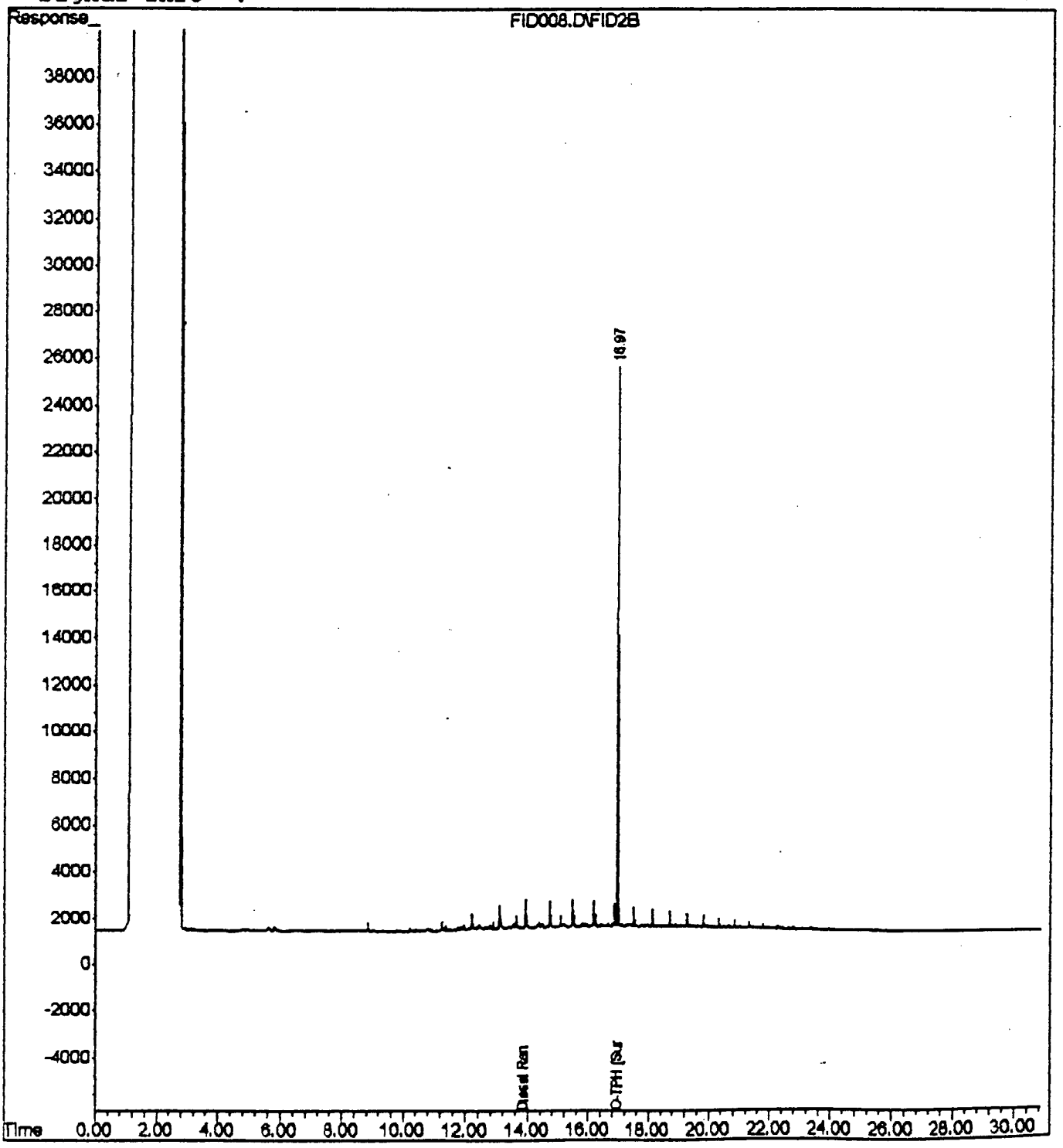
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012400\FID008.D Vial: 8
Acq On : 24 Jan 2000 15:05 Operator: cff
Sample : 001025-06 Inst : FID-1
Misc : naq Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 26 9:07 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



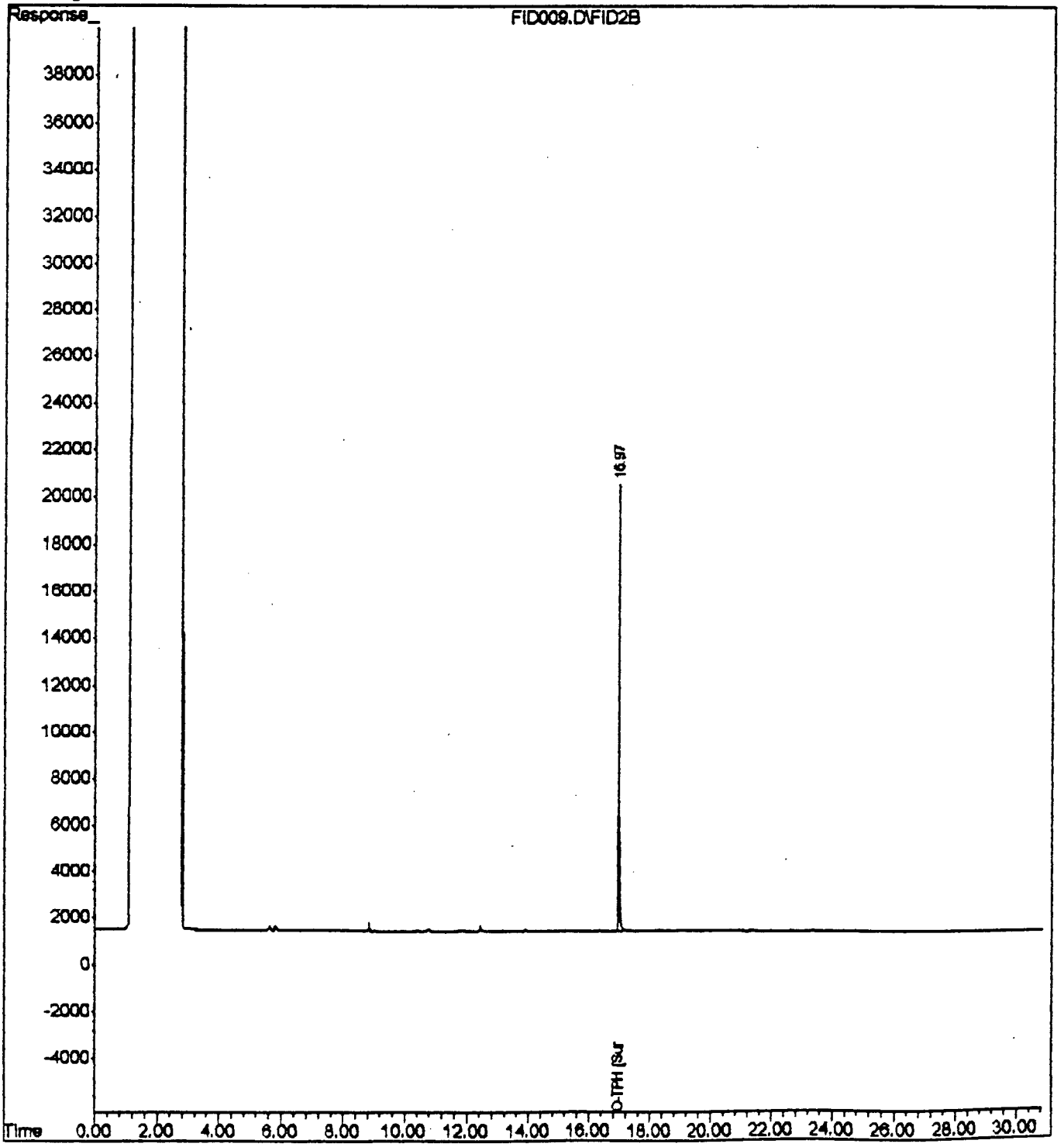
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012400\FID009.D Vial: 9
Acq On : 24 Jan 2000 15:57 Operator: cff
Sample : 001025-07 Inst : FID-1
Misc : naq Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 24 16:45 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



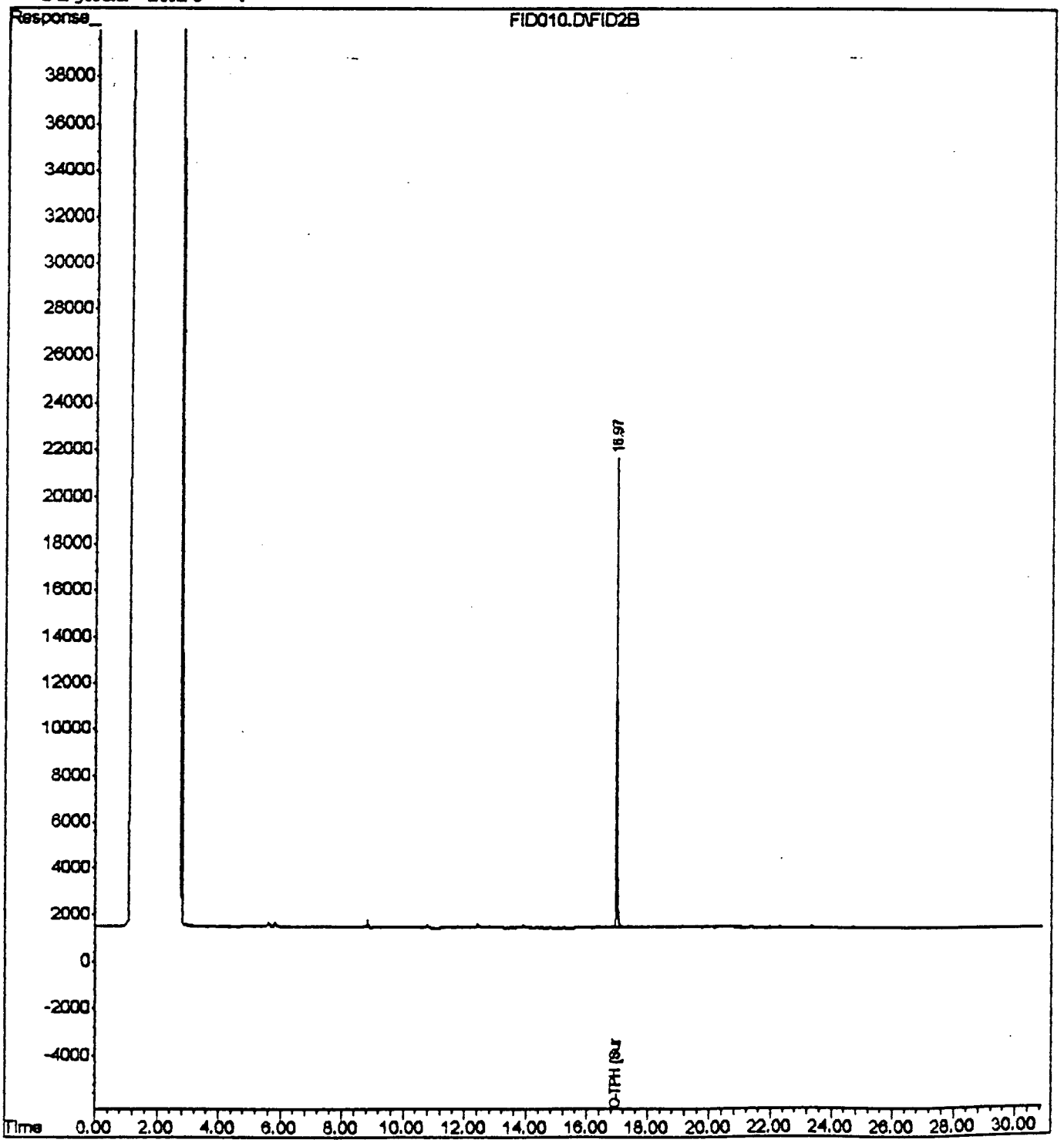
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012400\FID010.D Vial: 10
Acq On : 24 Jan 2000 16:47 Operator: cff
Sample : 001025-08 Inst : FID-1
Misc : naq Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 26 9:08 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



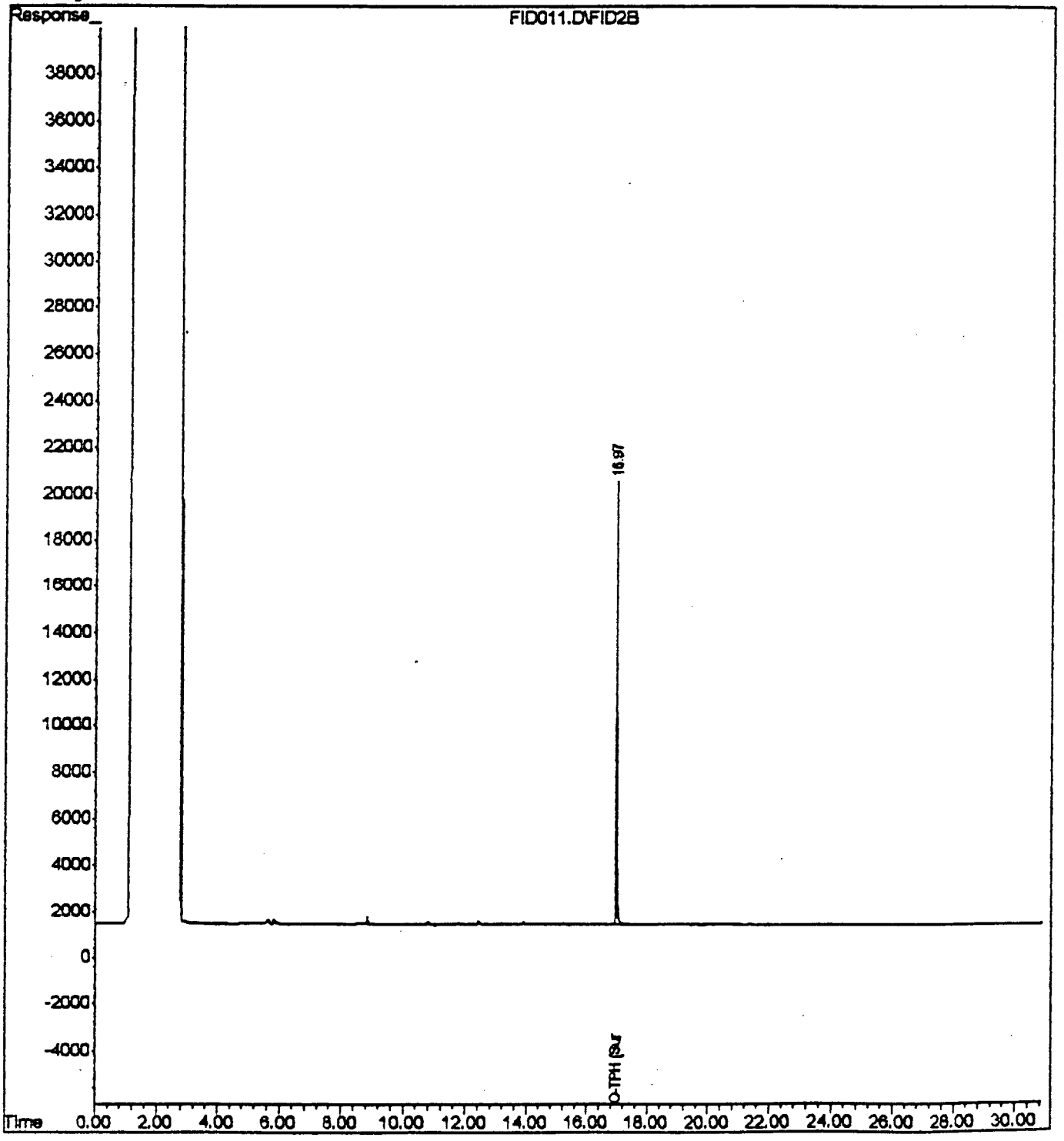
Data File : C:\HPCHEM\2\DATA\012400\FID011.D
Acq On : 24 Jan 2000 17:35
Sample : 001025-09
Misc : naq
IntFile : EVENTS.E

Vial: 11
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 26 9:09 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



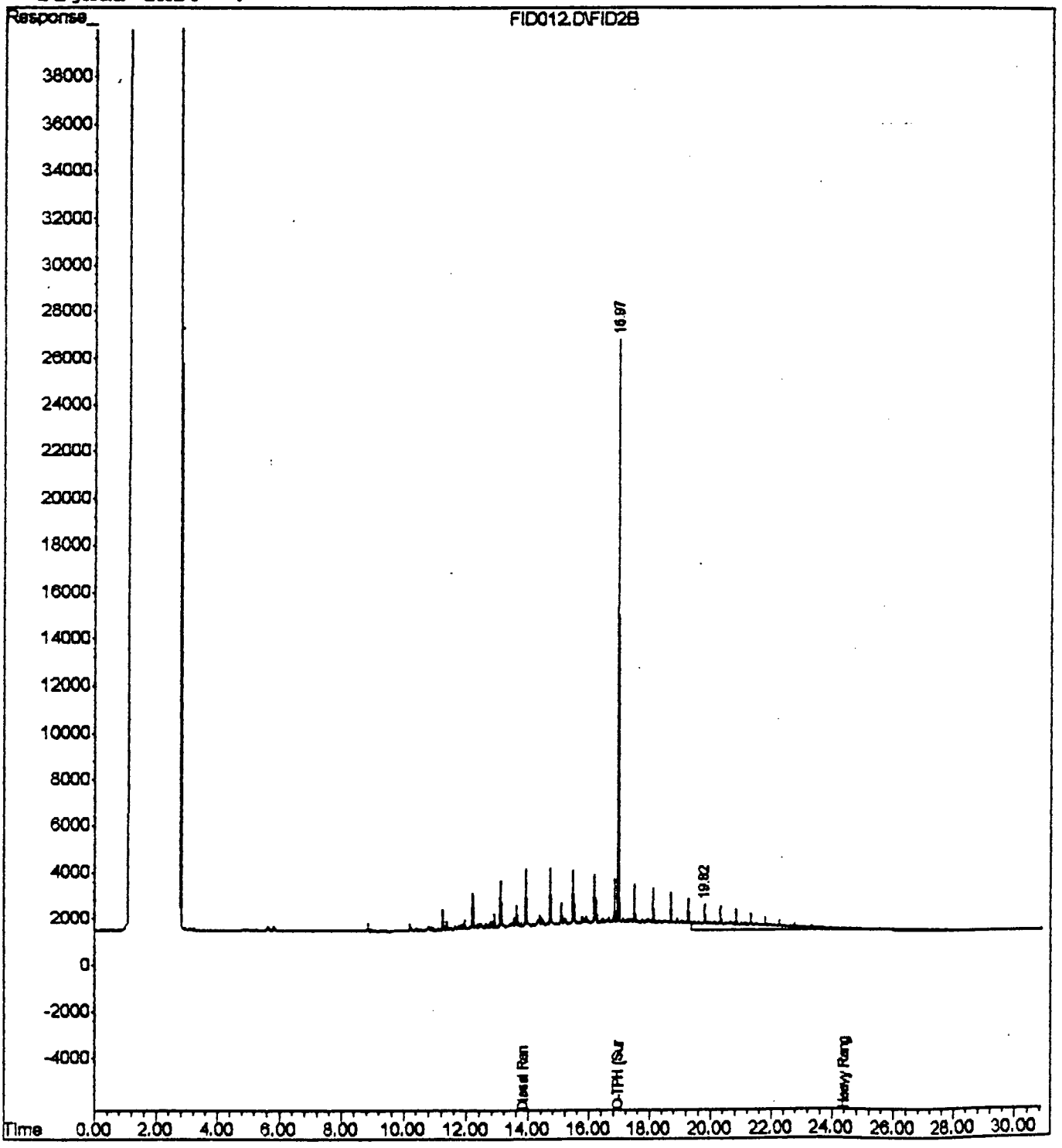
Data File : C:\HPCHEM\2\DATA\012400\FID012.D
Acq On : 24 Jan 2000 18:24
Sample : 001025-10
Misc : naq
IntFile : EVENTS.E

Vial: 12
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 26 9:26 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

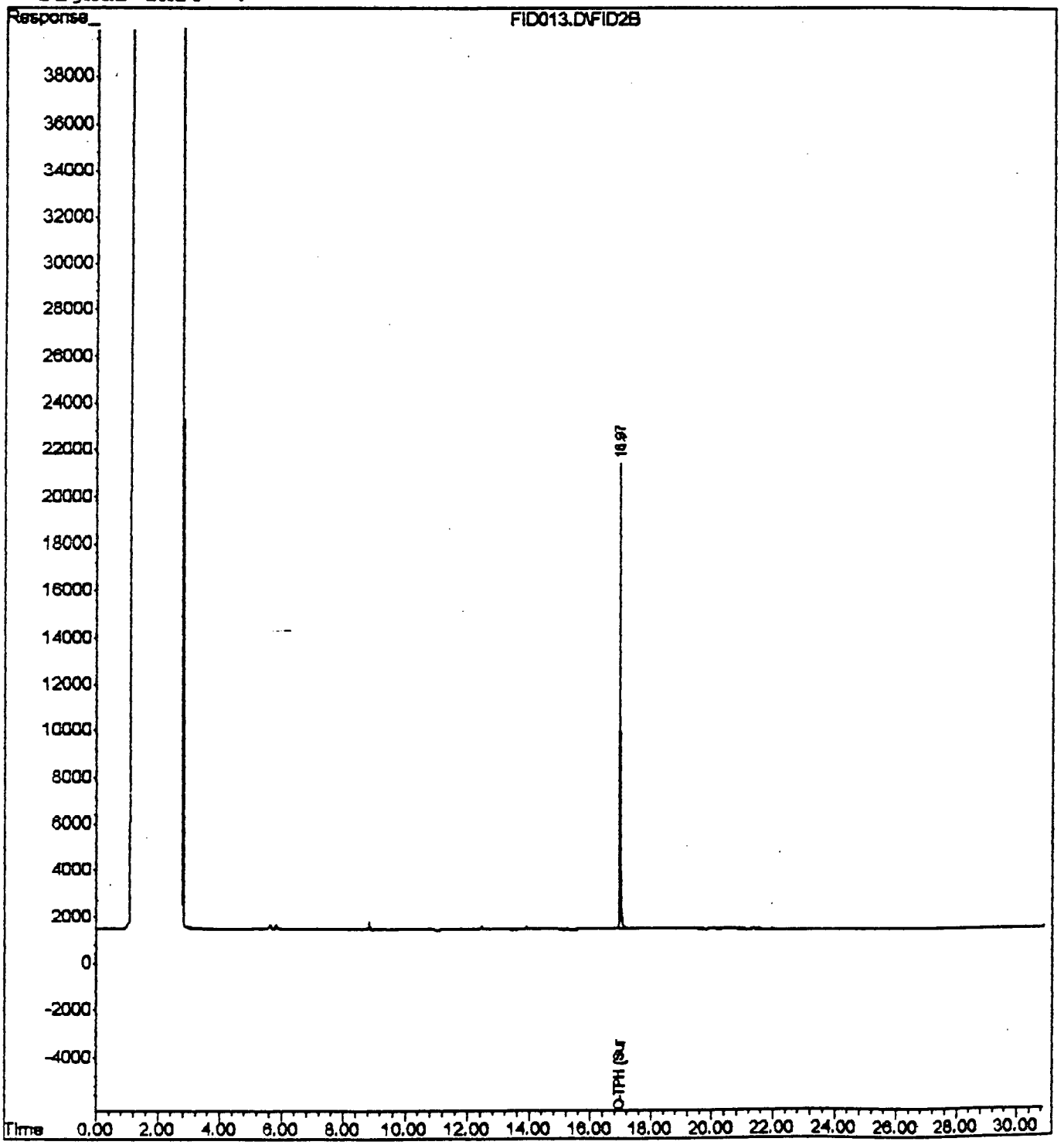
Data File : C:\HPCHEM\2\DATA\012400\FID013.D
Acq On : 24 Jan 2000 19:13
Sample : 001025-11
Misc : naq
IntFile : EVENTS.E

Vial: 13
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 26 9:26 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



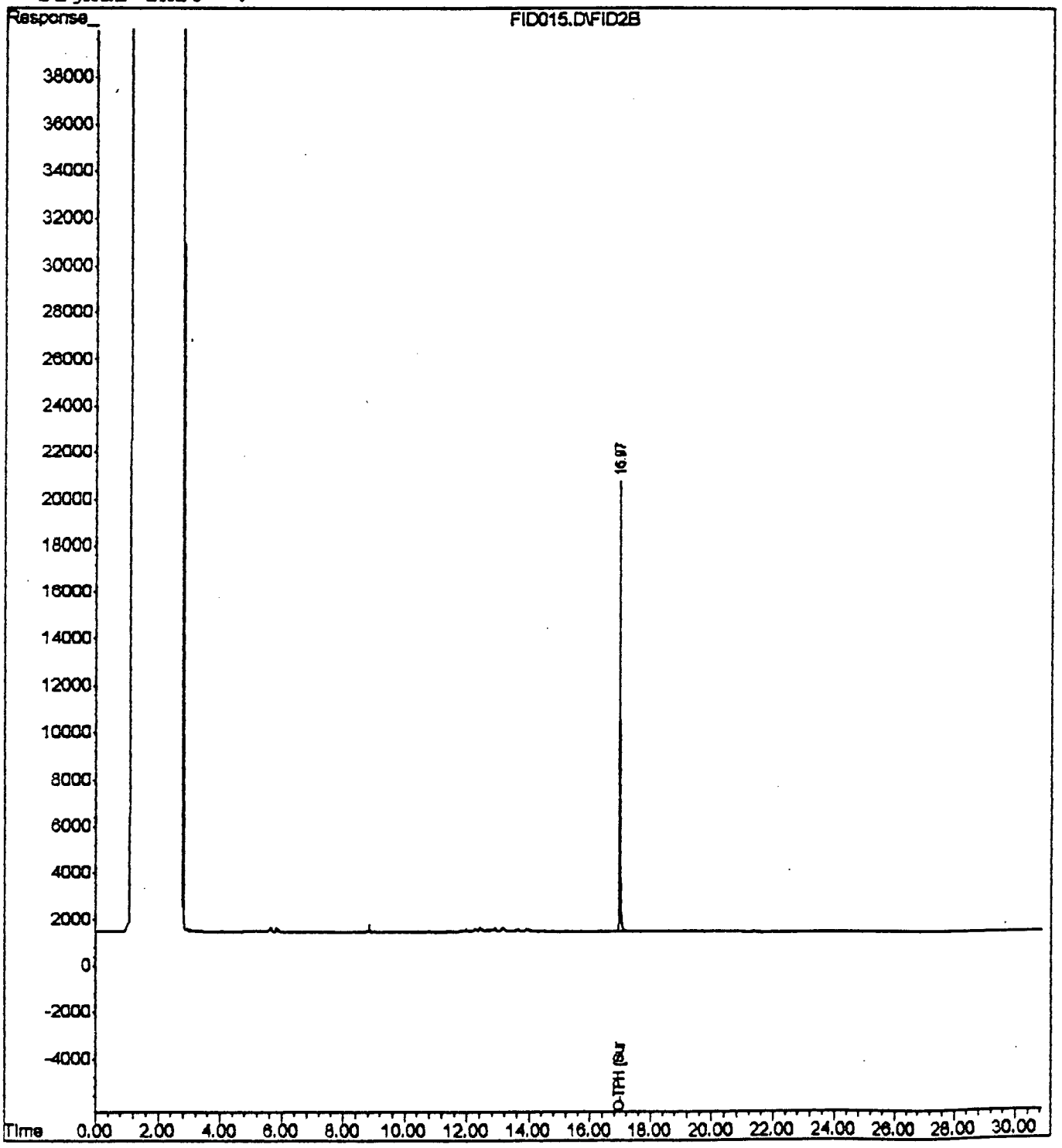
Data File : C:\HPCHEM\2\DATA\012400\FID015.D
Acq On : 24 Jan 2000 20:51
Sample : 001025-12
Misc : naq
IntFile : EVENTS.E

Vial: 15
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 26 9:27 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



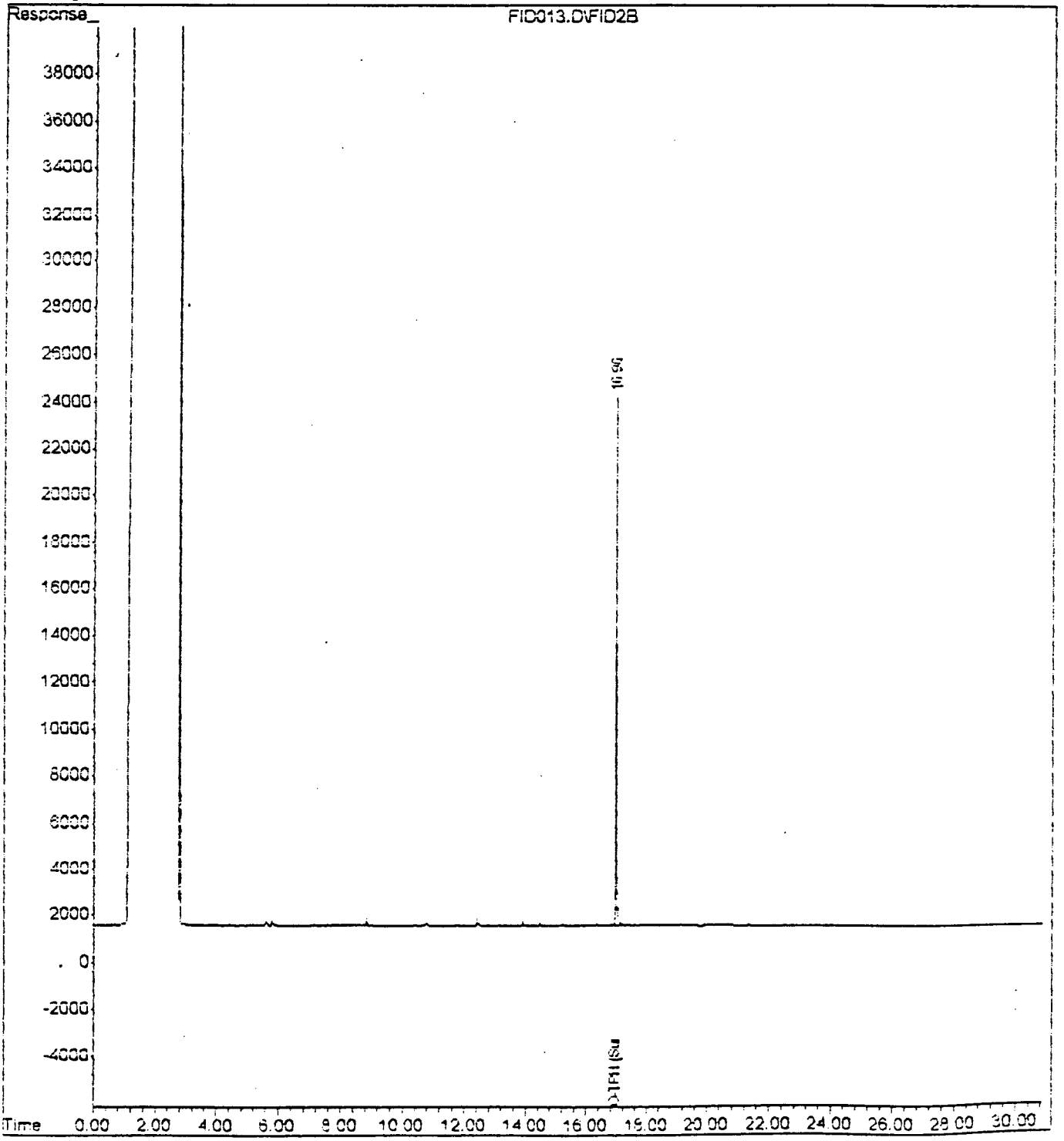
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\012000\FID013.D Vial: 13
Acq On : 20 Jan 2000 21:08 Operator: cff
Sample : 001025-13 Inst : FID-1
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Quant Time: Jan 21 8:45 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



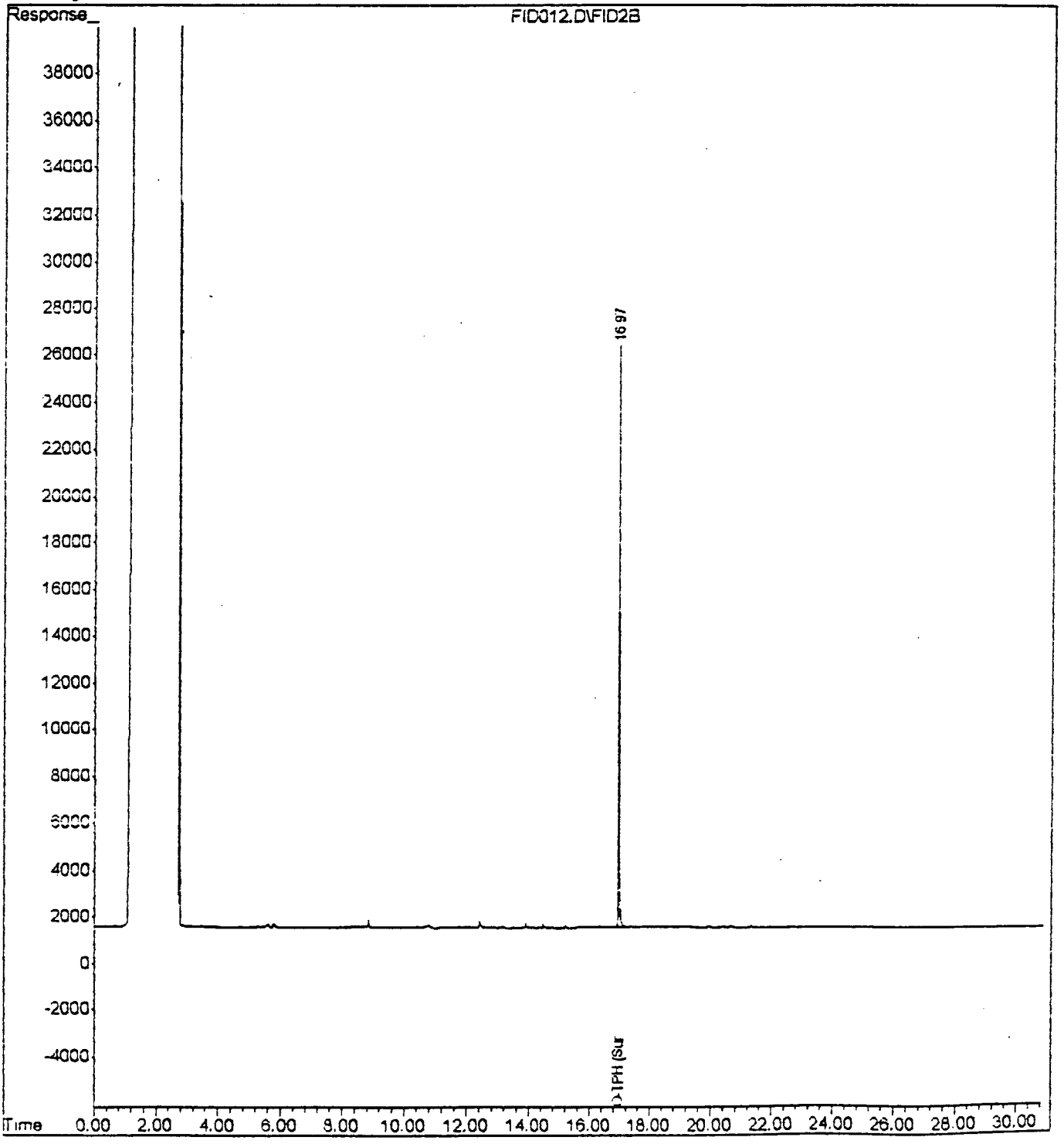
Data File : C:\HPCHEM\2\DATA\012100\FID012.D
Acq On : 21 Jan 2000 17:10
Sample : 001025-14
Misc : aq
IntFile : EVENTS.E

Vial: 12
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 9:23 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



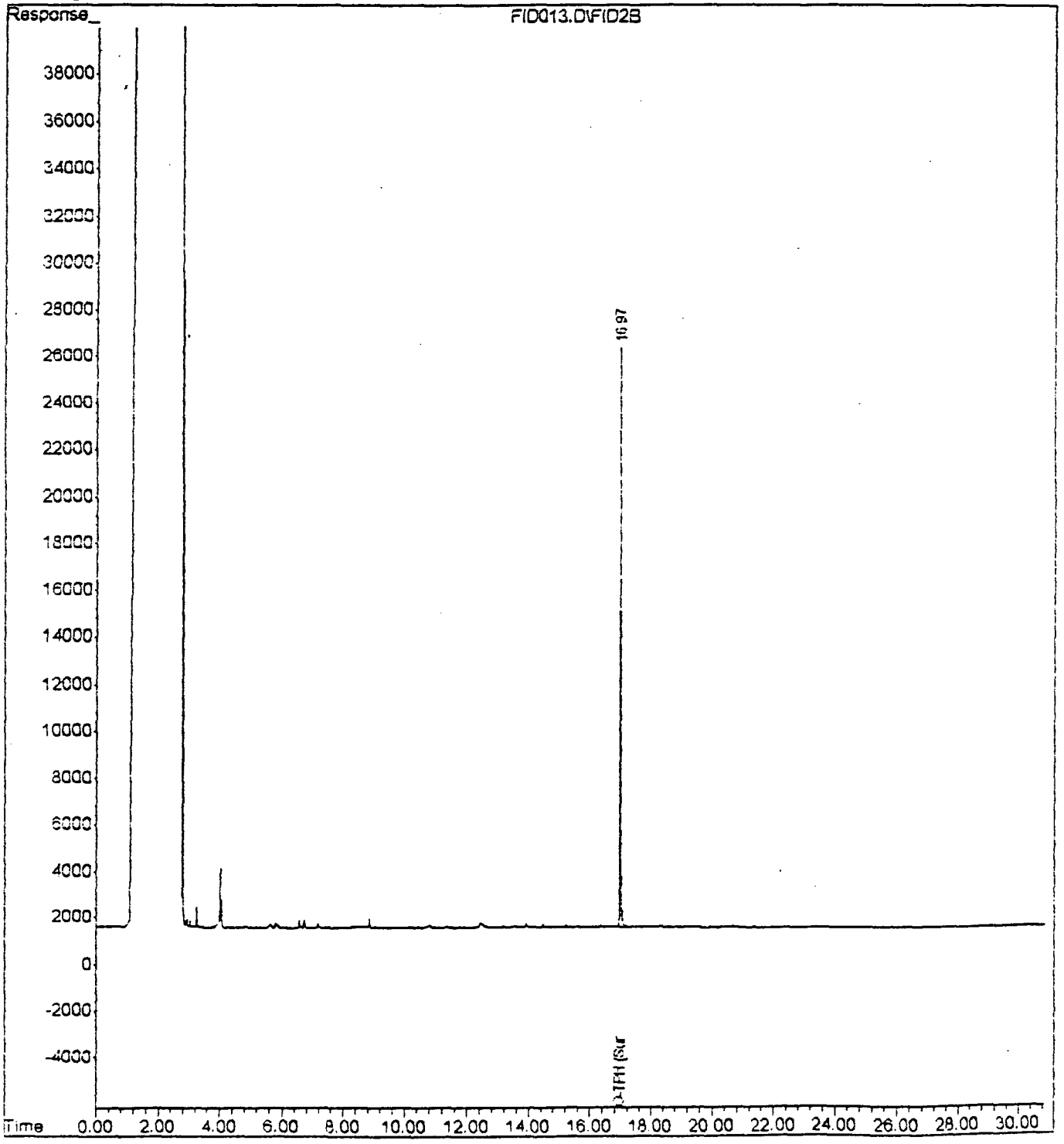
Data File : C:\HPCHEM\2\DATA\012100\FID013.D
Acq On : 21 Jan 2000 18:02
Sample : 001025-15
Misc : aq
IntFile : EVENTS.E

Vial: 13
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 9:24 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

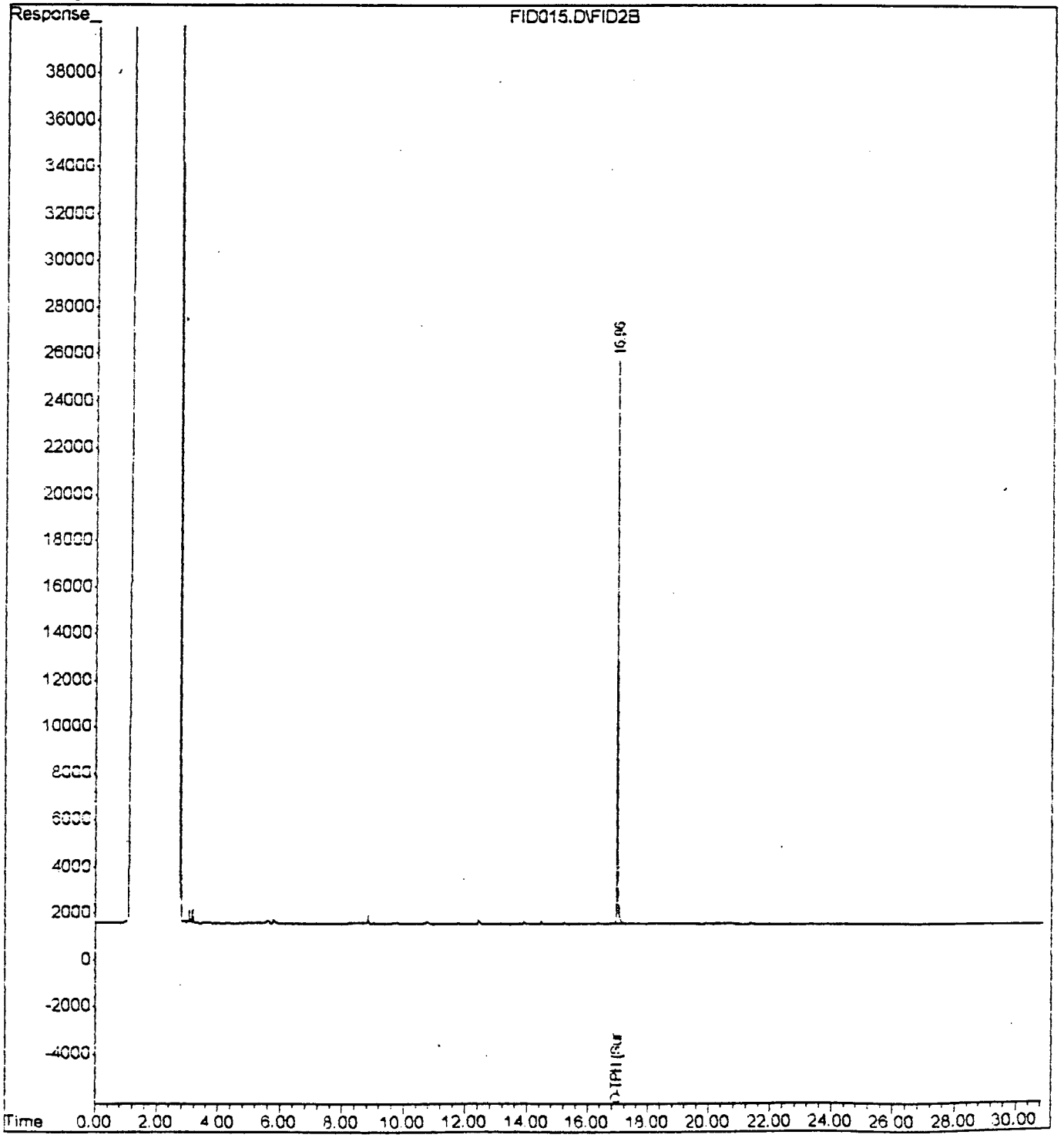
Data File : C:\HPCHEM\2\DATA\012100\FID015.D
Acq On : 21 Jan 2000 19:47
Sample : 001025-16
Misc : aq
IntFile : EVENTS.E

Vial: 15
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 9:24 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



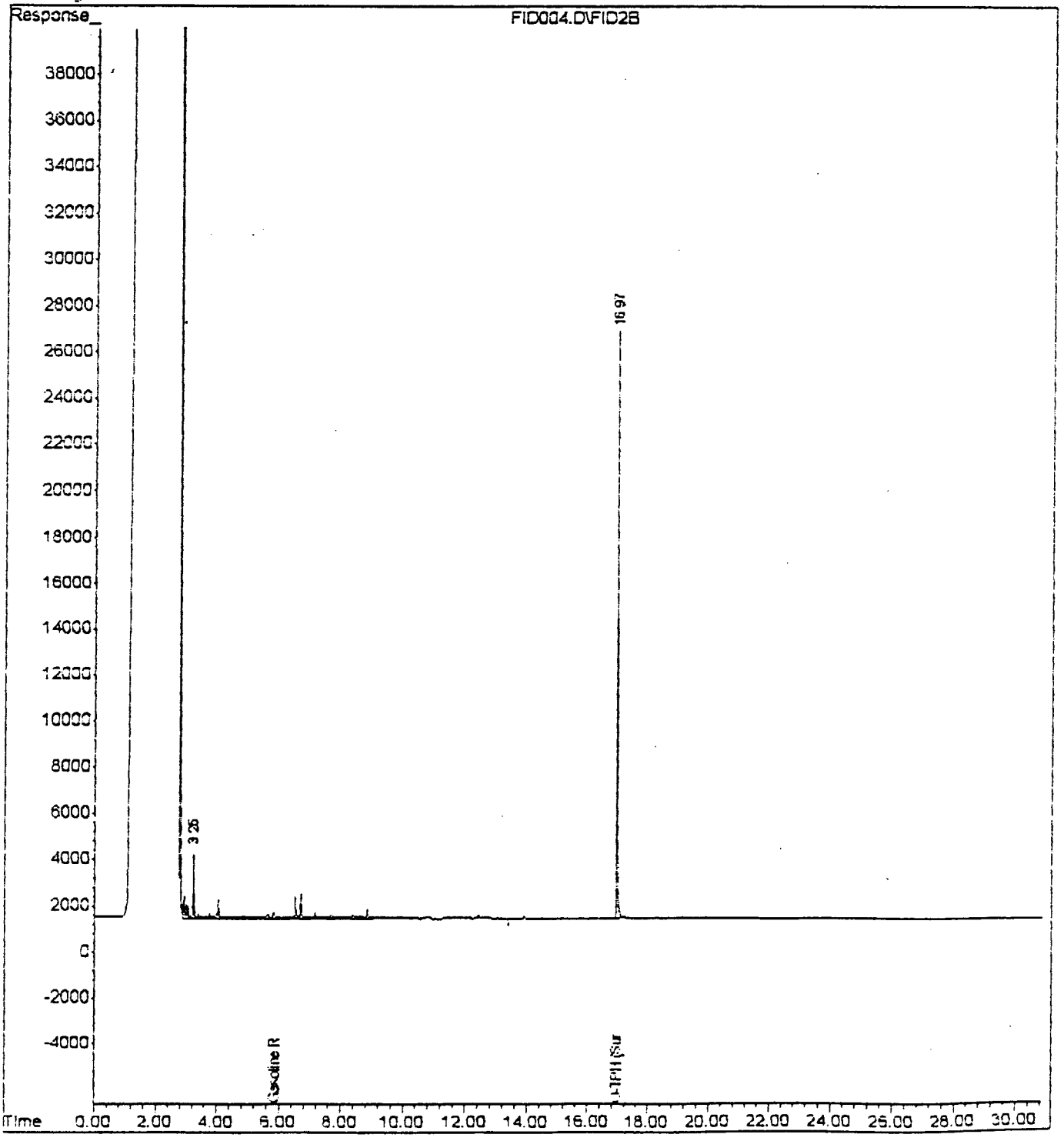
Data File : C:\HPCHEM\2\DATA\012400\FID004.D
Acq On : 24 Jan 2000 11:44
Sample : 001025-17
Misc : aq
IntFile : EVENTS.E

Vial: 4
Operator: cff
Inst : FID-1
Multiplr: 1.00

Quant Time: Jan 24 13:13 2000 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

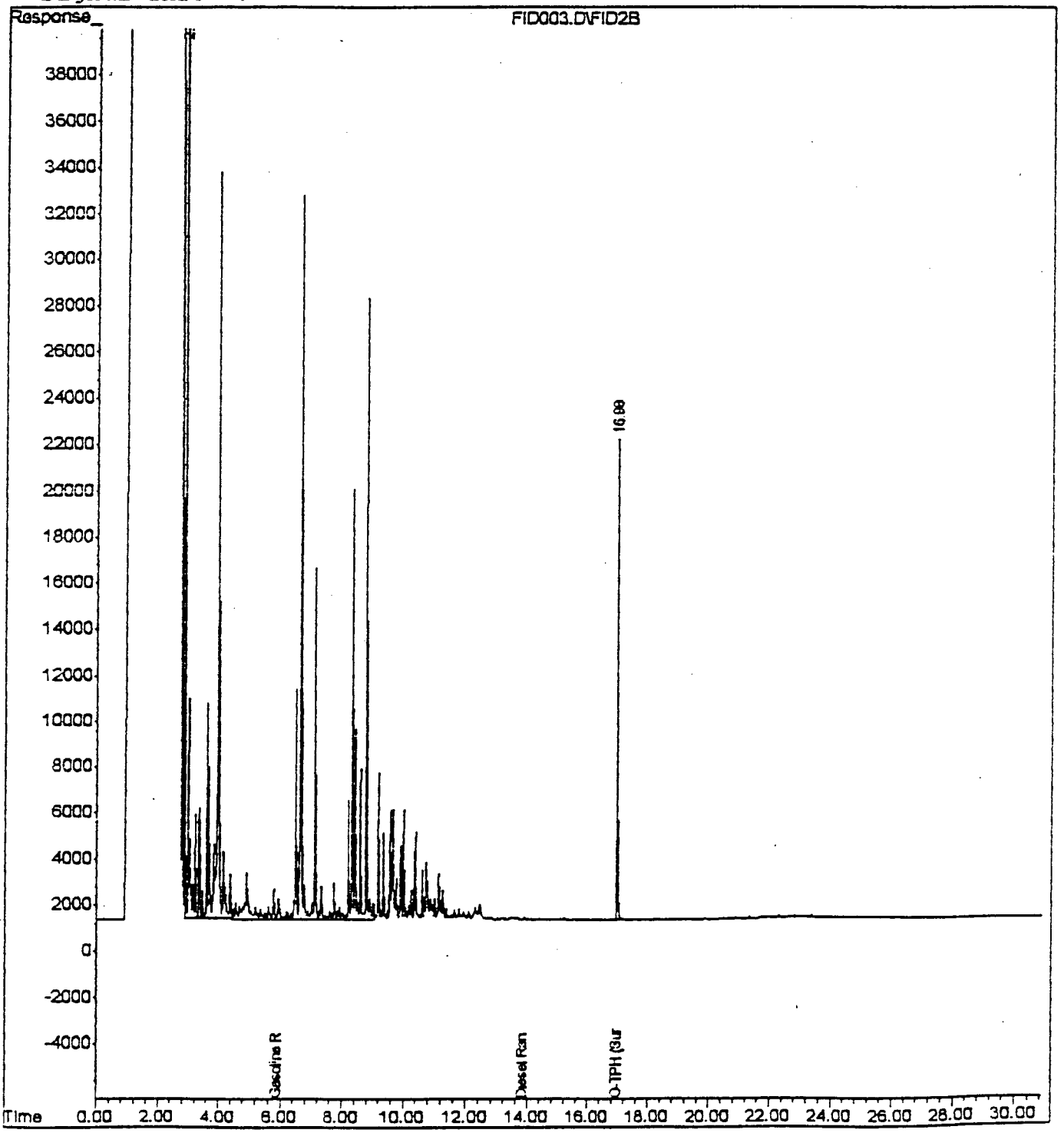
Data File : C:\HPCHEM\2\DATA\111299\FID003.D
Acq On : 12 Nov 1999 11:21
Sample : gasoline
Misc : at 200ug/mL
IntFile : EVENTS.E

Vial: 3
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Nov 12 13:07 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

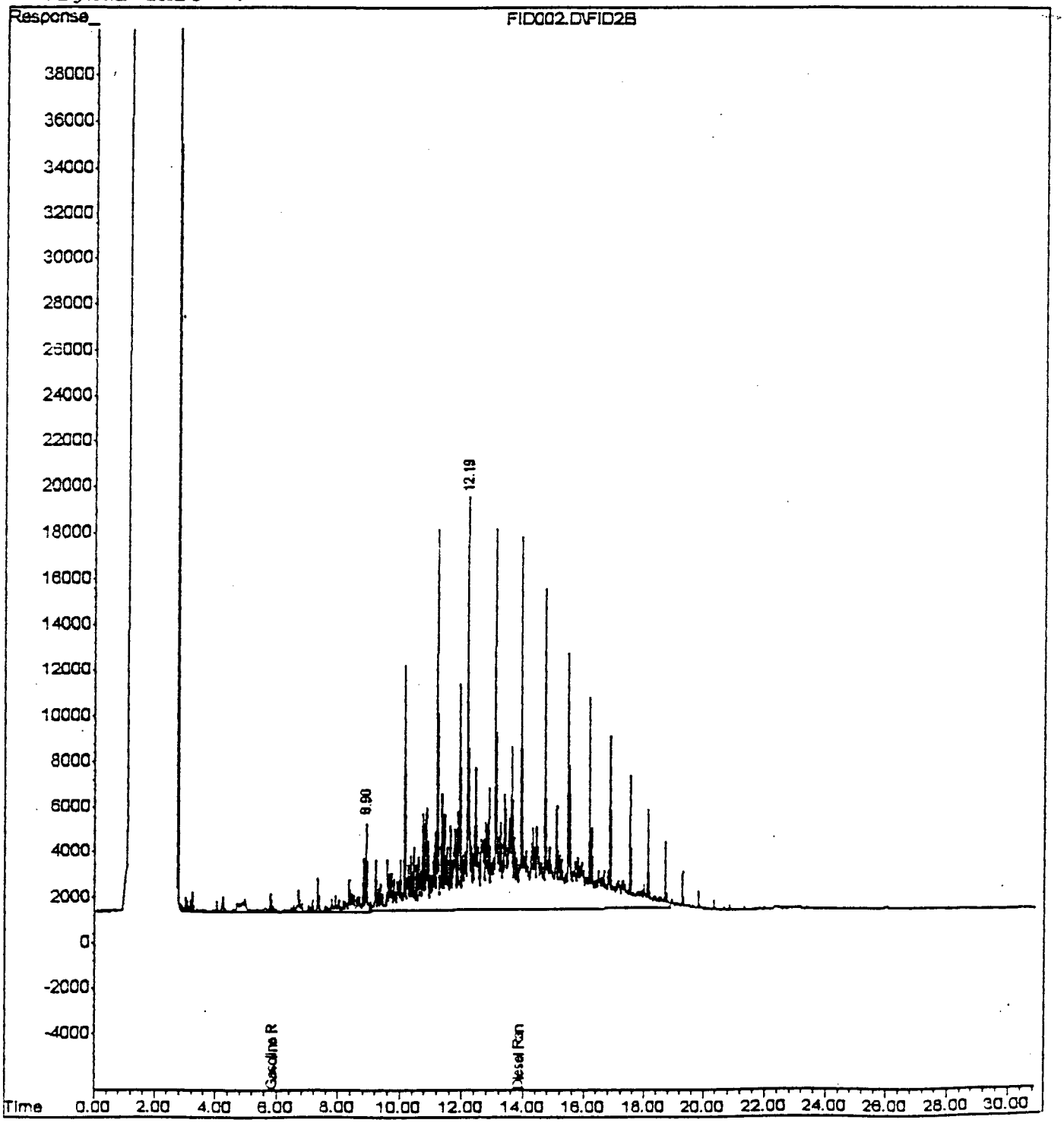
Data File : C:\HPCHEM\2\DATA\111299\FID002.D
Acq On : 12 Nov 1999 10:32
Sample : diesel
Misc : at 200ug/mL
IntFile : EVENTS.E

Vial: 2
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Nov 12 11:42 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



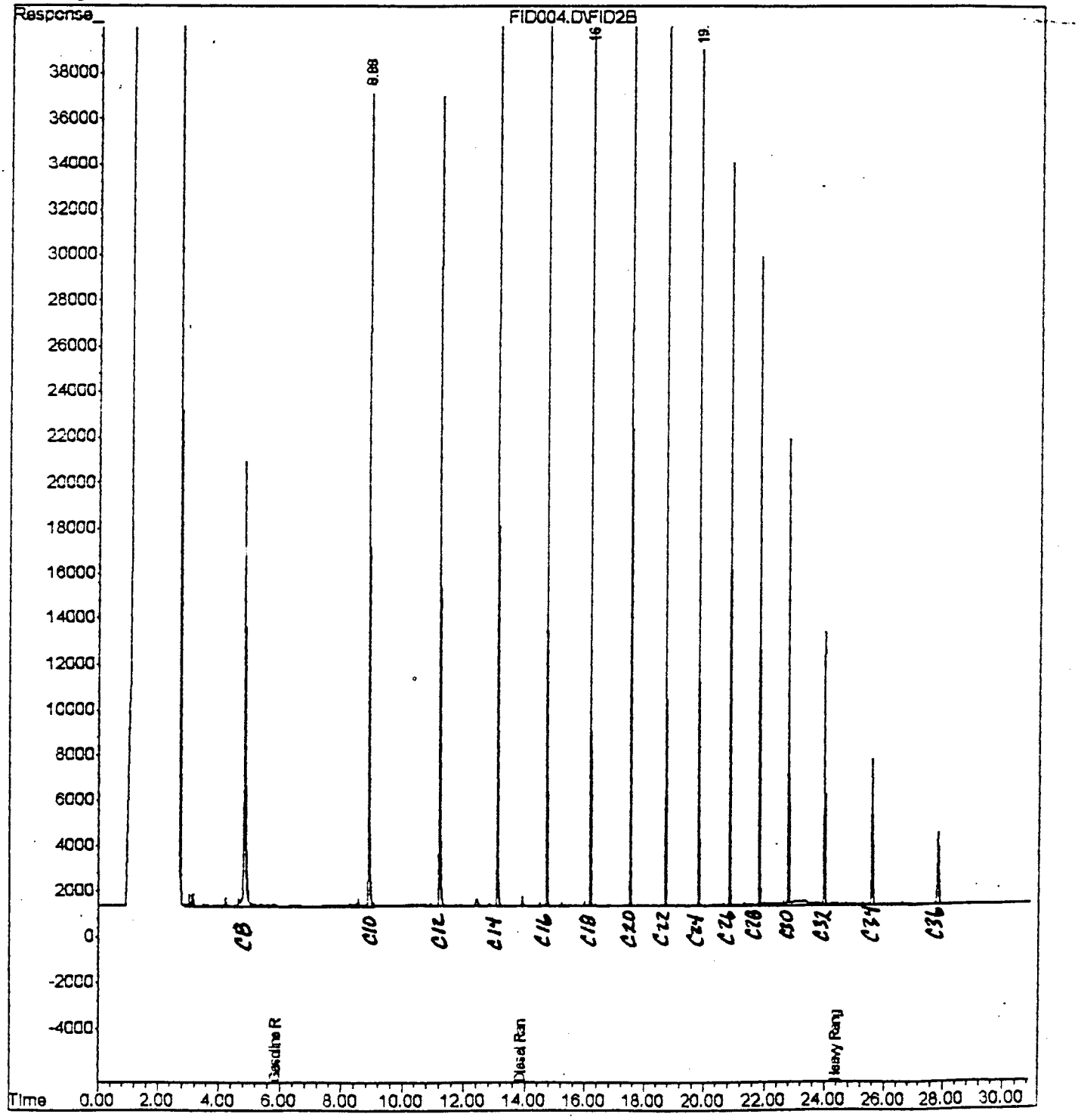
Data File : C:\HPCHEM\2\DATA\110899\FID004.D
Acq On : 8 Nov 1999 13:29
Sample : rt std gc4-14-06
Misc :
IntFile : EVENTS.E

Vial: 4
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Nov 12 13:54 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



environmental chemistry services, inc.

April 14, 2000

Chris Higgins
Higgins & Associates
9940 East Costilla Avenue
Suite B
Englewood, CO 80112

RE: PPL East Hobbs Junction Order No.: 0004016

Dear Chris Higgins,

Environmental Chemistry Services, Inc. received 12 samples on 4/10/00 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

for

Karen Dammann
Laboratory Manager

7108 S. Alton Way, Building E • Englewood, Colorado 80112 • 303.850.7606 • FAX 303.850.7609

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT: Higgins & Associates
Project: PPL East Hobbs Junction
Lab Order: 0004016

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

The samples were analyzed for total extractable petroleum hydrocarbon (TEPH) concentration which measures the diesel range hydrocarbons from C11 - C28. The samples were extracted by separatory funnel (EPA Method 3510) with methylene chloride. The extract was analyzed by direct injection into a gas chromatograph with a flame ionization detector as described in EPA Method 8015B. The surrogate standard was added to monitor extraction efficiency.

The samples were analyzed for volatile organic compounds by EPA Method 8021B. This is a gas chromatography method using purge and trap concentration and a megabore capillary chromatography column. The surrogate standards were added to all samples to monitor purging efficiency.

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-11-18-22
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 9:45:00 AM
Lab ID:	0004016-01A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		4/14/00 4:41:00 AM
Toluene	ND	µg/Kg	2	1		4/14/00 4:41:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		4/14/00 4:41:00 AM
Xylenes, Total	ND	µg/Kg	2	1		4/14/00 4:41:00 AM
Surr: a,a,a-Trifluorotoluene	91.9	%REC	66-120	1		4/14/00 4:41:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		4/12/00 11:54:00 PM
Surr: o-Terphenyl	75.1	%REC	64-123	1		4/12/00 11:54:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-11-24-26
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 9:50:00 AM
Lab ID:	0004016-02A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		4/14/00 5:15:00 AM
Toluene	ND	µg/Kg	2	1		4/14/00 5:15:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		4/14/00 5:15:00 AM
Xylenes, Total	ND	µg/Kg	2	1		4/14/00 5:15:00 AM
Surr: a,a,a-Trifluorotoluene	98.2	%REC	66-120	1		4/14/00 5:15:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		4/13/00 12:39:00 AM
Surr: o-Terphenyl	67.0	%REC	64-123	1		4/13/00 12:39:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-12-14-16
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 10:55:00 AM
Lab ID:	0004016-03A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		4/14/00 5:48:00 AM
Toluene	ND	µg/Kg	2	1		4/14/00 5:48:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		4/14/00 5:48:00 AM
Xylenes, Total	ND	µg/Kg	2	1		4/14/00 5:48:00 AM
Surr: a,a,a-Trifluorotoluene	97.3	%REC	66-120	1		4/14/00 5:48:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.9	1		4/13/00 1:23:00 AM
Surr: o-Terphenyl	70.5	%REC	64-123	1		4/13/00 1:23:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-12-20-22
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 11:00:00 AM
Lab ID:	0004016-04A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		4/14/00 6:21:00 AM
Toluene	ND	µg/Kg	2	1		4/14/00 6:21:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		4/14/00 6:21:00 AM
Xylenes, Total	ND	µg/Kg	2	1		4/14/00 6:21:00 AM
Surr: a,a,a-Trifluorotoluene	95.1	%REC	66-120	1		4/14/00 6:21:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.7	1		4/13/00 2:08:00 AM
Surr: o-Terphenyl	74.3	%REC	64-123	1		4/13/00 2:08:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-4
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:10:00 PM
Lab ID:	0004016-05A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	19	µg/L	0.5	1		4/12/00 7:24:00 AM
Toluene	0.83	µg/L	0.5	1		4/12/00 7:24:00 AM
Ethyl Benzene	1.2	µg/L	0.5	1		4/12/00 7:24:00 AM
Xylenes, Total	3.2	µg/L	2	1		4/12/00 7:24:00 AM
Surr: a,a,a-Trifluorotoluene	91.0	%REC	75-116	1		4/12/00 7:24:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-4
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:10:00 PM
Lab ID:	0004016-05B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		4/14/00 12:33:00 AM
Surr: o-Terphenyl	84.9	%REC	58-126	1		4/14/00 12:33:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-4
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:10:00 PM
Lab ID:	0004016-05C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	180	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-5
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:20:00 PM
Lab ID:	0004016-06A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		4/12/00 8:09:00 AM
Toluene	ND	µg/L	0.5	1		4/12/00 8:09:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		4/12/00 8:09:00 AM
Xylenes, Total	ND	µg/L	2	1		4/12/00 8:09:00 AM
Surr: a,a,a-Trifluorotoluene	96.3	%REC	75-116	1		4/12/00 8:09:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-5
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:20:00 PM
Lab ID:	0004016-06B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		4/14/00 1:18:00 AM
Surr: o-Terphenyl	84.9	%REC	58-126	1		4/14/00 1:18:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-5
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:20:00 PM
Lab ID:	0004016-06C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	130	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits·

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-8
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:35:00 PM
Lab ID:	0004016-07A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		4/12/00 8:41:00 AM
Toluene	ND	µg/L	0.5	1		4/12/00 8:41:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		4/12/00 8:41:00 AM
Xylenes, Total	ND	µg/L	2	1		4/12/00 8:41:00 AM
Surr: a,a,a-Trifluorotoluene	94.9	%REC	75-116	1		4/12/00 8:41:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-8
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:35:00 PM
Lab ID:	0004016-07B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		4/14/00 2:02:00 AM
Surr: o-Terphenyl	80.0	%REC	58-126	1		4/14/00 2:02:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-8
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:35:00 PM
Lab ID:	0004016-07C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	90	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-10
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:45:00 PM
Lab ID:	0004016-08A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	400	µg/L	2.5	5		4/12/00 1:11:00 PM
Toluene	53	µg/L	0.5	1		4/12/00 1:44:00 PM
Ethyl Benzene	66	µg/L	0.5	1		4/12/00 1:44:00 PM
Xylenes, Total	98	µg/L	2	1		4/12/00 1:44:00 PM
Surr: a,a,a-Trifluorotoluene	90.1	%REC	75-116	1		4/12/00 1:44:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-10
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:45:00 PM
Lab ID:	0004016-08B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		4/14/00 2:47:00 AM
Surr: o-Terphenyl	82.7	%REC	58-126	1		4/14/00 2:47:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-10
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 3:45:00 PM
Lab ID:	0004016-08C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	180	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 4:00:00 PM
Lab ID:	0004016-09A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	3900	µg/L	5	10		4/12/00 2:17:00 PM
Toluene	1100	µg/L	5	10		4/12/00 2:17:00 PM
Ethyl Benzene	270	µg/L	0.5	1		4/12/00 2:50:00 PM
Xylenes, Total	540	µg/L	2	1		4/12/00 2:50:00 PM
Surr: a,a,a-Trifluorotoluene	94.7	%REC	75-116	1		4/12/00 2:50:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 4:00:00 PM
Lab ID:	0004016-09B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		4/14/00 3:31:00 AM
Surr: o-Terphenyl	79.9	%REC	58-126	1		4/14/00 3:31:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/6/00 4:00:00 PM
Lab ID:	0004016-09C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	200	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-11
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:15:00 AM
Lab ID:	0004016-10A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	4100	µg/L	10	20		4/12/00 9:49:00 PM
Toluene	2400	µg/L	5	10		4/12/00 10:21:00 PM
Ethyl Benzene	290	µg/L	0.5	1		4/12/00 9:25:00 AM
Xylenes, Total	420	µg/L	2	1		4/12/00 9:25:00 AM
Surr: a,a,a-Trifluorotoluene	99.4	%REC	75-116	1		4/12/00 9:25:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-11
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:15:00 AM
Lab ID:	0004016-10B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	1.6	mg/L	1	1		4/14/00 5:44:00 AM
Surr: o-Terphenyl	83.0	%REC	58-126	1		4/14/00 5:44:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-11
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:15:00 AM
Lab ID:	0004016-10C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	310	mg/L	2	10		4/13/00

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below RL and above MDL	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-12
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:45:00 AM
Lab ID:	0004016-11A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	2000	µg/L	5	10		4/12/00 9:16:00 PM
Toluene	200	µg/L	0.5	1		4/12/00 9:57:00 AM
Ethyl Benzene	110	µg/L	0.5	1		4/12/00 9:57:00 AM
Xylenes, Total	200	µg/L	2	1		4/12/00 9:57:00 AM
Surr: a,a,a-Trifluorotoluene	111.4	%REC	75-116	1		4/12/00 9:57:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-12
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:45:00 AM
Lab ID:	0004016-11B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1.2	1		4/14/00 6:28:00 AM
Surr: o-Terphenyl	75.2	%REC	58-126	1		4/14/00 6:28:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-12
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/7/00 8:45:00 AM
Lab ID:	0004016-11C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	190	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6A
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/10/00
Lab ID:	0004016-12A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	4600	µg/L	10	20		4/12/00 10:54:00 PM
Toluene	1300	µg/L	5	10		4/12/00 3:24:00 PM
Ethyl Benzene	310	µg/L	0.5	1		4/12/00 3:57:00 PM
Xylenes, Total	620	µg/L	2	1		4/12/00 3:57:00 PM
Surr: a,a,a-Trifluorotoluene	97.9	%REC	75-116	1		4/12/00 3:57:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6A
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/10/00
Lab ID:	0004016-12B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	1.1	mg/L	1.1	1		4/14/00 7:12:00 AM
Surr: o-Terphenyl	83.3	%REC	58-126	1		4/14/00 7:12:00 AM

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below RL and above MDL	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-6A
Lab Order:	0004016	**Tag Number:**	
Project:	PPL East Hobbs Junction	**Collection Date:**	4/10/00
Lab ID:	0004016-12C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	200	mg/L	1	5		4/13/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Method Blank

Sample ID: **BLANK** Batch ID: **R5180** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **4/11/00 8:38:00 PM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000413A** SeqNo: **61195**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	2									
Ethyl Benzene	ND	2									
Toluene	0.64	2									J
Xylenes, Total	ND	2	0	0	0.0%	0	0	0			
a,a,a-Trifluorotoluene	47.7	0	50	0	95.4%	66	120	0			
m, p-Xylene	ND	2	0	0	0.0%	0	0	0			
o-Xylene	ND	2	0	0	0.0%	0	0	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Method Blank

Sample ID: **BLANK** Batch ID: **R5179** Test Code: **SW8021B** Units: **µg/L** Analysis Date **4/11/00 8:38:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000411D** SeqNo: **61177**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethyl Benzene	ND	0.5									
m, p-Xylene	ND	2									
o-Xylene	ND	2									
Toluene	ND	0.5									
Xylenes, Total	ND	2									
a,a,a-Trifluorotoluene	48.76	0	50	0	97.5%	75	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Method Blank

Sample ID: **MBLK** Batch ID: **R5176** Test Code: **SW9056** Units: **mg/L** Analysis Date **4/13/00** Prep Date:
Client ID: Run ID: **HPLC/IC_000413C** SeqNo: **61150**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.2									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-1458** Batch ID: **1458** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **4/12/00 8:07:00 PM** Prep Date: **4/11/00**

Client ID: Run ID: **GC SYSTEM 4_000412A** SeqNo: **61132**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	3.718	10									J
o-Terphenyl	1.127	0	1.667	0	67.6%	64	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 8:48:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413B** SeqNo: **61161**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	ND	1									
o-Terphenyl	0.02764	0	0.03	0	92.1%	58	126	0			

Sample ID: **MB-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 8:48:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413A** SeqNo: **61115**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	ND	1									
o-Terphenyl	0.02764	0	0.03	0	92.1%	58	126	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: **0004015-01AMSD** Batch ID: **1458** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **4/13/00 4:22:00 AM** Prep Date: **4/11/00**
Client ID: Run ID: **GC SYSTEM 4_000412A** SeqNo: **61139**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	66.48	10	83.44	3.737	75.2%	65	115	71.34	7.0%	20	
o-Terphenyl	1.179	0	1.659	0	71.1%	64	123	1.261	0.0%	0	

Sample ID: **0004015-01AMS** Batch ID: **1458** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **4/13/00 3:37:00 AM** Prep Date: **4/11/00**
Client ID: Run ID: **GC SYSTEM 4_000412A** SeqNo: **61138**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	71.34	9.8	82.19	3.737	82.2%	65	115	0			
o-Terphenyl	1.261	0	1.634	0	77.2%	64	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *14-Apr-00*

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R5180** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **4/14/00 12:55:00 PM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000413A** SeqNo: **61197**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	107.5	2	100	0	107.5%	66	120	108.6	1.0%	20	
Ethyl Benzene	101.8	2	100	0	101.8%	66	120	107.1	5.1%	20	
Toluene	107.7	2	100	0.64	107.1%	66	120	107.4	0.3%	20	
Xylenes, Total	326.3	2	300	0	108.8%	66	120	335	0.0%	20	
a,a,a-Trifluorotoluene	49.85	0	50	0	99.7%	66	120	50.11	0.0%	0	

Sample ID: **LCS** Batch ID: **R5180** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **4/14/00 12:20:00 PM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000413A** SeqNo: **61196**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	108.6	2	100	0	108.6%	66	120	0			
Ethyl Benzene	107.1	2	100	0	107.1%	66	120	0			
Toluene	107.4	2	100	0.64	106.8%	66	120	0			
Xylenes, Total	335	2	300	0	111.7%	66	120	0			
a,a,a-Trifluorotoluene	50.11	0	50	0	100.2%	66	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R5179** Test Code: **SW8021B** Units: **µg/L** Analysis Date **4/11/00 10:47:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000411D** SeqNo: **61179**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	106.7	0.5	100	0	106.7%	75	116	107.2	0.4%	20	
Ethyl Benzene	105.7	0.5	100	0	105.7%	75	116	107.3	1.5%	20	
m, p-Xylene	214.5	2	200	0	107.2%	75	116	212.6	0.9%	20	
o-Xylene	106.8	2	100	0	106.8%	75	116	108.5	1.6%	20	
Toluene	106.7	0.5	100	0	106.7%	75	116	108.9	2.1%	20	
Xylenes, Total	321.3	2	300	0	107.1%	75	116	321.1	0.1%	20	
a,a,a-Trifluorotoluene	50.94	0	50	0	101.9%	75	116	52.41	0.0%	0	

Sample ID: **LCS** Batch ID: **R5179** Test Code: **SW8021B** Units: **µg/L** Analysis Date **4/11/00 10:15:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000411D** SeqNo: **61178**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	107.2	0.5	100	0	107.2%	75	116	0			
Ethyl Benzene	107.3	0.5	100	0	107.3%	75	116	0			
m, p-Xylene	212.6	2	200	0	106.3%	75	116	0			
o-Xylene	108.5	2	100	0	108.5%	75	116	0			
Toluene	108.9	0.5	100	0	108.9%	75	116	0			
Xylenes, Total	321.1	2	300	0	107.0%	75	116	0			
a,a,a-Trifluorotoluene	52.41	0	50	0	104.8%	75	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD**	Batch ID: **R5176**	Test Code: **SW9056**	Units: **mg/L**	Analysis Date **4/13/00**	Prep Date:
Client ID:		Run ID: **HPLC/IC_000413C**		SeqNo: **61152**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3.17	0.2	3	0	105.7%	80	120	3.186	0.5%	20	

Sample ID: **LCS**	Batch ID: **R5176**	Test Code: **SW9056**	Units: **mg/L**	Analysis Date **4/13/00**	Prep Date:
Client ID:		Run ID: **HPLC/IC_000413C**		SeqNo: **61151**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3.186	0.2	3	0	106.2%	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD-1458** Batch ID: **1458** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **4/12/00 9:39:00 PM** Prep Date: **4/11/00**
Client ID: Run ID: **GC SYSTEM 4_000412A** SeqNo: **61135**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	79.78	10	83.83	3.718	90.7%	65	115	67.01	17.4%	20	
o-Terphenyl	1.327	0	1.667	0	79.6%	64	123	1.238	0.0%	0	

Sample ID: **LCS-1458** Batch ID: **1458** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **4/13/00 9:34:00 PM** Prep Date: **4/11/00**
Client ID: Run ID: **GC SYSTEM 4_000412A** SeqNo: **61134**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	67.01	10	83.83	3.718	75.5%	65	115	0			
o-Terphenyl	1.238	0	1.667	0	74.3%	64	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0004016
Project: PPL East Hobbs Junction

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 10:19:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413B** SeqNo: **61163**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.432	1	1.509	0	94.9%	54	122	1.434	0.2%	20	
o-Terphenyl	0.0267	0	0.03	0	89.0%	58	126	0.02615	0.0%	0	

Sample ID: **LCSD-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 10:19:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413A** SeqNo: **61117**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.432	1	1.509	0	94.9%	54	122	1.434	0.2%	20	
o-Terphenyl	0.0267	0	0.03	0	89.0%	58	126	0.02615	0.0%	0	

Sample ID: **LCS-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 9:34:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413B** SeqNo: **61162**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.434	1	1.509	0	95.1%	54	122	0			
o-Terphenyl	0.02615	0	0.03	0	87.2%	58	126	0			

Sample ID: **LCS-1460** Batch ID: **1460** Test Code: **SW8015B** Units: **mg/L** Analysis Date **4/13/00 9:34:00 PM** Prep Date: **4/13/00**
Client ID: Run ID: **GC SYSTEM 4_000413A** SeqNo: **61116**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.434	1	1.509	0	95.1%	54	122	0			
o-Terphenyl	0.02615	0	0.03	0	87.2%	58	126	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

environmental chemistry services, inc.

Chain Of Custody Record (COC)

COC # 00570

Project Number:	Project Name: PPL East Hobbs Junction	Testing Requested	Turn-Around-Time (TAT)	Quote Number:
Report To: (Name, Address, Phone, Fax) Chris Higgins Higgins and Associates, L.L.C. 3240 East Costilla Ave, Suite B Englewood, CO 80112 303-708-8846	Invoice To: (If Different From Above)		7-10 Bus. Days 5-Bus. Days. X 4-Bus. Days 3-Bus. Days. 2-Bus. Days 1-Bus. Days	P.O. Number: File ID: (for lab use only) #: H16073-W Work Order Number: (for lab use Only) 0004016

Client Sample ID.	Date	Time	Matrix	# of Cont.	BTEX	TEPH	Chloride				Remarks	Lab #
MW-4	4-6	1510	H_2O	5	3	1	1					5
MW-5	4-6	1520	H_2O	5	3	1	1					6
MW-8	4-6	1535	H_2O	5	3	1	1					7
MW-10	4-6	1545	H_2O	5	3	1	1					8
MW-6	4-6	1610	H_2O	5	3	1	1					9
MW-11	4-7	815	H_2O	5	3	1	1					10
MW-12	4-7	845	H_2O	5	3	1	1					11
MW-6A	4-6	1610	H_2O	5	3	1	1				* Extra Sample received & not on COC - client wants analyzed - SMS 4/11/00	~~12~~ SMS
											fax results	

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Charles Jenzen	4/10/00	9:15			
Relinquished By: (Printed)			Received By: (Printed)		
Relinquished By: (Signature)	Date	Time	Received for Laboratory By: (Signature)	Date	Time
				4/10/00	9:15
Relinquished By: (Printed)			Received for Laboratory By: (Printed)	Cooler Temp.	

See attached sample receipt form for any yes response	Y	N
Are any containers broken?		X
Are samples preserved?	X	
Were tamper evidence seals used?		X
If used, were tamper evidence seals broken?		
Was the client contacted?		X

THE ABOVE SIGNED HAS READ AND UNDERSTANDS THE CREDIT TERMS ANC CREDIT POLICIS OF ECS, INC. AND AGREES TO THE TERMS AND CONDITIONS AS SET FORTH IN THIS AGREEMENT.

ENVIRONMENTAL CHEMISTRY SERVICES, INC.
7108 SOUTH ALTON WAY
BUILDING E
ENGLEWOOD, CO 80112-2123

PHONE: 303.850.7606
FAX: 303.850.7609
WEB: www.ecs-corp.com

environmental chemistry services, inc.

Chain Of Custody Record (COC)

COC # 00572

Project Number:	Project Name: PPL East Hibbs Junction	Testing Requested	Turn-Around-Time (TAT)	Quote Number:
Report To: (Name, Address, Phone, Fax) HIGGINS AND ASSOCIATES, L.L.C. 9440 E Costilla Ave, Suite B Englewood, CO 80112		BTEX / TEPH	7-10 Bus. Days 5-Bus. Days. X 4-Bus. Days 3-Bus. Days 2-Bus. Days 1-Bus. Days	P.O. Number: File ID: *(for lab use only)* H16073-S Work Order Number: *(for lab use Only)* 0004016
Invoice To: (If Different From Above)				

Client Sample ID.	Date	Time	Matrix	# of Cont.	BTEX / TEPH	Remarks	Lab #
SS-11-18-22 "4	4-6	0945	Soil	1	X		1
SS-11-24-26	4-6	0950	Soil	1	X		-2
SS-12-14-16	4-6	1055	Soil	1	X		-3
SS-12-20-22	4-6	1100	Soil	1	X		-4
						fax results	

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Chuck Jones	4/10/06	9:15			
Relinquished By: (Printed)			Received By: (Printed)		
Relinquished By: (Signature)	Date	Time	Received for Laboratory By: (Signature)	Date	Time
			Dan Shea	4/10/06	9:15
Relinquished By: (Printed)			Received for Laboratory By: (Printed)	Cooler Temp.	

	Y	N
See attached sample receipt form for any yes response		
Are any containers broken?		X
Are samples preserved?		X
Were tamper evidence seals used?		X
If used, were tamper evidence seals broken?		
Was the client contacted?		X

THE ABOVE SIGNED HAS READ AND UNDERSTANDS THE CREDIT TERMS ANC CREDIT POLICIS OF ECS, INC. AND AGREES TO THE TERMS AND CONDITIONS AS SET FORTH IN THIS AGREEMENT.

ENVIRONMENTAL CHEMISTRY SERVICES, INC.
7108 SOUTH ALTON WAY
BUILDING E
ENGLEWOOD, CO 80112-2123

PHONE: 303.850.7606
FAX: 303.850.7609
WEB: www.esc-corp.com

environmental chemistry services, inc.

June 13, 2000

Chris Higgins
Higgins & Associates
9940 East Costilla Avenue
Suite B
Englewood, CO 80112

RE: PPL East Hobbs Order No.: 0006011

Dear Chris Higgins,

Environmental Chemistry Services, Inc. received 19 samples on 6/5/00 9:45:00 AM for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Karen Dammann
Laboratory Manager

7108 S. Alton Way, Building E • Englewood, Colorado 80112 • 303.850.7606 • FAX 303.850.7609

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT: Higgins & Associates
Project: PPL East Hobbs
Lab Order: 0006011

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

The samples were analyzed for BTEX by purge and trap concentration (EPA Method 5030) combined with gas chromatography (GC) as described in EPA Method 8021B. The surrogate standard was added to all samples to monitor purging efficiency.

The samples were analyzed for total volatile petroleum hydrocarbons (TVPH) by purge and trap concentration (EPA Method 5030) combined with gas chromatography (GC) using a flame ionization detector per modified EPA Method 8015B. This analysis measures the gasoline range hydrocarbons from C6 - C10.

The soil samples were analyzed for total extractable petroleum hydrocarbon (TEPH) concentration which measures the diesel range hydrocarbons from C11 - C28. The samples were extracted by sonication (EPA Method 3550) with 1:1 methylene chloride:acetone. The extract was analyzed by direct injection into a gas chromatograph with a flame ionization detector as described in EPA Method 8015B. The surrogate standard was added to monitor extraction efficiency.

The water samples were analyzed for total extractable petroleum hydrocarbon (TEPH) concentration which measures the diesel range hydrocarbons from C11 - C28. The samples were extracted by separatory funnel (EPA Method 3510) with methylene chloride. The extract was analyzed by direct injection into a gas chromatograph with a flame ionization detector as described in EPA Method 8015B. The surrogate standard was added to monitor extraction efficiency.

The samples were analyzed for anions by EPA Method 9056. This is an ion chromatography method.

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-13
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 9:45:00 AM
Lab ID:	0006011-01A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		6/8/00 1:55:00 AM
Toluene	ND	µg/L	0.5	1		6/8/00 1:55:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		6/8/00 1:55:00 AM
Xylenes, Total	ND	µg/L	2	1		6/8/00 1:55:00 AM
Surr: a,a,a-Trifluorotoluene	105.2	%REC	75-116	1		6/8/00 1:55:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-13
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 9:45:00 AM
Lab ID:	0006011-01B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 3:56:00 AM
Surr: o-Terphenyl	105.3	%REC	58-126	1		6/8/00 3:56:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-13
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 9:45:00 AM
Lab ID:	0006011-01C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	91	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-14
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:00:00 PM
Lab ID:	0006011-02A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	370	µg/L	2.5	5		6/8/00 9:31:00 AM
Toluene	5.3	µg/L	0.5	1		6/8/00 2:27:00 AM
Ethyl Benzene	1.7	µg/L	0.5	1		6/8/00 2:27:00 AM
Xylenes, Total	11	µg/L	2	1		6/8/00 2:27:00 AM
Surr: a,a,a-Trifluorotoluene	110.4	%REC	75-116	1		6/8/00 2:27:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-14
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:00:00 PM
Lab ID:	0006011-02B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 4:41:00 AM
Surr: o-Terphenyl	112.5	%REC	58-126	1		6/8/00 4:41:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-14
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:00:00 PM
Lab ID:	0006011-02C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	180	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-15
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:55:00 PM
Lab ID:	0006011-03A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	830	µg/L	2.5	5		6/8/00 10:04:00 AM
Toluene	770	µg/L	2.5	5		6/8/00 10:04:00 AM
Ethyl Benzene	130	µg/L	0.5	1		6/8/00 3:00:00 AM
Xylenes, Total	170	µg/L	2	1		6/8/00 3:00:00 AM
Surr: a,a,a-Trifluorotoluene	102.3	%REC	75-116	1		6/8/00 3:00:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-15
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:55:00 PM
Lab ID:	0006011-03B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	2.1	mg/L	1	1		6/8/00 5:26:00 AM
Surr: o-Terphenyl	96.3	%REC	58-126	1		6/8/00 5:26:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-15
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:55:00 PM
Lab ID:	0006011-03C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	170	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-16
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:25:00 PM
Lab ID:	0006011-04A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	0.94	µg/L	0.5	1		6/8/00 3:32:00 AM
Toluene	0.96	µg/L	0.5	1		6/8/00 3:32:00 AM
Ethyl Benzene	21	µg/L	0.5	1		6/8/00 3:32:00 AM
Xylenes, Total	6.9	µg/L	2	1		6/8/00 3:32:00 AM
Surr: a,a,a-Trifluorotoluene	109.6	%REC	75-116	1		6/8/00 3:32:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-16
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:25:00 PM
Lab ID:	0006011-04B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 6:11:00 AM
Surr: o-Terphenyl	106.2	%REC	58-126	1		6/8/00 6:11:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-16
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:25:00 PM
Lab ID:	0006011-04C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	220	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-17
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:45:00 PM
Lab ID:	0006011-05A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		6/8/00 4:04:00 AM
Toluene	ND	µg/L	0.5	1		6/8/00 4:04:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		6/8/00 4:04:00 AM
Xylenes, Total	ND	µg/L	2	1		6/8/00 4:04:00 AM
Surr: a,a,a-Trifluorotoluene	104.6	%REC	75-116	1		6/8/00 4:04:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-17
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:45:00 PM
Lab ID:	0006011-05B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 8:18:00 PM
Surr: o-Terphenyl	86.2	%REC	58-126	1		6/8/00 8:18:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-17
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:45:00 PM
Lab ID:	0006011-05C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	140	mg/L	10	50		6/8/00

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below RL and above MDL	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-18
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:10:00 PM
Lab ID:	0006011-06A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	600	µg/L	2.5	5		6/8/00 10:37:00 AM
Toluene	0.66	µg/L	0.5	1		6/8/00 4:36:00 AM
Ethyl Benzene	120	µg/L	0.5	1		6/8/00 4:36:00 AM
Xylenes, Total	45	µg/L	2	1		6/8/00 4:36:00 AM
Surr: a,a,a-Trifluorotoluene	91.5	%REC	75-116	1		6/8/00 4:36:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-18
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:10:00 PM
Lab ID:	0006011-06B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 9:04:00 PM
Surr: o-Terphenyl	91.1	%REC	58-126	1		6/8/00 9:04:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-18
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:10:00 PM
Lab ID:	0006011-06C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	190	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-19
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 11:50:00 AM
Lab ID:	0006011-07A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		6/8/00 5:09:00 AM
Toluene	ND	µg/L	0.5	1		6/8/00 5:09:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		6/8/00 5:09:00 AM
Xylenes, Total	ND	µg/L	2	1		6/8/00 5:09:00 AM
Surr: a,a,a-Trifluorotoluene	105.1	%REC	75-116	1		6/8/00 5:09:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-19
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 11:50:00 AM
Lab ID:	0006011-07B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/8/00 9:51:00 PM
Surr: o-Terphenyl	69.5	%REC	58-126	1		6/8/00 9:51:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-19
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 11:50:00 AM
Lab ID:	0006011-07C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	140	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-20
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:35:00 PM
Lab ID:	0006011-08A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/L	0.5	1		6/8/00 5:41:00 AM
Toluene	ND	µg/L	0.5	1		6/8/00 5:41:00 AM
Ethyl Benzene	ND	µg/L	0.5	1		6/8/00 5:41:00 AM
Xylenes, Total	ND	µg/L	2	1		6/8/00 5:41:00 AM
Surr: a,a,a-Trifluorotoluene	103.7	%REC	75-116	1		6/8/00 5:41:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-20
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:35:00 PM
Lab ID:	0006011-08B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/9/00 12:07:00 AM
Surr: o-Terphenyl	92.9	%REC	58-126	1		6/9/00 12:07:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	MW-20
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 12:35:00 PM
Lab ID:	0006011-08C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	83	mg/L	10	50		6/8/00

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below RL and above MDL	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SP-1
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 1:05:00 PM
Lab ID:	0006011-09A	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	9.4	µg/L	0.5	1		6/8/00 7:53:00 AM
Toluene	7.4	µg/L	0.5	1		6/8/00 7:53:00 AM
Ethyl Benzene	2.5	µg/L	0.5	1		6/8/00 7:53:00 AM
Xylenes, Total	7	µg/L	2	1		6/8/00 7:53:00 AM
Surr: a,a,a-Trifluorotoluene	91.5	%REC	75-116	1		6/8/00 7:53:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SP-1
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 1:05:00 PM
Lab ID:	0006011-09B	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/L	1	1		6/9/00 12:52:00 AM
Surr: o-Terphenyl	87.2	%REC	58-126	1		6/9/00 12:52:00 AM

Qualifiers:

ND - Not Detected at the Reporting L imit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SP-1
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/2/00 1:05:00 PM
Lab ID:	0006011-09C	**Matrix:**	AQUEOUS

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
CHLORIDE			**SW9056**			Analyst: **JJE**
Chloride	180	mg/L	10	50		6/8/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-13-20-22
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 9:22:00 AM
Lab ID:	0006011-10A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/12/00 11:02:00 AM
Toluene	ND	µg/Kg	2	1		6/12/00 11:02:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/12/00 11:02:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/12/00 11:02:00 AM
Surr: a,a,a-Trifluorotoluene	106.5	%REC	66-120	1		6/12/00 11:02:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.9	1		6/9/00 9:49:00 AM
Surr: o-Terphenyl	82.5	%REC	64-123	1		6/9/00 9:49:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-14-20-22
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 10:18:00 AM
Lab ID:	0006011-11A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 7:32:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 7:32:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 7:32:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 7:32:00 AM
Surr: a,a,a-Trifluorotoluene	98.9	%REC	66-120	1		6/9/00 7:32:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		6/9/00 10:34:00 AM
Surr: o-Terphenyl	80.0	%REC	64-123	1		6/9/00 10:34:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-15-5
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 11:25:00 AM
Lab ID:	0006011-12A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 8:05:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 8:05:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 8:05:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 8:05:00 AM
Surr: a,a,a-Trifluorotoluene	100.4	%REC	66-120	1		6/9/00 8:05:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		6/9/00 11:19:00 AM
Surr: o-Terphenyl	87.8	%REC	64-123	1		6/9/00 11:19:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-15-24-26
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 11:34:00 AM
Lab ID:	0006011-13A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 8:39:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 8:39:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 8:39:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 8:39:00 AM
Surr: a,a,a-Trifluorotoluene	94.6	%REC	66-120	1		6/9/00 8:39:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.7	1		6/9/00 12:04:00 PM
Surr: o-Terphenyl	83.5	%REC	64-123	1		6/9/00 12:04:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-15-28-30
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 11:36:00 AM
Lab ID:	0006011-14A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 9:13:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 9:13:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 9:13:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 9:13:00 AM
Surr: a,a,a-Trifluorotoluene	92.3	%REC	66-120	1		6/9/00 9:13:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		6/9/00 12:49:00 PM
Surr: o-Terphenyl	83.2	%REC	64-123	1		6/9/00 12:49:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-16-20-22
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	5/31/00 12:45:00 PM
Lab ID:	0006011-15A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 9:47:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 9:47:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 9:47:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 9:47:00 AM
Surr: a,a,a-Trifluorotoluene	90.2	%REC	66-120	1		6/9/00 9:47:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.7	1		6/9/00 1:34:00 PM
Surr: o-Terphenyl	74.1	%REC	64-123	1		6/9/00 1:34:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-17-22-24
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/1/00 11:21:00 AM
Lab ID:	0006011-16A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 10:21:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 10:21:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 10:21:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 10:21:00 AM
Surr: a,a,a-Trifluorotoluene	87.9	%REC	66-120	1		6/9/00 10:21:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.9	1		6/9/00 2:21:00 PM
Surr: o-Terphenyl	78.0	%REC	64-123	1		6/9/00 2:21:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-19-20-22
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/1/00 12:11:00 PM
Lab ID:	0006011-17A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 10:56:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 10:56:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 10:56:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 10:56:00 AM
Surr: a,a,a-Trifluorotoluene	94.9	%REC	66-120	1		6/9/00 10:56:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.8	1		6/9/00 4:51:00 PM
Surr: o-Terphenyl	82.5	%REC	64-123	1		6/9/00 4:51:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-18-22-24
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/1/00 1:10:00 PM
Lab ID:	0006011-18A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 11:30:00 AM
Toluene	ND	µg/Kg	2	1		6/9/00 11:30:00 AM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 11:30:00 AM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 11:30:00 AM
Surr: a,a,a-Trifluorotoluene	103.7	%REC	66-120	1		6/9/00 11:30:00 AM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.9	1		6/9/00 5:42:00 PM
Surr: o-Terphenyl	75.7	%REC	64-123	1		6/9/00 5:42:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT:	Higgins & Associates	**Client Sample ID:**	SS-20-22-24
Lab Order:	0006011	**Tag Number:**	
Project:	PPL East Hobbs	**Collection Date:**	6/1/00 2:21:00 PM
Lab ID:	0006011-19A	**Matrix:**	SOIL

Analyses	Result	Units	RL	DF	Qual	Date Analyzed
BTEX			**SW8021B**			Analyst: **JJE**
Benzene	ND	µg/Kg	2	1		6/9/00 12:04:00 PM
Toluene	ND	µg/Kg	2	1		6/9/00 12:04:00 PM
Ethyl Benzene	ND	µg/Kg	2	1		6/9/00 12:04:00 PM
Xylenes, Total	ND	µg/Kg	2	1		6/9/00 12:04:00 PM
Surr: a,a,a-Trifluorotoluene	101.7	%REC	66-120	1		6/9/00 12:04:00 PM
TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS			**SW8015B**			Analyst: **JJE**
TEPH	ND	mg/Kg	9.9	1		6/9/00 6:34:00 PM
Surr: o-Terphenyl	86.1	%REC	64-123	1		6/9/00 6:34:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below RL and above MDL

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Method Blank

Sample ID: **QC BLANK** Batch ID: **R5398** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **6/9/00 3:53:00 PM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000609A** SeqNo: **63736**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	2									
Ethyl Benzene	ND	2									
Toluene	ND	2									
Xylenes, Total	ND	2									
a,a,a-Trifluorotoluene	49.18	0	50	0	98.4%	66	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Method Blank

Sample ID: **QC BLANK** Batch ID: **R5394** Test Code: **SW8021B** Units: **µg/L** Analysis Date **6/7/00 2:05:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000607C** SeqNo: **63695**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethyl Benzene	ND	0.5									
m, p-Xylene	ND	2									
o-Xylene	ND	2									
Toluene	ND	0.5									
Xylenes, Total	ND	2									
a,a,a-Trifluorotoluene	50.34	0	50	0	100.7%	75	116	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Method Blank

Sample ID: **MBLK** Batch ID: **R5395** Test Code: **SW9056** Units: **mg/L** Analysis Date **6/8/00** Prep Date:
Client ID: Run ID: **HPLC/IC_000608A** SeqNo: **63710**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.2									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-1513** Batch ID: **1513** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **6/9/00 7:35:00 AM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000609A** SeqNo: **63788**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	6.836	10									J
o-Terphenyl	1.253	0	1.667	0	75.2%	64	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-1509** Batch ID: **1509** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 5:58:00 PM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000608C** SeqNo: **63780**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	ND	1									
o-Terphenyl	0.02542	0	0.03	0	84.7%	58	126	0			

Sample ID: **MB-1506** Batch ID: **1506** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 12:11:00 AM** Prep Date: **6/6/00**
Client ID: Run ID: **GC SYSTEM 4_000608A** SeqNo: **63534**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	ND	1									
o-Terphenyl	0.005663	0	0.006	0	94.4%	58	126	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **0006011-09CD** Batch ID: **R5395** Test Code: **SW9056** Units: **mg/L** Analysis Date **6/8/00** Prep Date:

Client ID: **SP-1** Run ID: **HPLC/IC_000608A** SeqNo: **63722**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	175.5	10	0	0	0.0%	0	0	175.5	0.0%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: **0006013-06AMSD** Batch ID: **R5398** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **6/10/00 4:42:00 AM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000609A** SeqNo: **63758**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	96.88	2	100	0	96.9%	66	120	110.8	13.4%	20	
Ethyl Benzene	91.92	2	100	0.537	91.4%	66	120	100.3	8.8%	20	
Toluene	95.65	2	100	0	95.7%	66	120	106.6	10.8%	20	
Xylenes, Total	278.8	2	300	1.923	92.3%	66	120	314.5	12.0%	20	
a,a,a-Trifluorotoluene	52.91	0	50	0	105.8%	66	120	53.58	0.0%	0	

Sample ID: **0006013-06AMS** Batch ID: **R5398** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **6/10/00 4:09:00 AM** Prep Date:

Client ID: Run ID: **GC SYSTEM 3_000609A** SeqNo: **63757**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	110.8	2	100	0	110.8%	66	120	0			
Ethyl Benzene	100.3	2	100	0.537	99.8%	66	120	0			
Toluene	106.6	2	100	0	106.6%	66	120	0			
Xylenes, Total	314.5	2	300	1.923	104.2%	66	120	0			
a,a,a-Trifluorotoluene	53.58	0	50	0	107.2%	66	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0006011-19AMSD** Batch ID: **1513** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **6/9/00 8:15:00 PM** Prep Date: **6/7/00**
Client ID: **SS-20-22-24** Run ID: **GC SYSTEM 4_000609A** SeqNo: **63802**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	71.03	10	83.44	0	85.1%	65	115	60.88	15.4%	20	
o-Terphenyl	1.306	0	1.659	0	78.7%	64	123	1.217	0.0%	0	

Sample ID: **0006011-19AMS** Batch ID: **1513** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **6/9/00 7:26:00 PM** Prep Date: **6/7/00**
Client ID: **SS-20-22-24** Run ID: **GC SYSTEM 4_000609A** SeqNo: **63801**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	60.88	9.8	82.09	0	74.2%	65	115	0			
o-Terphenyl	1.217	0	1.632	0	74.6%	64	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Environmental Chemistry Services, Inc.

Date: *13-Jun-00*

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R5398** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **6/9/00 5:24:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000609A** SeqNo: **63738**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	110.9	2	100	0	110.9%	66	120	109.8	1.0%	20	
Ethyl Benzene	110	2	100	0	110.0%	66	120	111.2	1.1%	20	
Toluene	110.4	2	100	0	110.4%	66	120	107.2	2.9%	20	
Xylenes, Total	333.7	2	300	0	111.2%	66	120	330.3	1.0%	20	
a,a,a-Trifluorotoluene	49.42	0	50	0	98.8%	66	120	51.14	0.0%	0	

Sample ID: **LCS** Batch ID: **R5398** Test Code: **SW8021B** Units: **µg/Kg** Analysis Date **6/9/00 4:46:00 PM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000609A** SeqNo: **63737**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	109.8	2	100	0	109.8%	66	120	0			
Ethyl Benzene	111.2	2	100	0	111.2%	66	120	0			
Toluene	107.2	2	100	0	107.2%	66	120	0			
Xylenes, Total	330.3	2	300	0	110.1%	66	120	0			
a,a,a-Trifluorotoluene	51.14	0	50	0	102.3%	66	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: *Higgins & Associates*
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R5394** Test Code: **SW8021B** Units: **µg/L** Analysis Date **6/8/00 12:50:00 AM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000607C** SeqNo: **63697**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	107	0.5	100	0	107.0%	75	116	108.6	1.5%	20	
Ethyl Benzene	106.4	0.5	100	0	106.4%	75	116	104.5	1.8%	20	
m, p-Xylene	216.9	2	200	0	108.4%	75	116	214.2	1.2%	20	
o-Xylene	109	2	100	0	109.0%	75	116	104.8	3.9%	20	
Toluene	103.5	0.5	100	0	103.5%	75	116	106.2	2.5%	20	
Xylenes, Total	325.8	2	300	0	108.6%	75	116	319	2.1%	20	
a,a,a-Trifluorotoluene	54.28	0	50	0	108.6%	75	116	53.3	0.0%	0	

Sample ID: **LCS** Batch ID: **R5394** Test Code: **SW8021B** Units: **µg/L** Analysis Date **6/8/00 12:17:00 AM** Prep Date:
Client ID: Run ID: **GC SYSTEM 3_000607C** SeqNo: **63696**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	108.6	0.5	100	0	108.6%	75	116	0			
Ethyl Benzene	104.5	0.5	100	0	104.5%	75	116	0			
m, p-Xylene	214.2	2	200	0	107.1%	75	116	0			
o-Xylene	104.8	2	100	0	104.8%	75	116	0			
Toluene	106.2	0.5	100	0	106.2%	75	116	0			
Xylenes, Total	319	2	300	0	106.3%	75	116	0			
a,a,a-Trifluorotoluene	53.3	0	50	0	106.6%	75	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below RL and above MDL.; R - RPD outside accepted recovery limits; RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R5395** Test Code: **SW9056** Units: **mg/L** Analysis Date **6/8/00** Prep Date:
Client ID: Run ID: **HPLC/IC_000608A** SeqNo: **63712**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3.075	0.2	3	0	102.5%	80	120	2.955	4.0%	20	

Sample ID: **LCS** Batch ID: **R5395** Test Code: **SW9056** Units: **mg/L** Analysis Date **6/8/00** Prep Date:
Client ID: Run ID: **HPLC/IC_000608A** SeqNo: **63711**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.955	0.2	3	0	98.5%	80	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD-1513** Batch ID: **1513** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **6/9/00 9:04:00 AM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000609A** SeqNo: **63790**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	73.68	10	83.83	0	87.9%	65	115	77.99	5.7%	20	
o-Terphenyl	1.274	0	1.667	0	76.5%	64	123	1.355	0.0%	0	

Sample ID: **LCS-1513** Batch ID: **1513** Test Code: **SW8015B** Units: **mg/Kg** Analysis Date **6/9/00 8:20:00 AM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000609A** SeqNo: **63789**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	77.99	10	83.83	0	93.0%	65	115	0			
o-Terphenyl	1.355	0	1.667	0	81.3%	64	123	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

CLIENT: Higgins & Associates
Work Order: 0006011
Project: PPL East Hobbs

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD-1509** Batch ID: **1509** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 7:32:00 PM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000608C** SeqNo: **63782**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.15	1	1.509	0	76.2%	54	122	1.134	1.4%	20	
o-Terphenyl	0.0309	0	0.03	0	103.0%	58	126	0.03139	0.0%	0	

Sample ID: **LCS-1509** Batch ID: **1509** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 6:45:00 PM** Prep Date: **6/7/00**
Client ID: Run ID: **GC SYSTEM 4_000608C** SeqNo: **63781**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.134	1	1.509	0	75.2%	54	122	0			
o-Terphenyl	0.03139	0	0.03	0	104.6%	58	126	0			

Sample ID: **LCSD-1506** Batch ID: **1506** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 1:41:00 AM** Prep Date: **6/6/00**
Client ID: Run ID: **GC SYSTEM 4_000608A** SeqNo: **63536**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.599	1	1.509	0	106.0%	54	122	1.39	14.0%	20	
o-Terphenyl	0.007053	0	0.006	0	117.6%	58	126	0.006907	0.0%	0	

Sample ID: **LCS-1506** Batch ID: **1506** Test Code: **SW8015B** Units: **mg/L** Analysis Date **6/8/00 12:56:00 AM** Prep Date: **6/6/00**
Client ID: Run ID: **GC SYSTEM 4_000608A** SeqNo: **63535**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TEPH	1.39	1	1.509	0	92.1%	54	122	0			
o-Terphenyl	0.006907	0	0.006	0	115.1%	58	126	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below RL and above MDL.
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
RL-Reporting Limit

environmental chemistry services, inc.

Chain Of Custody Record (COC)

COC # 00717

Project Number:	Project Name: PPL East Hubbs	Testing Requested	Turn-Around-Time (TAT)	Quote Number:
Report To: (Name, Address, Phone, Fax) Chris Higgins, Higgins and Associates, L.L.C., 9440 East Costilla Ave, Suite 13, Englewood, Co 80112, 303-708-9846, 303-708-9848			7-10 Bus. Days; 5-Bus. Days; 4-Bus. Days (X); 3-Bus. Days; 2-Bus. Days; 1-Bus. Days	P.O. Number:
Invoice To: (If Different From Above)				File ID: (for lab use only) H16091
				Work Order Number: (for lab use Only) 000601

Client Sample ID.	Date	Time	Matrix	# of Cont.	BTEX + TPH 8015	TEPH	Chloride				Remarks	Lab #
MW-13	6-2-00	0745	Water	5	X	X	X					1
MW-14	6-2-00	1200	Water	5	X	X	X					2
MW-15	6-2-00	1255	Water	5	X	X	X					3
MW-16	6-2-00	1225	Water	5	X	X	X					4
MW-17	6-2-00	1245	Water	5	X	X	X					5
MW-18	6-2-00	1210	Water	5	X	X	X					6
MW-19	6-2-00	1150	Water	5	X	X	X					7
MW-20	6-2-00	1235	Water	5	X	X	X					8
SP-1	6-2-00	1305	Water	5	X	X	X					9
Run the same TPH analysis as per last Hubbs samples												

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
	6-5-00	9:45			
Relinquished By: (Printed)			Received By: (Printed)		
Relinquished By: (Signature)	Date	Time	Received for Laboratory By: (Signature)	Date	Time
				6-5-00	9:45
Relinquished By: (Printed)			Received for Laboratory By: (Printed) Joseph J Egy IV	Cooler Temp. 4°C	

	Y	N
See attached sample receipt form for any yes response.		
Are any containers broken?		X
Are samples preserved?	X	
Were tamper evidence seals used?		+
If used, were tamper evidence seals broken?		
Was the client contacted?		X

THE ABOVE SIGNED HAS READ AND UNDERSTANDS THE CREDIT TERMS ANC CREDIT POLICIS OF ECS, INC. AND AGREES TO THE TERMS AND CONDITIONS AS SET FORTH IN THIS AGREEMENT.

ENVIRONMENTAL CHEMISTRY SERVICES, INC.
7108 SOUTH ALTON WAY
BUILDING E
ENGLEWOOD, CO 80112-2123

PHONE: 303.850.7606
FAX: 303.850.7609
WEB: www.ecs-corp.com

Chain Of Custody Record (COC)

COC # 00720

Project Number:	Project Name:	Testing Requested	Turn-Around-Time (TAT)	Quote Number:
PPL East Hubbs Junction		BTEX/TEPH 8015	7-10 Bus. Days / 5-Bus. Days / 4-Bus. Days (circled) / 3-Bus. Days / 2-Bus. Days / 1-Bus. Days	P.O. Number:

Report To: (Name, Address, Phone, Fax)
Higgins and Associates, L.L.C.
9940 East Costilla Ave Suite B
Englewood, CO 80112 303-708-9846/303-708-9848

Invoice To: (If Different From Above)

File ID: *(for lab use only)* H16091

Work Order Number: *(for lab use Only)* 000601

Client Sample ID.	Date	Time	Matrix	# of Cont.	Remarks	Lab #
SS-13-20-22	5-31	0922	Soil	1	X	10
SS-14-20-22	5-31	1018	Soil	1	X	11
SS-15-5	5-31	1125	Soil	1	X	12
SS-15-24-26	5-31	1134	Soil	1	X	13
SS-15-28-30	5-31	1136	Soil	1	X	14
SS-16-20-22	5-31	1245	Soil	1	X	15
SS-17-22-24	6-1	1121	Soil	1	X	16
SS-19-20-22	6-1	1211	Soil	1	X	17
SS-18-22-24	6-1	1310	Soil	1	X	18
SS-20-22-24	6-1	1421	Soil	1	X	

Run the same TPH method as per last Hubbs samples

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
	6-5-00	9:45			
Relinquished By: (Printed)			Received By: (Printed)		
Relinquished By: (Signature)	Date	Time	Received for Laboratory By: (Signature)	Date	Time
				6-5-00	9:45
Relinquished By: (Printed)			Received for Laboratory By: (Printed)	Cooler Temp.	
				4°C	

	Y	N
See attached sample receipt form for any yes response		
Are any containers broken?		X
Are samples preserved?	X	
Were tamper evidence seals used?	yes	X
If used, were tamper evidence seals broken?		
Was the client contacted?	X	

THE ABOVE SIGNED HAS READ AND UNDERSTANDS THE CREDIT TERMS ANC CREDIT POLICIS OF ECS, INC. AND AGREES TO THE TERMS AND CONDITIONS AS SET FORTH IN THIS AGREEMENT.

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Added sample SS-20-22-24 to COC as requested per client - SMS 6/5/00