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REPORTS

DATE:

7/21/2000

*Ammended Workplan Results
for the
Jaquez COM E #1 and C #1*

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared for:

**EL PASO FIELD SERVICES
FARMINGTON, NEW MEXICO**

Project Number
62800243

July 21, 2000



PHILIP ENVIRONMENTAL SERVICES CORPORATION
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Industrial Services Group
Central Region

July 21, 2000

Project # 62800243

Mr. Scott Pope
El Paso Field Services
614 Reilly Avenue
Farmington, New Mexico 87401

RE: Amended Workplan Results for the Jaquez COM E #1 and C #1.

Dear Mr. Pope:

Philip Environmental Services Corp. (Philip) has prepared this letter report for El Paso Field Services (EPFS) as requested in the New Mexico Oil Conservation Division's (OCD) letter dated May 15, 2000. This report describes the recent soil remediation activities included in the amended work plan dated January 12, 2000, for the EPFS Jaquez Com E #1 and C #1 gas production site.

BACKGROUND

On June 25, 1999 Mr. John Jaquez informed EPFS that he had encountered "blackened smelly soil at a depth of 8-12 inches". This soil was located in the southern part of the location that is known as the garden area (Figure 1). EPFS agreed to investigate Mr. Jaquez's complaint and on June 30, 1999, EPFS laboratory personnel met Mr. Denny Foust of the OCD at the location and collected soil samples from the areas in question with a hand auger.

On August 13, 1999, EPFS submitted a letter to the OCD with the results of the June 30, 1999, investigation that included a proposed work plan for further investigation of potential hydrocarbon impacts of soil and ground water at the location. The proposed work plan included the installation of one monitor well north of "Citizens Ditch." The monitor well would be installed, developed, and sampled according to standard installation procedures. On the south side of "Citizens Ditch," another monitor well would be installed and soil borings and hand auger holes completed across the garden area to evaluate potential hydrocarbon impacted soils and ground water quality. On September 22, 1999, The OCD approved the work plan with modifications.

Due to continued concerns raised by Mr. Jaquez, Philip performed additional exploratory excavations for EPFS on November 24, 1999, to investigate soils that Mr. Jaquez thought were impacted by hydrocarbons. On December 17, 1999, Scott Pope and Sandra Miller of

Combining the Strengths of Philip Services Corp., Allwaste and Serv-Tech



EPFS, Denny Foust and Bill Olson of the OCD, and Cecil Irby of Philip met with Mr. Jaquez to discuss the results of the November 24, 1999, investigation and to address additional concerns raised by Mr. Jaquez. As a result of this meeting, the Scope of Work for the August 13, 1999, Work Plan was significantly changed. Trenching north and south of "Citizens Ditch" was conducted to replace the proposed soil borings and hand auger holes. The results of the trenching and amended work plan were submitted to the OCD on January 12, 2000. This letter report describes the activities as directed by the amended work plan and addresses requirements of the May 15, 2000, approval letter from the OCD.

INSTALLATION OF ADDITIONAL MONITOR WELLS

On January 11 and January 12, 2000, Philip personnel installed two 4-inch diameter monitor wells, M-06 and R-06. R-06 was installed according to the August 13, 1999, Work Plan submitted to the OCD by EPFS and M-06 was installed as requested by the OCD and agreed to in the December 17, 1999, meeting between EPFS, OCD, Philip, and Mr. Jaquez. The two monitor wells were completed according to New Mexico Oil Conservation Division guidelines for monitor well installation, construction, and well development dated August 13, 1993. Geologic logs and well completion diagrams are included as Attachment 1. The monitor wells were drilled using a CME-75 drill and 6- 1/4 inch inside diameter hollow stem augers. The wells were completed using 15 feet of 4-inch diameter PVC Schedule 40 .010-inch machine slotted screen and a 4-inch diameter PVC Schedule 40 casing. A 10-20 grade silica sand filter pack was installed to approximately two feet above the screen. A two-foot thick bentonite seal was placed on the filter pack and hydrated with potable water. A 6-inch thick seal was installed at M-06 due to shallow ground water. The remaining annulus was sealed with a cement-bentonite grout. One monitor well, R-06, was completed with a 3.5-foot by 8-inch diameter lockable protective casing and the other monitor well, M-06, was completed with a flush mount casing.

On January 19 and January 20, 2000 the two new monitor wells were developed by purging 3 well casing volumes of ground water until the temperature, pH, and conductivity of the purge water had stabilized. After stabilization, the ground water from each monitoring well was sampled for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and analyzed by US Environmental Protection Agency Method 8021 Modified. In addition, ground water from the other ten monitor wells at the site was purged and sampled for the same analytes.

Ground water samples were collected in pre-cleaned pre-preserved 40-milliliter glass vials supplied by the laboratory. The ground water samples were immediately labeled, sealed, and placed on ice. Chain-of-custody forms were filled out for each sample and the samples shipped to Pinnacle Laboratories located in Albuquerque, New Mexico.

Sampling results are included in Table 1 and Laboratory Quality Assurance/Quality Control data are included as Attachment 2. Analytical results for groundwater samples collected during March, April, May and June, 2000 are also included in Table 1. Laboratory analytical

reports for the March, April, May and June sampling will be included in the annual report and are available upon request.

EXISTING IRRIGATION WELL

The existing 6-inch diameter irrigation well was sampled on February 3, 2000. The irrigation well was developed using a stainless steel, 2-inch diameter submersible Grundfos™ pump by purging 3 well casing volumes until temperature, pH, and conductivity parameters stabilized. The well was then sampled with a clean disposable bailer for BTEX and analyzed by USEPA Method 8021 Modified according to the procedures described above. Sampling results are included as Table 2 and Laboratory Quality Assurance/Quality Control data are included as Attachment 3.

CITIZENS DITCH SAMPLING

On June 1, 2000, Philip personnel collected water samples from "Citizens Ditch" both upgradient and downgradient of the Jaquez COM E #1 and COM C #1 site for BTEX and analyzed by USEPA Method 8021 Modified. Samples were collected as grab samples from the sides of "Citizens Ditch." Sampling results are included as Table 3 and Laboratory Quality Assurance/Quality Control data are included as Attachment 4.

EXCAVATION OF WESTERN BOUNDARY OF GARDEN AREA

On June 8, 2000, EPFS notified the New Mexico Oil Conservation Division (OCD) that work included in the amended work plan was to begin on Tuesday, June 13, 2000.

On June 14 through June 16, 2000, Philip personnel excavated approximately 204 cubic yards of soil from the northwestern corner of the garden area. The area excavated was 46 feet in length by 20 feet in width by 6 feet in depth. At approximately 5 feet below ground surface, ground water was encountered and made excavation difficult below this depth. On site personnel included Bruce Martin and Henry Villanueva of the OCD, Scott Pope of EPFS, Stephen Stellavato, Mike Stahle, and Mike Hare of Philip, and Mrs. Jaquez, the landowner.

The excavated material was separated according to field screening analysis using a photoionization detector (PID) as well as visual observation to stockpile clean soils. Near monitor well M-03, on the north side of the excavation, black soils were located approximately 3.5 feet below ground surface. East of monitor well M-03, black soils were located 5.5 feet below ground surface. Field headspace analysis indicated readings of 899 parts per million (PPM) from the black soils. Approximately 3 feet below ground surface, suspected hydrocarbon impacted soils were removed from the site and delivered to Envirotech for landfarming. The Bill of Lading for the contaminated soils is included as Attachment 5.

Soil samples 1,2,3,5, and 6 were collected from the excavation at the soil/ground water interface approximately 3.5 to 4 feet beneath ground surface. Soil sample 4 was collected at approximately 6 to 6.5 feet beneath the ground surface, beneath the ground water interface, to characterize the bottom of the excavation. Locations of the soil samples are shown on Figure 2. Soil samples 1-4 were split with the on-site OCD personnel and sent for laboratory analysis for BTEX by USEPA Method 8021 Modified and total petroleum hydrocarbons (TPH) by USEPA Method 418.1 and 8015 Modified. All soil samples were collected in glass jars, labeled with the sampling location, date, time, analysis required, sealed with security tape, placed on ice, and chain-of-custody completed. Samples were then delivered to the laboratory within required holding times. Initially, only BTEX analysis was requested on the chain of custody forms, therefore TPH analysis was requested by telephone and analysis completed one day past the recommended sample holding time. Because holding times for TPH were exceeded for the samples collected on June 14, 2000, these samples were analyzed by both 418.1 and 8015 methods for comparison of the results. Analytical results are included as Table 4 and Laboratory Quality Assurance/Quality Control data are included as Attachment 6.

Backfilling of the excavation included placing 98.79 tons of 3-inch minus aggregate rock in the bottom of the excavation per the request of the landowner. Clean soils were then backfilled and mixed with approximately 15 tons of livestock manure and disked-in with a tractor and back-dragged with a backhoe. Weeds and debris were removed and sent to the San Juan County Landfill.

On June 20, 2000, 70 gallons of urea nitrate mixed with 600 gallons of potable water were injected into the passive air system south of the ditch as shown on Figure 1. The urea nitrate is a nutrient source for the indigenous microorganisms that will naturally degrade any hydrocarbons that may remain at the site.

TEMPORARY MONITOR WELLS

On July 7, 2000, two temporary monitor wells were installed in the garden area as shown on Figure 1. The temporary wells were installed with a hand auger to a depth of six feet below ground surface and ground water was encountered at approximately 2.8 feet below ground surface at TMW-01 and 2.3 feet below ground surface at TMW-02. Geologic logs and well completion diagrams are included as Attachment 7. On July 13, 2000, the temporary wells were developed by purging approximately one gallon of ground water from each monitor well and collecting water samples for BTEX analysis by USEPA Method 8021 Modified. The temporary wells bailed dry and ground water samples were collected after the wells recharged. Water samples were collected three times on three different days due to "carbonation" of the ground water samples that left headspace in the sampling bottles. The ground water samples collected on July 13, 2000 were sent to the laboratory for analysis. Sampling results are included in Table 1 and Laboratory Quality Assurance/Quality Control

data are included as Attachment 8. A ground water potentiometric surface contour elevation map is included as Figure 3.

CONCLUSIONS

The installations of the two additional monitor wells, R-06 and M-06, indicated ground water quality below New Mexico Water Quality Control Commission (NMWQCC) ground water standards. Groundwater from the existing 6-inch irrigation well near the residence was also below NMWQCC ground water standards. Water samples collected upgradient and downgradient from "Citizens Ditch" indicated no surface water quality violations. The two temporary monitor wells installed in the garden area encountered a thin layer of suspected hydrocarbon impacted soils during installation near the soil/water interface at approximately 3 feet below ground surface. Analytical results from the ground water samples collected at the temporary wells are free of BTEX.

The excavated area in the northwest corner of the garden area indicated hydrocarbon impacted soils to the north side of the excavation at the soil/water interface. This area to the north of the excavation is an unexcavated area that was left in place from the original remediation due to the potential to breach "Citizens Ditch." The hydrocarbon impacted soils terminated on the south and west sides of the excavation. The black soils to the east were 6 feet or more below ground surface which represented the termination of the original excavation. Despite the appearance of the black soils, the soil samples indicate that BTEX and TPH were below OCD Standards.

RECOMMENDATIONS

As shown on Figure 3, the direction of the hydraulic gradient trends to the south-southwest. Excavated soil analysis of the suspected hydrocarbon impacted soils show levels of BTEX and TPH below recommended remediation levels. The garden area has been completely excavated with the eastern and western boundary defined as not impacted by suspected hydrocarbons. The area north of monitor wells M-03 and M-04 may possess suspected hydrocarbon impacted soils as observed during the excavation. A possible solution to dealing with the suspected hydrocarbon impacted soils north of the garden area could be to evaluate the potential for implementation of soil vapor extraction and ground water sparging. Another possibility is for soil vapor extraction from the existing passive system and/or installing an additional trench with additional sparge wells.

Sincerely,
PHILIP ENVIRONMENTAL SERVICES CORPORATION



Stephen Stellavato
Geologist

TABLES

TABLE 1
JAQUEZ GROUNDWATER SAMPLING DATA 2000

Sample #	Meter/ Line#	Site Description	Sample Date	Project Description		Benzene (PPB)		Toluene (PPB)		Ethyl Benzene (PPB)		Total Xylenes (PPB)		Total BTEX (PPB)
Jaq-0001-M1	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-M1	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-M1	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0005-M1	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-M1	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0001-M2	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-M2	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-M2	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0005-M2	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-M2	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0001-M3	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	=	4.1	=	2.8	=	1.6	=	3.7	=	12.2
Jaq-0003-M3	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	=	8.5	=	0.9	=	0.5	=	0.5	=	10.4
Jaq-0004-M3	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	=	3.5	=	2.8	=	1.8	=	2.8	=	10.9
Jaq-0005-M3	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	=	2.1	<	0.5	=	0.5	=	2.2	<	5.7
Jaq-0006-M3	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	=	0.6	<	0.5	<	0.5	<	0.5	<	2.1
Jaq-0001-M4	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	=	27	<	0.5	<	0.5	=	9.7	<	37.7
Jaq-0003-M4	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	=	26	<	0.5	<	0.5	=	26	<	53
Jaq-0004-M4	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	=	24	<	0.5	<	0.5	=	11	<	36
Jaq-0005-M4	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	=	38	=	1.1	<	0.5	=	23	<	62.6
Jaq-0006-M4	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	=	44	=	1.6	=	8.9	=	16	=	70.5
Jaq-0001-M5	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-M5	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-M5	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0005-M5	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-M5	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0001-M6	JAQ	Jaquez SVE	01/19/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-M6	JAQ	Jaquez SVE	03/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-M6	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0005-M6	JAQ	Jaquez SVE	05/30/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-M6	JAQ	Jaquez SVE	06/22/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2

TABLE 1
Jaquez Groundwater Sampling Data 2000

Sample #	Meter/ Line#	Site Description	Sample Date	Project Description		Benzene (PPB)		Toluene (PPB)		Ethyl Benzene (PPB)		Total Xylenes (PPB)		Total BTEX (PPB)
Jaq-0001-R1	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	=	2500	=	3800	=	180	=	1900	=	8380
Jaq-0003-R1	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	=	16000	=	16000	=	820	=	12000	=	44820
Jaq-0004-R1	JAQ	Jaquez SVE	04/28/2000	EPFS Groundwater Sampling	=	240	=	360	=	20	=	340	=	960
Jaq-0005-R1	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	=	2300	=	1000	=	120	=	2000	=	5420
Jaq-0006-R1	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	=	2400	=	690	=	150	=	2000	=	5240
Jaq-0001-R2	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	=	1200	=	2000	<	130	=	1500	<	4830
Jaq-0003-R2	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	=	6500	=	9400	=	480	=	6600	=	22980
Jaq-0004-R2	JAQ	Jaquez SVE	04/28/2000	EPFS Groundwater Sampling	=	4000	=	3500	=	87	=	1700	=	9287
Jaq-0005-R2	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	=	2300	=	3200	=	280	=	3000	=	8780
Jaq-0006-R2	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	=	1300	=	1300	=	79	=	1100	=	3779
Jaq-0001-R3	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	=	0.5	=	5.2	<	6.7
Jaq-0003-R3	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	=	3.5	=	33	=	37.5
Jaq-0004-R3	JAQ	Jaquez SVE	04/28/2000	EPFS Groundwater Sampling	<	0.5	=	1	<	0.5	<	0.5	<	2.5
Jaq-0005-R3	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	=	1	=	1.4	=	0.5	=	5.4	=	8.3
Jaq-0006-R3	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0001-R4	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	=	280	=	89	=	60	=	690	=	1119
Jaq-0003-R4	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	=	940	=	630	=	48	=	2000	=	3618
Jaq-0004-R4	JAQ	Jaquez SVE	04/28/2000	EPFS Groundwater Sampling	=	1000	=	480	=	29	=	1800	=	3309
Jaq-0005-R4	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	=	960	=	980	=	29	=	1900	=	3869
Jaq-0006-R4	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	=	950	=	1000	=	43	=	2500	=	4493
Jaq-0001-R5	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-R5	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-R5	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	=	1.5	<	0.5	<	0.5	<	0.5	<	3
Jaq-0005-R5	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-R6	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0001-R6	JAQ	Jaquez SVE	01/20/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0003-R6	JAQ	Jaquez SVE	03/29/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0004-R6	JAQ	Jaquez SVE	04/27/2000	EPFS Groundwater Sampling	=	0.9	<	0.5	<	0.5	<	0.5	<	2.4
Jaq-0005-R6	JAQ	Jaquez SVE	05/31/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0006-R6	JAQ	Jaquez SVE	06/26/2000	EPFS Groundwater Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0007-TMW01	JAQ	Jaquez SVE	07/13/2000	Temp. Monitoring Well Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2
Jaq-0007-TMW02	JAQ	Jaquez SVE	07/13/2000	Temp. Monitoring Well Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2

TABLE 2
Jaquez Groundwater Sampling Data
Irrigation Well
2000

Sample #	Meter/ Line#	Site Description	Sample Date	Project Description		Benzene (PPB)		Toluene (PPB)		Ethyl Benzene (PPB)		Total Xylenes (PPB)		Total BTEX (PPB)
JQZ0002R071	JAQ	Jaquez Irrigation Well	02/02/2000	Irrigation Well Sampling	<	0.5	<	0.5	<	0.5	<	0.5	<	2

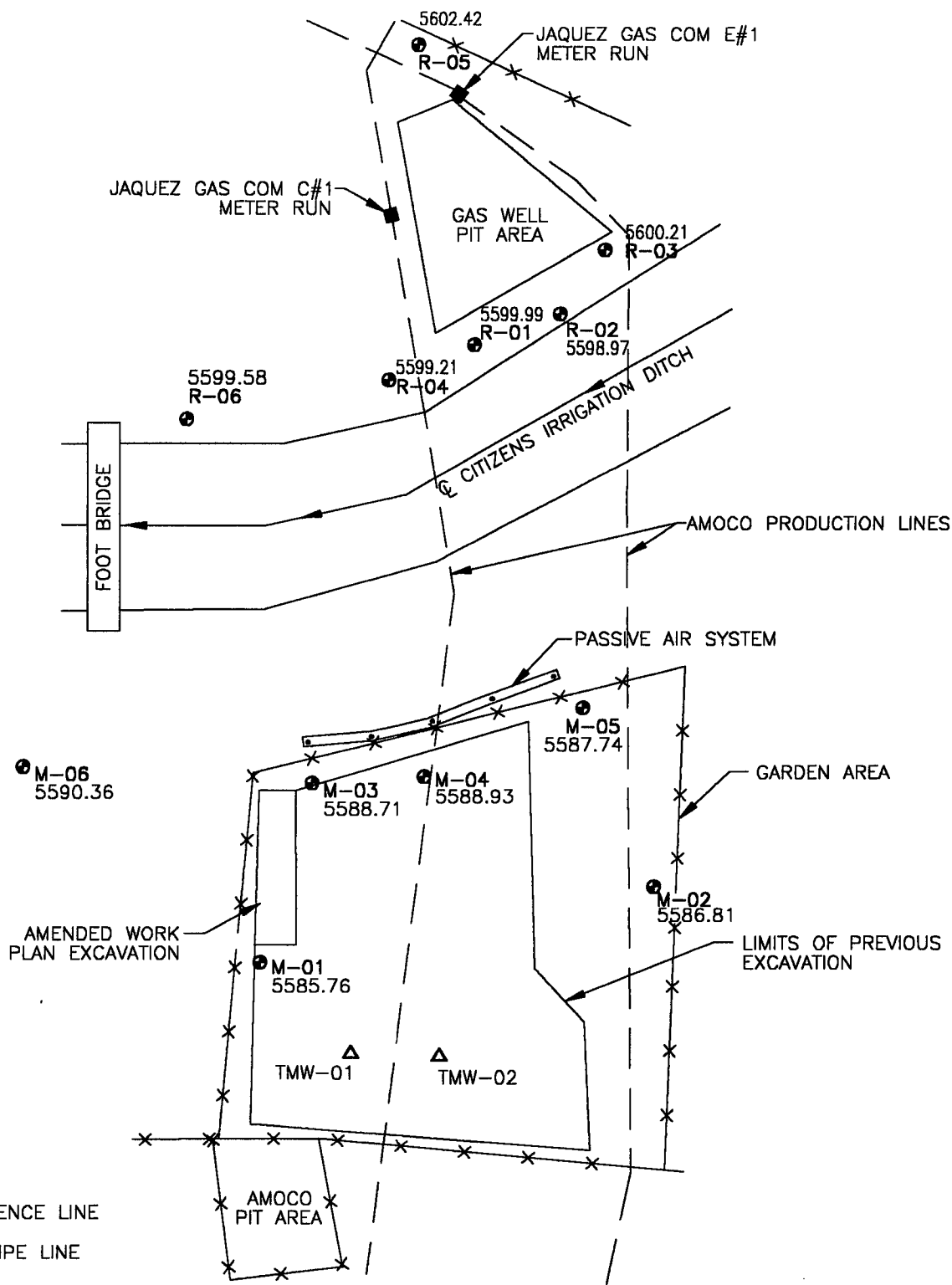
TABLE 3
JAUQUEZ SURFACEWATER SAMPLING DATA
CITIZENS DITCH
2000

Sample #	Meter/ Line#	Site Description	Sample Date	Location		Benzene (PPB)		Toluene (PPB)		Ethyl Benzene (PPB)		Total Xylenes (PPB)		Total BTEX PPB
jaq-0006-cdug	JAQ	Citizens Ditch	06/01/2000	Upstream	<	0.5	<	0.5	<	0.5	<	0.5	<	2
jaq-0006-cddg	JAQ	Citizens Ditch	06/02/2000	Downstream	<	0.5	<	0.5	<	0.5	<	0.5	<	2

TABLE 4
EXCAVATION SOIL SAMPLING DATA
2000

Sample #	Depth (Feet)	Site Description	Sample Date	Project Description		Benzene (PPM)		Toluene (PPM)		Ethyl Benzene (PPM)		Total Xylenes (PPM)		Total BTEX (PPM)		TPH 418.1 (PPM)		TPH 8015 (PPM)
JAQEXC-SS-1	3.5 - 4	Jaquez Excavation	06/14/2000	EPFS Soil Sampling	<	0.025	<	0.025	<	0.025	<	0.025	<	0.1	<	20	<	10
JAQEXC-SS-2	3.5 - 4	Jaquez Excavation	06/14/2000	EPFS Soil Sampling	<	0.025	<	0.025	<	0.025	<	0.025	<	0.1	<	20	<	10
JAQEXC-SS-3	3.5 - 4	Jaquez Excavation	06/14/2000	EPFS Soil Sampling	<	0.025	<	0.025	<	0.025	<	0.025	<	0.1	<	20	<	10
JAQEXC-SS-4	6 - 6.5	Jaquez Excavation	06/14/2000	EPFS Soil Sampling	=	0.1	=	0.085	=	0.047	=	0.51	=	0.742	=	34	=	75
JAQEXC-SS-5	3.5 - 4	Jaquez Excavation	06/15/2000	EPFS Soil Sampling	<	0.025	<	0.025	<	0.025	<	0.025	<	0.1		N/A	<	10
JAQEXC-SS-6	3.5 - 4	Jaquez Excavation	06/15/2000	EPFS Soil Sampling	<	0.025	<	0.025	<	0.025	<	0.025	<	0.1		N/A	<	10

FIGURES



LEGEND

—X—X— FENCE LINE

— PIPE LINE

● M-01 MONITORING WELL LOCATION AND NUMBER AND ELEVATIONS

● R-06 4" MONITORING WELL LOCATION AND NUMBER AND ELEVATIONS

△ TMW-01 2" TEMPORARY MONITORING WELL LOCATIONS

0 50
FEET



COL 17444B-005



TITLE:

LOCATION OF MONITOR WELLS
AND EXCAVATION FOR AMENDED
WORK PLAN

DWN:

CJG

DES.:

CI

CHKD:

SP

APPD:

DATE:

07/13/00

REV.:

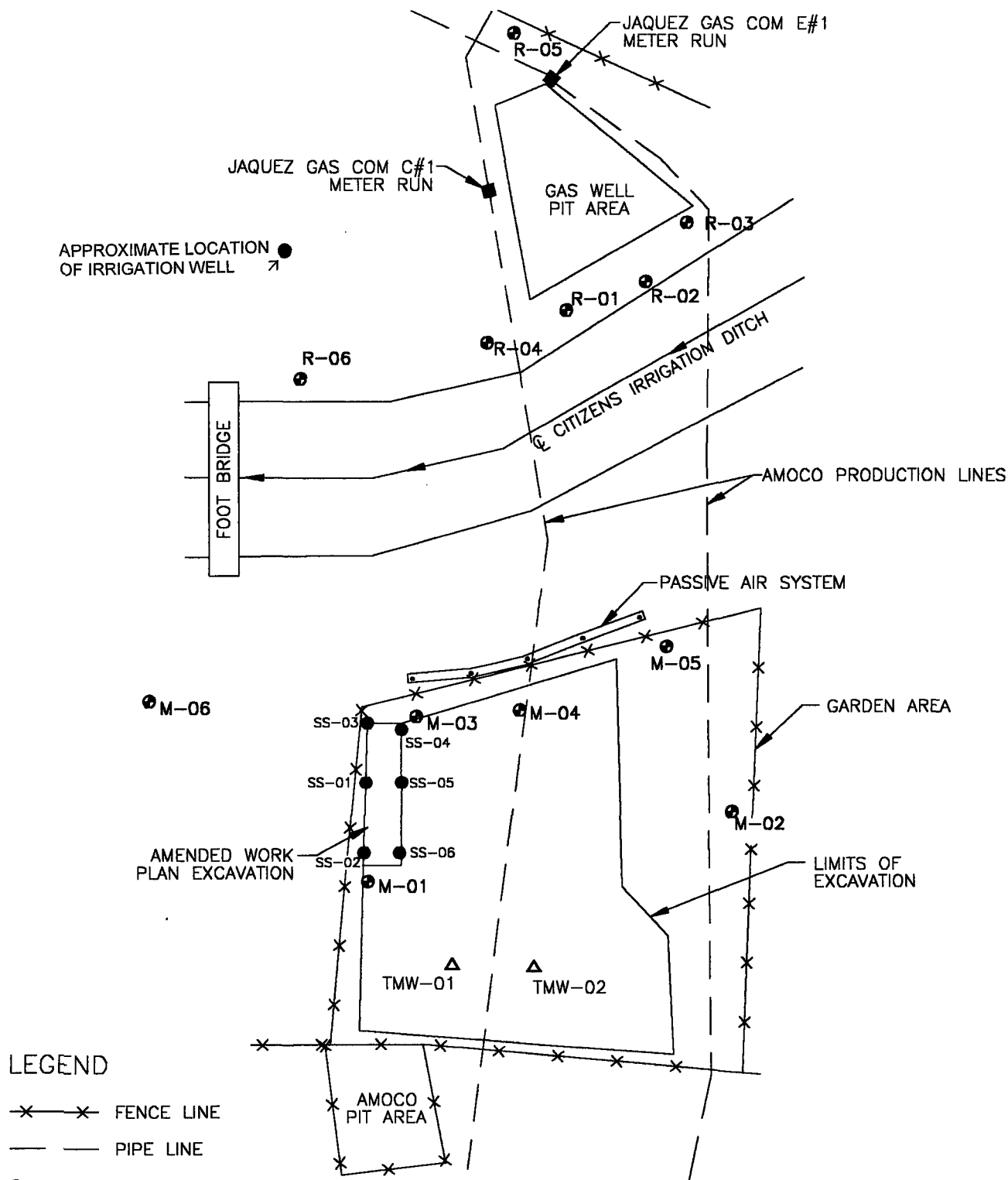
2

PROJECT NO.:

17444

EL PASO FIELD
SERVICE COMPANY

FIGURE 1



LEGEND

- x — x — FENCE LINE
- — — PIPE LINE
- M-01 MONITORING WELL LOCATION AND NUMBER
- R-06 4" MONITORING WELL LOCATION AND NUMBER
- △ TMW-01 2" TEMPORARY MONITORING WELL LOCATIONS
- SS-01 JAQEXC SOIL SAMPLES

0 50
FEET

COL 17444B-006



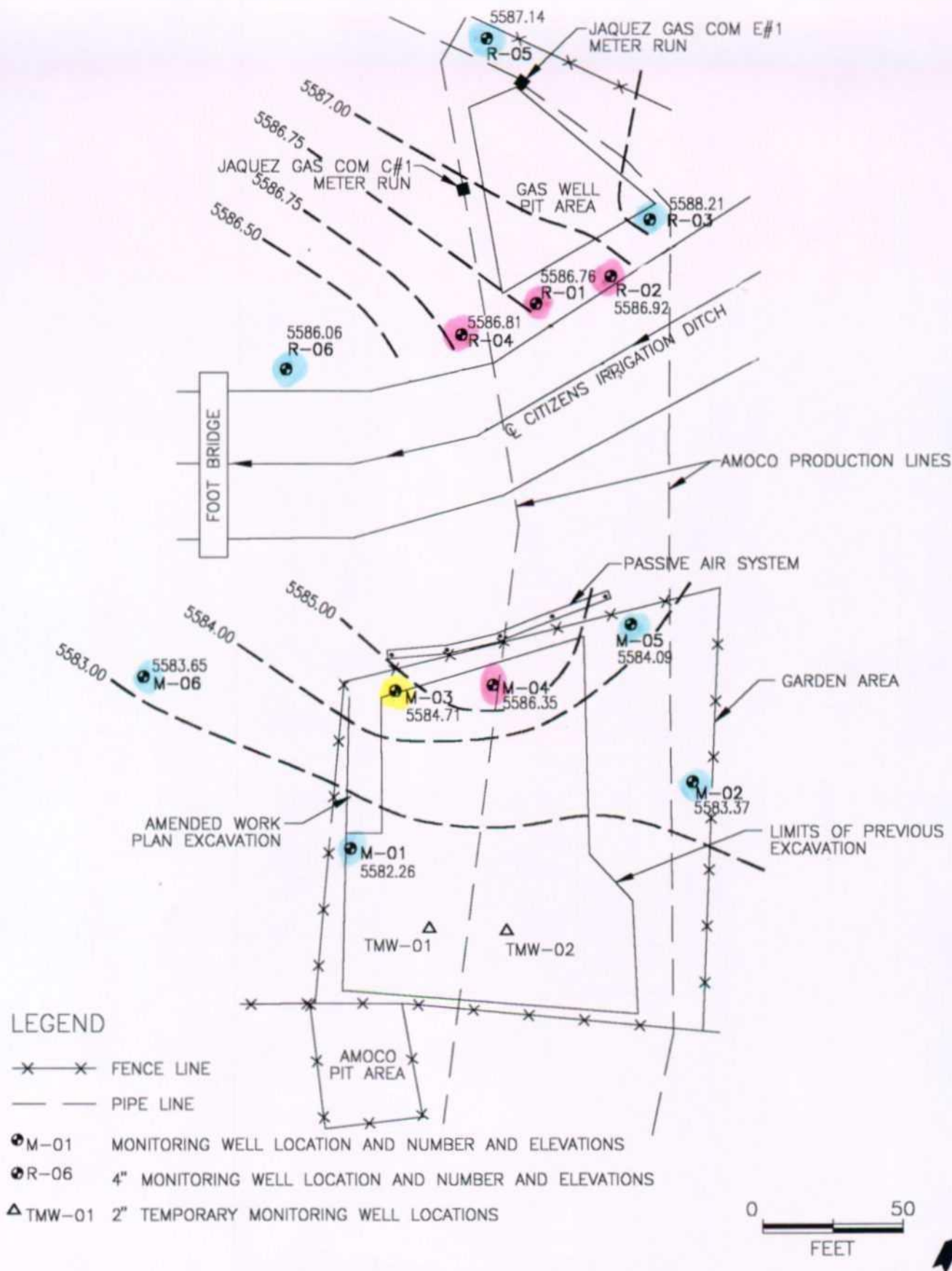
TITLE:
LOCATION OF SOIL SAMPLES
COLLECTED DURING EXCAVATION
FOR AMENDED WORK PLAN

DWN: CJG
CHKD: SP
DATE: 07/13/00

DES.: CI
APPD:
REV.: 2

PROJECT NO.: 17444
EL PASO FIELD
SERVICE COMPANY

FIGURE 2



COL 17444B-006



TITLE:
GROUNDWATER ELEVATION
CONTOUR MAP
JUNE 2000

DWN: CJG
CHKD: SP
DATE: 07/14/00

DES.: CI
APPD:
REV.: 2

PROJECT NO.: 17444
EL PASO FIELD
SERVICE COMPANY

FIGURE 3

ATTACHMENT 1
M-06 R-06
GEOLOGIC LOGS AND
WELL COMPLETION DIAGRAMS

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Albuquerque, New Mexico 87401

(505) 326-2282 FAX (505) 326-2388

Borehole #

Well #

Page

1

M-06

1 of 2

Project Name

Project Number

Project Location

Jaquez Drilling
62800089 Phase 35
Jaquez - Garden Area M-06

Well Logged By

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

C. J. By

Drilling Method

Air Monitoring Method

Hollow Stem Auger

PID

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

Date/Time Started

Date/Time Completed

Jaquez

5.75

C. J. By

K. Padilla

1-12-00 10:40 AM

1-12-00 12:45

Depth (Feet)	Sample Interval	Sample Type & Recovery (Inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	S	
0									Headspace (ppm)
5	1	12"	Tan-Brown VF-FG clayed sand			0	0		0 ppm
10	2	12"	Tan-Greenish VF-FG Sandy Clay (moist)			0	0		0 ppm
15	3	12"	Tan Clean sand F-md grn / saturated			0	0		0 ppm
20			Flowing sands DIFFicult completion			0	0		0 ppm
25			TD = 18 feet BGS.						
30									
35									
40									

Comments:

no odor, no staining, no apparent hydrocarbons in fact

Geologist Signature

C. J. By

MONITORING WELL INSTALLATION RECORD

Philip Services Corporation

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

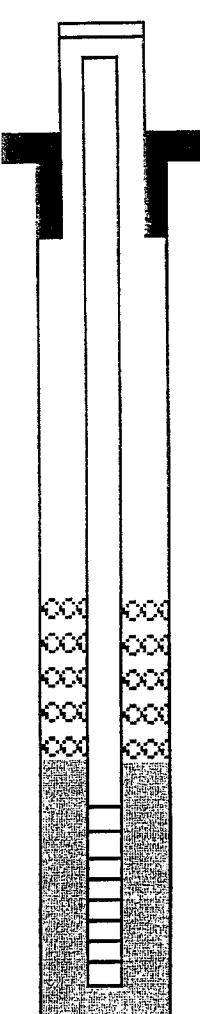
Borehole # 2
Well # R-06
Page 2 of 2

Elevation _____
Well Location L: _____ S: _____ T: _____ R: _____
GWL Depth _____
Installed By K Padilla

Project Name JAQUEZ Drilling
Project Number 62800089 Cost Code 35
Project Location JAQUEZ

On-Site Geologist Blanco, NM
Personnel On-Site C IRBY
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 1-12-00 1545
Date/Time Completed 1-12-00 1630

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing		+3.5'		Top of Protective Casing <u>+3.5'</u>
Bottom of Protective Casing		0		Top of Riser <u>+3</u>
Top of Permanent Borehole Casing				Ground Surface <u>0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete		0		
Bottom of Concrete		-3'		
Top of Grout				
Bottom of Grout				
Top of Well Riser	4" SCH 40	+3'		
Bottom of Well Riser				
Top of Well Screen	4" SCH 40 .010 slot	-7'		Top of Seal <u>-3'</u>
Bottom of Well Screen	4" SCH 40	-22'		
Top of Peltonite Seal				
Bottom of Peltonite Seal				
Top of Gravel Pack	10x20 silica	-5'		Top of Gravel Pack <u>-5'</u>
Bottom of Gravel Pack	10x20 silica	-22'		Top of Screen <u>-7'</u>
Top of Natural Cave-In				
Bottom of Natural Cave-In				
Top of Groundwater		-15'		Bottom of Screen <u>-22'</u>
Total Depth of Borehole		-22'		Bottom of Borehole <u>-22'</u>

Comments: _____

Geologist Signature _____

RECORD OF SUBSURFACE EXPLORATION

Ship Environmental Services Corp.
90 Monroe Road
Baton Rouge, New Mexico 87401
328-2282 FAX (505) 328-2388

Borehole # 2
Well # R-06
Page 1 of 2

Project Name Jaguar Drilling
Project Number _____ Phase _____
Project Location Jaguar Motor Run Area

Location _____
Borehole Location _____
Borehole Depth _____
Logged By C. Irby
Drilled By K. Padilla
Date/Time Started 1-12-00 1345
Date/Time Completed 1-12-00 1545

Well Logged By C. Irby
Personnel On-Site _____
Contractors On-Site _____
Client Personnel On-Site _____
Drilling Method Hollow Stem
Air Monitoring Method PID

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	S	
0			Brown silty sand, some clay, moist			Ø	Ø	Ø	Headspace (PPM) Ø
5			Tan VP-FG silty to clay sand.						
10			Brown silty sand and clay medium plastic, soft			Ø	Ø	Ø	Ø
15		▽							
20			Brown, med-coarse sand little silt, saturated			Ø	Ø	Ø	Ø
25			TD = 22 feet BGS.						
30									
35									
40									

Comments: _____

Geologist Signature Cecil J.

MONITORING WELL INSTALLATION RECORD

Environmental Services Corp.
 1326-2262 FAX (506) 326-2388
 ington, New Mexico 87401

Borehole # 1
 Well # 12-06
 Page 1 of 1

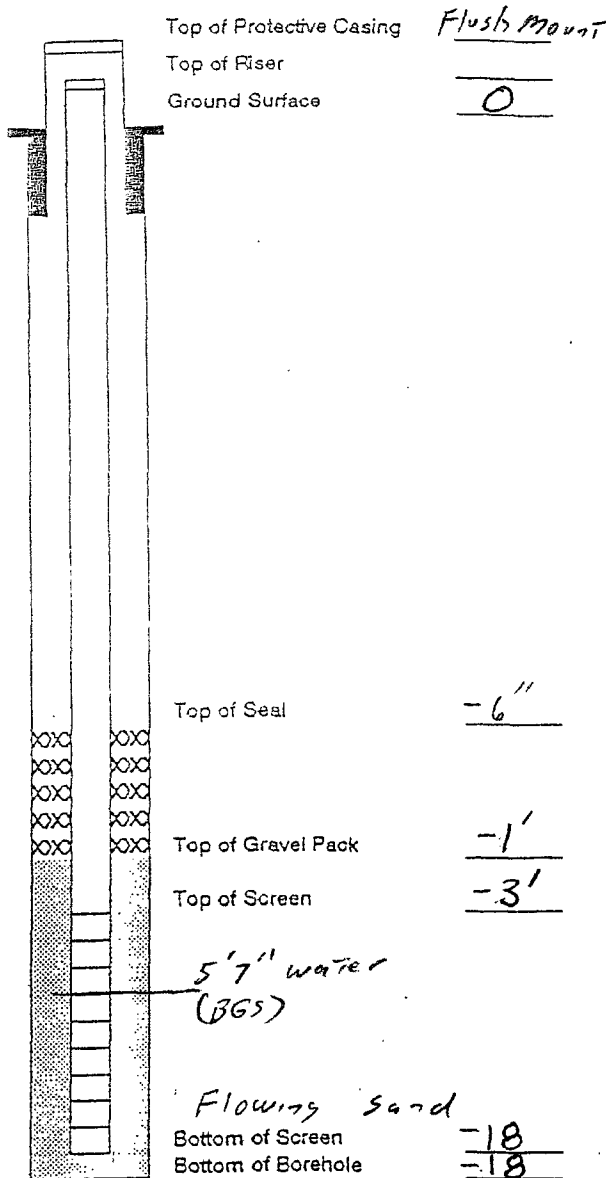
Project Name Jaquez Drilling
 Project Number 6280089 Phase 35
 Project Location Jaquez Garden Area

On-Site Geologist C. Erby
 Personnel On-Site _____
 Contractors On-Site _____
 Client Personnel On-Site _____

Location _____
 Installation _____
 Depth 5.7'
 Drilled By K. Padilla
 Time Started 1-12-00 1245
 Time Completed 1-12-00 1330

Months in Reference to Ground Surface

	Material	Depth
Top of Protective Casing	Flush Mount	0
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout		-6"
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen	4" SCH 40	-3'
Bottom of Well Screen	0.010 slot	-18'
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		-1'
Bottom of Gravel Pack	10 X 20 Silica	-18'
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		-5.75'
Total Depth of Borehole		-18'



Comments: 6 sacks sand, 2 Bags Bentonite, Flush, 3 sacks

Geologist Signature

Cecil G.

ATTACHMENT 2
JANUARY GROUNDWATER
SAMPLING RESULTS

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number 001047
January 25, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name EPFS JAQUEZ
Project Number (none)

Attention: CECIL IRBY

On 01/21/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** 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.

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



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

CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EPFS JAQUEZ

PINNACLE ID : 001047
DATE RECEIVED : 01/21/00
REPORT DATE : 01/25/00

PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	JQ0001M0-1-1	AQUEOUS	01/19/00
02	JQ0001M0-3-1	AQUEOUS	01/19/00
03	JQ0001M0-4-1	AQUEOUS	01/19/00
04	JQ0001M0-5-1	AQUEOUS	01/19/00
05	JQ0001M0-2-1	AQUEOUS	01/19/00
06	JQ0001M0-6-1	AQUEOUS	01/19/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EPFS JAQUEZ

PINNACLE I.D.: 001047

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JQ0001M0-1-1	AQUEOUS	01/19/00	NA	01/24/00	1
02	JQ0001M0-3-1	AQUEOUS	01/19/00	NA	01/24/00	1
03	JQ0001M0-4-1	AQUEOUS	01/19/00	NA	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	JQ0001M0-1-1	JQ0001M0-3-1	JQ0001M0-4-1
BENZENE	0.5	UG/L	< 0.5	4.1	27
TOLUENE	0.5	UG/L	< 0.5	2.8	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	1.6	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	3.7	9.7

SURROGATE:
BROMOFLUOROBENZENE (%) 104 84 100
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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 : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EPFS JAQUEZ

PINNACLE I.D.: 001047

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JQ0001M0-5-1	AQUEOUS	01/19/00	NA	01/24/00	1
05	JQ0001M0-2-1	AQUEOUS	01/19/00	NA	01/24/00	1
06	JQ0001M0-6-1	AQUEOUS	01/19/00	NA	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	JQ0001M0-5-1	JQ0001M0-2-1	JQ0001M0-6-1
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 102 104 97
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 001047
BLANK I. D.	: 012400	DATE EXTRACTED	: N/A
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 01/24/00
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS JAQUEZ		

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 (%) 97
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 001047-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EPFS JAQUEZ
PINNACLE I.D. : 001047
DATE EXTRACTED : N/A
DATE ANALYZED : 01/24/00
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	23.0	115	22.8	114	1	(80 - 120)	20
TOLUENE	<0.5	20	20.3	102	20.1	101	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20	22.7	114	22.6	113	0	(80 - 120)	20
TOTAL XYLENES	<0.5	60	66.8	111	65.9	110	1	(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

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

Pinnacle Lab ID number 001046
January 25, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name JQ0001 R05-1
Project Number (none)

Attention: CECIL IRBY

On 01/21/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** 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.

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 : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : JQ0001 R05-1

PINNACLE ID : 001046
DATE RECEIVED : 01/21/00
REPORT DATE : 01/25/00

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	JQ0001R05-1	AQUEOUS	01/20/00
02	JQ0001R03-1	AQUEOUS	01/20/00
03	JQ0001R06-1	AQUEOUS	01/20/00
04	JQ0001R04-1	AQUEOUS	01/20/00
05	JQ0001R01-1	AQUEOUS	01/20/00
06	JQ0001R02-1	AQUEOUS	01/20/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : JQ0001 R05-1

PINNACLE I.D.: 001046

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JQ0001R05-1	AQUEOUS	01/20/00	NA	01/24/00	1
02	JQ0001R03-1	AQUEOUS	01/20/00	NA	01/24/00	1
03	JQ0001R06-1	AQUEOUS	01/20/00	NA	01/24/00	1

PARAMETER	DET. LIMIT	UNITS	JQ0001R05-1	JQ0001R03-1	JQ0001R06-1
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	5.2	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 100 95 98
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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 : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : JQ0001 R05-1

PINNACLE I.D.: 001046

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	JQ0001R04-1	AQUEOUS	01/20/00	NA	01/24/00	100
05	JQ0001R01-1	AQUEOUS	01/20/00	NA	01/24/00	200
06	JQ0001R02-1	AQUEOUS	01/20/00	NA	01/24/00	250

PARAMETER	DET. LIMIT	UNITS	JQ0001R04-1	JQ0001R01-1	JQ0001R02-1
BENZENE	0.5	UG/L	280	2500	1200
TOLUENE	0.5	UG/L	89	3800	2000
ETHYLBENZENE	0.5	UG/L	60	180	< 130
TOTAL XYLENES	0.5	UG/L	690	1900	1500

SURROGATE:
BROMOFLUOROBENZENE (%) 102 106 88
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

PINNACLE
LABORATORIES

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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 001046
BLANK I. D.	: 012400	DATE EXTRACTED	: N/A
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 01/24/00
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: JQ0001 R05-1		

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 (%) 97
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 001047-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : JQ0001 R05-1

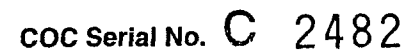
PINNACLE I.D. : 001046
DATE EXTRACTED : N/A
DATE ANALYZED : 01/24/00
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20	23.0	115	22.8	114	1	(80 - 120)	20
TOLUENE	<0.5	20	20.3	102	20.1	101	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20	22.8	114	22.6	113	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60	66.8	111	65.9	110	1	(80 - 120)	20

CHEMIST NOTES:
N/A

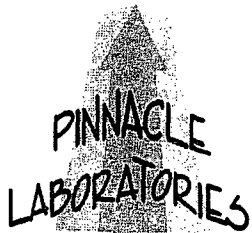
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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



Samples Iced: ☒ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☒ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____		Shipping and Lab Notes: Rec'd @ 5°C Bill to EPFS	

ATTACHMENT 3
IRRIGATION WELL SAMPLING
RESULTS



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

Pinnacle Lab ID number 002015
February 09, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name JAQUEZ DRILLING
Project Number 62800089

Attention: CECIL IRBY

On 02/03/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** 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.

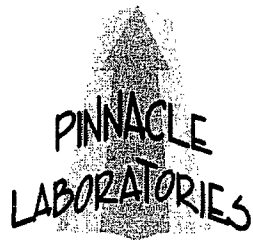
If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 002015
PROJECT #	: 62800089	DATE RECEIVED	: 02/03/00
PROJECT NAME	: JAQUEZ DRILLING	REPORT DATE	: 02/09/00
PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	JQZ0002R071 (IRRIGATION WELL)	AQUEOUS	02/02/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : 62800089
PROJECT NAME : JAQUEZ DRILLING

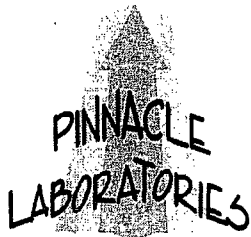
PINNACLE I.D.: 002015

SAMPLE	ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
	01	JQZ0002R071 (IRRIGATION WELL)	AQUEOUS	02/02/00	NA	02/03/00	1

PARAMETER	DET. LIMIT	UNITS	JQZ0002R071 (IRRIGATION WELL)
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 106
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 002015
BLANK I. D.	: 020300	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 02/03/00
PROJECT #	: 62800089	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: JAQUEZ DRILLING		

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 (%)	99
------------------------	----

SURROGATE LIMITS: (80 - 120)

CHEMIST NOTES:

N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 020300
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800089
PROJECT NAME : JAQUEZ DRILLING

PINNACLE I.D. : 002015
DATE EXTRACTED : NA
DATE ANALYZED : 02/03/00
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	21.8	109	23.2	116	6	(80 - 120)	20
TOLUENE	<0.5	20.0	19.3	97	21.3	107	10	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	22.5	113	23.5	118	4	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	66.1	110	65.6	109	1	(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 Inc.

CHAIN OF CUSTODY

DATE: 2/2/2000 PAGE: 1 OF 1

PLI Accession #: 002015

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Cecil Irby

COMPANY: Philip Services Corp.
ADDRESS: 4000 Monroe
Farmington, NM 87401
PHONE: (505) 326-2262
FAX: (505) 326-2388
BILL TO: E PFS
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID DATE TIME MATRIX LAB I.D.

JQZ0002R071 2/2/2000 1410 H2O 01
(Irrigation Well)

Petroleum Hydrocarbons (418.1) TRPH

(MOD 8015) Diesel/Direct Inject

(M8015) Gas/Purge & Trap

8021 (BTEX)/8015 (Gasoline) MTBE

8021 (BTEX) ☐ MTBE ☐ TMB ☐ PGE

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

2

PROJECT INFORMATION

PROJ. NO.: 62800089
PROJ. NAME: Jaquez Drilling
P.O. NO.:

SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS 2
CUSTODY SEALS Y/N (NA)
RECEIVED INTACT YRS
BLUE ICE (CE) A-U

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

Preservative HCL + Ice

RELINQUISHED BY: 1.

Signature: Steve Miller 1630
Printed Name: Steve Miller 2/2/2000
Company: See reverse side (Force Magure)

RECEIVED BY: 1.

Signature:
Printed Name:
Date:
Company:

RELINQUISHED BY: 2.

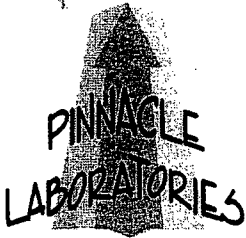
Signature:
Printed Name:
Date:
Company:

RECEIVED BY: (LAB) 2.

Signature:
Printed Name:
Date:
Company:

Pinnacle Laboratories Inc.

ATTACHMENT 4
CITIZENS DITCH SURFACE WATER
SAMPLING RESULTS



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

Pinnacle Lab ID number **006018**
June 07, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: Robert Thompson/LeAudra Stanley

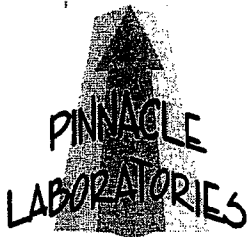
On 06/02/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006018
PROJECT #	: 62800107	DATE RECEIVED	: 06/02/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/07/00
PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
	JAQ-0006-CDUG	AQUEOUS	06/01/00
02	JAQ-0006-CDDG	AQUEOUS	06/01/00



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

GAS CHROMATOGRAPHY RESULTS

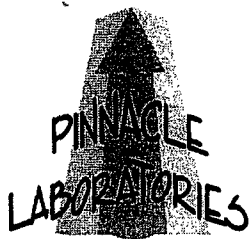
TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 006018

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0006-CDUG	AQUEOUS	06/01/00	NA	06/05/00	1
2	JAQ-0006-CDDG	AQUEOUS	06/01/00	NA	06/05/00	1
PARAMETER	DET. LIMIT	UNITS	JAQ-0006-CDUG	JAQ-0006-CDDG		
BENZENE	0.5	UG/L	< 0.5	< 0.5		
OLUENE	0.5	UG/L	< 0.5	< 0.5		
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5		
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5		

SURROGATE:
BROMOFLUOROBENZENE (%) 106 106
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



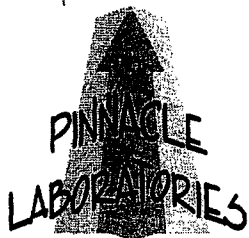
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 006018
LAB I. D.	: 060500	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/05/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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 (%) 108
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 006015-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING
PINNACLE I.D. : 006018
DATE EXTRACTED : NA
DATE ANALYZED : 06/05/00
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	18.6	93	19.2	96	3	(80 - 120)	20
TOLUENE	<0.5	20.0	20.2	101	20.4	102	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.9	105	21.6	108	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	63.8	106	64.9	108	2	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

ATTACHMENT 5
BILL OF LADING OF EXCAVATED
SOILS

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

JOB # 12360

DATE June 14-00

RECEIVED JUN 15 2000

NAME Curtis D'Angelo COMPANY Enroutech SIGNATURE Curtis D'Angelo

To Re-order Call 325-9600 or Fax 325-9764 **signature®** FORM # 01

EPNG Jacques Location

DATE June 14-00

Bill of Lading

JOB # 12312

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 6-15-00

MANIFEST	COMPLETE DESCRIPTION OF SHIPMENT					TRANSPORTING COMPANY				
NO.	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLs	COMPANY	TRK#	TIME	DRIVER SIGNATURE
1	ELPASO Field Sew	LF 2 UNIT 5	Contam Soil	P-20	10	-	Philips Enviro	396	10:00	Steve Allen
2	ELPASO,	LF 2 UNIT 5	Contam Soil	P-20	10		Philips Enviro	5378	10:17	Kelly Pahlke
3	ELPASO,	LF 2 UNIT 5	Contam Soil	P-20	10		Philips, Enviro	5396	12:51	Steve Allen
4	ELPASO,	LF 2 UNIT 5	Contam Soil	P-20	12		Philips, Enviro	5396	2:36	Steve Allen
5	ELPASO	LF 2 UNIT 5	Contam Soil	P-20	12		Philips Enviro	5396	4:40	Steve Allen

RECEIVED JUN 19 2000

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME Bill Carter COMPANY Emulex Inc SIGNATURE Bill Carter

DATE 6-15-00

ENVIROTECH INC.

Bill of Lading

JOB # 12299

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 6-16-00

[illegible]

RECEIVED JUN 16 2000

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME R. Elliot H

COMPANY Envirotech Inc

SIGNATURE

Robert E. Smith

DATE 6-16-00

ATTACHMENT 6
EXCAVATION SOIL SAMPLING
RESULTS

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number 006068
June 26, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ EXCAVATION
Project Number 62800243

Attention: Steve Stellavato/LeAudra Stanley

On 06/16/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze 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.

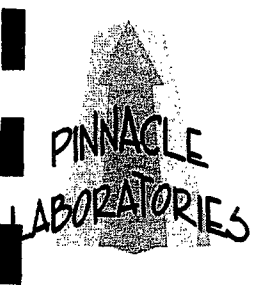
If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.



H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

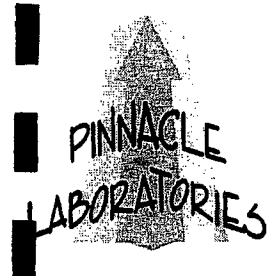
Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006068
OBJECT #	: 62800243	DATE RECEIVED	: 06/16/00
OBJECT NAME	: JAQUEZ EXCAVATION	REPORT DATE	: 06/26/00

#	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
	JAQEXC-SS-1	NON-AQ	06/14/00
	JAQEXC-SS-2	NON-AQ	06/14/00
	JAQEXC-SS-3	NON-AQ	06/14/00
	JAQEXC-SS-4	NON-AQ	06/14/00



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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

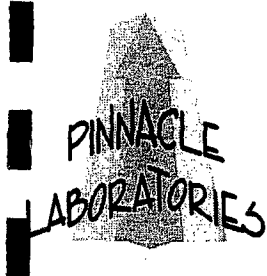
TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800243
PROJECT NAME : JAQUEZ EXCAVATION

PINNACLE I.D.: 006068

SAMPLE	DATE	DATE	DATE	DIL.	
CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
JAQEXC-SS-1	NON-AQ	06/14/00	06/20/00	06/20/00	1
JAQEXC-SS-2	NON-AQ	06/14/00	06/20/00	06/20/00	1
JAQEXC-SS-3	NON-AQ	06/14/00	06/20/00	06/20/00	1
PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-1	JAQEXC-SS-2	JAQEXC-SS-3
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
ETHYL-t-BUTYL ETHER	0.13	MG/KG	< 0.13	< 0.13	< 0.13

PROBABLE:
BROMOFLUOROBENZENE (%) 107 112 104
PROBABLE LIMITS (65 - 120)

CHEMIST NOTES:



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 : PHILIP ENVIRONMENTAL
PROJECT # : 62800243
PROJECT NAME : JAQUEZ EXCAVATION

PINNACLE I.D.: 006068

PARAMETER	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
	JAQEXC-SS-4	NON-AQ	06/14/00	06/20/00	06/20/00	1
PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-4			
BENZENE	0.025	MG/KG	0.10			
CHLORUENE	0.025	MG/KG	0.085			
ETHYLBENZENE	0.025	MG/KG	0.047			
MONOXYLENES	0.025	MG/KG	0.51			
ETHYL-t-BUTYL ETHER	0.13	MG/KG	< 0.13			

SURROGATE:
BROMOFLUOROBENZENE (%) 121*
SURROGATE LIMITS (65 - 120)

REMARKS:
High surrogate due to matrix interference.

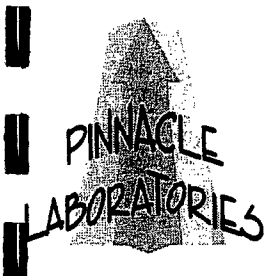
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413



GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 006068
ANK I. D.	: 062000	DATE EXTRACTED	: 06/20/00
NT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/20/00
OBJECT #	: 62800243	SAMPLE MATRIX	: NON-AQ
OBJECT NAME	: JAQUEZ EXCAVATION		
AMETER	UNITS		
ENZENE	MG/KG	<0.025	
UENE	MG/KG	<0.025	
YLBENZENE	MG/KG	<0.025	
TAL XYLENES	MG/KG	<0.025	
ETHYL-t-BUTYL ETHER	MG/KG	<0.13	
IRROGATE:			
ROMOFLUOROBENZENE (%)		104	
ROGATE LIMITS:	(80 - 120)		
EMIST NOTES:			

A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

EST : EPA 8021 MODIFIED
SUS # : 006068-01
UNIT : PHILIP ENVIRONMENTAL
PROJECT # : 62800243
PROJECT NAME : JAQUEZ EXCAVATION
PINNACLE I.D. : 006068
DATE EXTRACTED : 06/20/00
DATE ANALYZED : 06/20/00
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	0.85	85	0.87	87	2	(68 - 120)	20
TOLUENE	<0.025	1.00	0.88	88	0.90	90	2	(64 - 120)	20
ETHYLBENZENE	<0.025	1.00	0.85	85	0.87	87	2	(49 - 127)	20
XYLENES	<0.025	3.00	2.57	86	2.63	88	2	(58 - 120)	20

ANALYST NOTES:
/A

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

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

006068

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2580

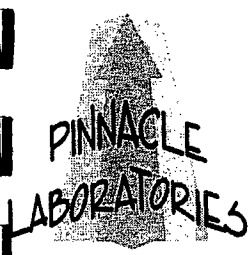
[illegible]

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
Stephen Stellant	6/15/00	0930	Giuseppe Jimio	6/16/00	1710

Samples Iced: ☒ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples)		Shipping and Lab Notes:	
☐ Cyanide Sodium hydroxide (NaOH)		Please invoice EPFS directly. Please send results to Philip Services and a copy to EPFS.	
☐ Volatile Organic Analysis Hydrochloric acid (HCl)			
☐ Metals Nitric acid (HNO ₃)			
☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄)			
☐ Other (Specify) _____			
☐ Other (Specify) _____			



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

Pinnacle Lab ID number 006069
June 26, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name JAQUEZ EXCAVATION
Project Number 62800243

Attention: Steve Stellavato/LeAudra Stanley

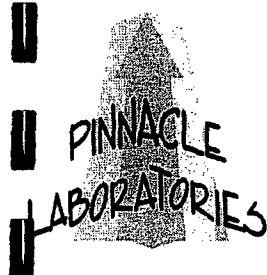
On 06/16/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze non-aq samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

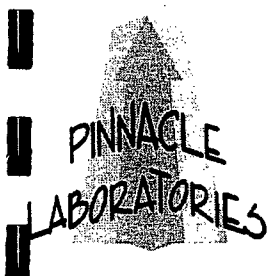
Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006069
PROJECT #	: 62800243	DATE RECEIVED	: 06/16/00
PROJECT NAME	: JAQUEZ EXCAVATION	REPORT DATE	: 06/26/00

#	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
	JAQEXC-SS-5	NON-AQ	06/15/00
	JAQEXC-SS-6	NON-AQ	06/15/00



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

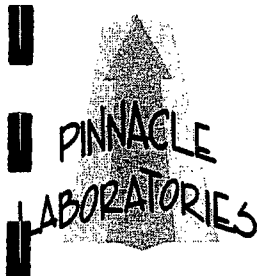
GAS CHROMATOGRAPHY RESULTS

STATION : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
OBJECT # : 62800243
OBJECT NAME : JAQUEZ EXCAVATION

PINNACLE I.D.: 006069

MPLE	DATE	DATE	DATE	DIL.	
CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
JAQEXC-SS-5	NON-AQ	06/15/00	06/20/00	06/20/00	1
JAQEXC-SS-6	NON-AQ	06/15/00	06/20/00	06/20/00	1
PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-5	JAQEXC-SS-6	
BENZENE	0.025	MG/KG	< 0.025	< 0.025	
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	
PARA XYLENES	0.025	MG/KG	< 0.025	< 0.025	
ORTHYLT-BUTYL ETHER	0.13	MG/KG	< 0.13	< 0.13	
PROPAGATE:					
MOMOFUORO BENZENE (%)			112	109	
PROPAGATE LIMITS	(65 - 120)				

ANALYST NOTES:



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 006069
LAB I.D.	: 062000	DATE EXTRACTED	: 06/20/00
TEST	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/20/00
SAMPLE #	: 62800243	SAMPLE MATRIX	: NON-AQ
SAMPLE NAME	: JAQUEZ EXCAVATION		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
PARA XYLENES	MG/KG	<0.025
THYL-t-BUTYL ETHER	MG/KG	<0.13

REMARKS:
MONOFLUOROBENZENE (%) 104
REMARKS LIMITS: (80 - 120)
REMARKS NOTES:



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

ST : EPA 8021 MODIFIED
MSD # : 006068-01
SITE : PHILIP ENVIRONMENTAL
OBJECT # : 62800243
OBJECT NAME : JAQUEZ EXCAVATION

PINNACLE I.D. : 006069
DATE EXTRACTED : 06/20/00
DATE ANALYZED : 06/20/00
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	0.85	85	0.87	87	2	(68 - 120)	20
TOLUENE	<0.025	1.00	0.88	88	0.90	90	2	(64 - 120)	20
ETHYLBENZENE	<0.025	1.00	0.85	85	0.87	87	2	(49 - 127)	20
METHYLBENZENE	<0.025	3.00	2.57	86	2.63	88	2	(58 - 120)	20

ANALYST NOTES:

A

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

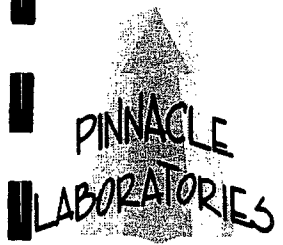
$$\text{(Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. **C** 2581

Samples Iced: ☒ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples)		Shipping and Lab Notes:	
☐ Cyanide Sodium hydroxide (NaOH)		Please invoice EPFS directly. Please send results to Philip Services and a copy to EPFS.	
☐ Volatile Organic Analysis Hydrochloric acid (HCl)			
☐ Metals Nitric acid (HNO ₃)			
☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄)			
☐ Other (Specify) _____			
☐ Other (Specify) _____		Rec'd @ 4.8°C	



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Pinnacle Lab ID number 006068
July 03, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ EXCAVATION
Project Number 62800243

Attention: ROBERT THOMPSON/LEAUDRA STANLEY

On 06/16/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **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.

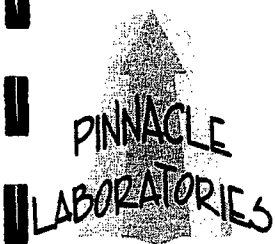
Per client request, samples were re-accessioned to include diesel. This request was made one (1) day past hold time. EPA method 418.1 was also analyzed (at no cost) to provide in-hold time data. We apologize for any inconvenience this may have caused.

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

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

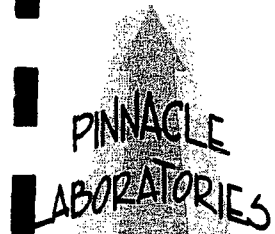
Enclosure



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Fax (505) 344-4413

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006068
PROJECT #	: 62800243	DATE RECEIVED	: 06/16/00
PROJECT NAME	: JAQUEZ EXCAVATION	REPORT DATE	: 07/03/00

#	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
	JAQEXC-SS-1	NON-AQ	06/14/00
	JAQEXC-SS-2	NON-AQ	06/14/00
	JAQEXC-SS-3	NON-AQ	06/14/00
	JAQEXC-SS-4	NON-AQ	06/14/00



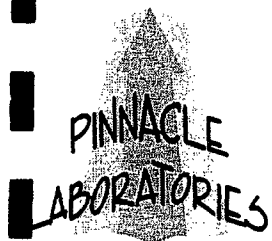
2709-D Pan American Freeway NE
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Fax (505) 344-4413

GENERAL CHEMISTRY RESULTS
418.1

CLIENT : PHILIP ENVIRONMENTAL PINNACLE I.D. : 006068
PROJECT # : 62800243 DATE RECEIVED : 06/16/00
PROJECT NAME : JAQUEZ EXCAVATION

SAMPLE	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
	JAQEXC-SS-1	NON-AQ	06/14/00	06/30/00	06/30/00	1
	JAQEXC-SS-2	NON-AQ	06/14/00	06/30/00	06/30/00	1
	JAQEXC-SS-3	NON-AQ	06/14/00	06/30/00	06/30/00	1
ELEMENT		DET. LIMIT	UNITS	JAQEXC-SS-1	JAQEXC-SS-2	JAQEXC-SS-3
PETROLEUM HYDROCARBONS		20	MG/KG	< 20	< 20	< 20

ANALYST NOTES:

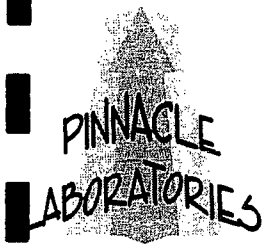


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GENERAL CHEMISTRY RESULTS
418.1

ENT	: PHILIP ENVIRONMENTAL		PINNACLE I.D.	: 006068		
JECT #	: 62800243		DATE RECEIVED	: 06/16/00		
JECT NAME	: JAQUEZ EXCAVATION					
SAMPLE			DATE	DATE	DATE	DIL.
#	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
	JAQEXC-SS-4	NON-AQ	06/14/00	06/30/00	06/30/00	1
PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-4			
PETROLEUM HYDROCARBONS	20	MG/KG	34			

ANALYST NOTES:



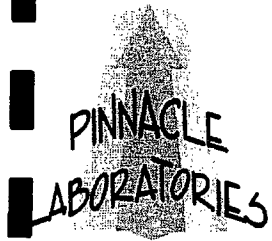
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GENERAL CHEMISTRY - REAGENT BLANK
418.1

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE I.D.	: 006068
PROJECT #	: 62800243	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: JAQUEZ EXCAVATION	UNITS	: MG/KG

	REAGENT BLANK I.D.	SAMPLE RESULT
PARAMETER		
PETROLEUM HYDROCARBONS	063000	<20

ANALYST NOTES:



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GENERAL CHEMISTRY - QUALITY CONTROL
418.1

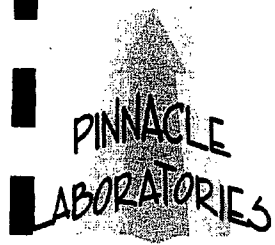
CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE I.D.	: 006068
PROJECT #	: 62800243	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: JAQUEZ EXCAVATION	UNITS	: MG/KG

PARAMETER	PINNACLE I.D.	SAMPLE RESULT	DUP. RESULT	% RPD	SPIKED SAMPLE	SPIKE CONC.	% REC
PALEUM HYDROCARBONS	006068-01	<20	<20	N/A	183	162	113%

CLIENT NOTES:

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

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



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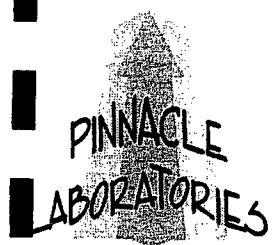
GAS CHROMATOGRAPHY RESULTS

ST : EPA 8015 MODIFIED (DIRECT INJECT)
ENT : PHILIP ENVIRONMENTAL
JECT # : 62800243
JECT NAME : JAQUEZ EXCAVATION
PINNACLE I.D.: 006068

MPLE			DATE	DATE	DATE	DIL.
	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
	JAQEXC-SS-1	NON-AQ	06/14/00	06/29/00	06/30/00	1
	JAQEXC-SS-2	NON-AQ	06/14/00	06/29/00	06/30/00	1
	JAQEXC-SS-3	NON-AQ	06/14/00	06/29/00	06/30/00	1
METER	DET. LIMIT	UNITS		JAQEXC-SS-1	JAQEXC-SS-2	JAQEXC-SS-3
EL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10	
EL HYDROCARBONS, C10-C22	10	MG/KG	< 10	< 10	< 10	
EL HYDROCARBONS, C22-C36	10	MG/KG	< 10	< 10	< 10	
CALCULATED SUM:						

ROGATE:
TERPHENYL (%) 107 108 109
ROGATE LIMITS (66 - 151)

MIST NOTES:
ples were analyzed out of hold time per client request.



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GAS CHROMATOGRAPHY RESULTS

ST : EPA 8015 MODIFIED (DIRECT INJECT)
ENT : PHILIP ENVIRONMENTAL
JECT # : 62800243
JECT NAME : JAQUEZ EXCAVATION

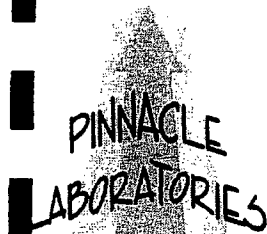
PINNACLE I.D.: 006068

AMPLE	DATE	DATE	DATE	DIL.
CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED
JAQEXC-SS-4	NON-AQ	06/14/00	06/29/00	06/30/00

PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-4
HYDROCARBONS, C8-C10	10	MG/KG	27
HYDROCARBONS, C10-C22	10	MG/KG	30
EL HYDROCARBONS, C22-C36	10	MG/KG	18
ULATED SUM:			75

RROGATE:
RPHENYL (%) 115
RROGATE LIMITS (66 - 151)

EMIST NOTES:
mples were analyzed out of hold time per
request.



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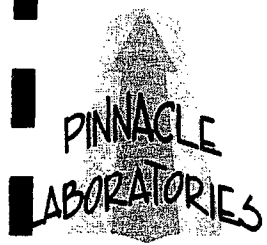
GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

PROJECT #	: EPA 8015 MODIFIED (DIRECT INJECT)	PROJECT #	: 006068
PROJECT NAME	: 062900	DATE EXTRACTED	: 06/29/00
	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/29/00
	: 62800243	SAMPLE MATRIX	: NON-AQ
	: JAQUEZ EXCAVATION		

METER	UNITS	
HYDROCARBONS, C6-C10	MG/KG	< 10
EL HYDROCARBONS, C10-C22	MG/KG	< 10
HYDROCARBONS, C22-C36	MG/KG	< 10

PROGATE:
TERPHENYL (%) 102
PROGATE LIMITS (80 - 151)

EMIST NOTES:



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

T : EPA 8015 MODIFIED (DIRECT INJECT)
ID # : 006068-01 PINNACLE I.D. : 006068
 : PHILIP ENVIRONMENTAL DATE EXTRACTED : 06/29/00
JECT # : 62800243 DATE ANALYZED : 06/30/00
JECT NAME : JAQUEZ EXCAVATION SAMPLE MATRIX : NON-AQ
 : UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
HYDROCARBONS	<10	200	172	86	169	85	2	(56 - 148)	20

EMIST NOTES:

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

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



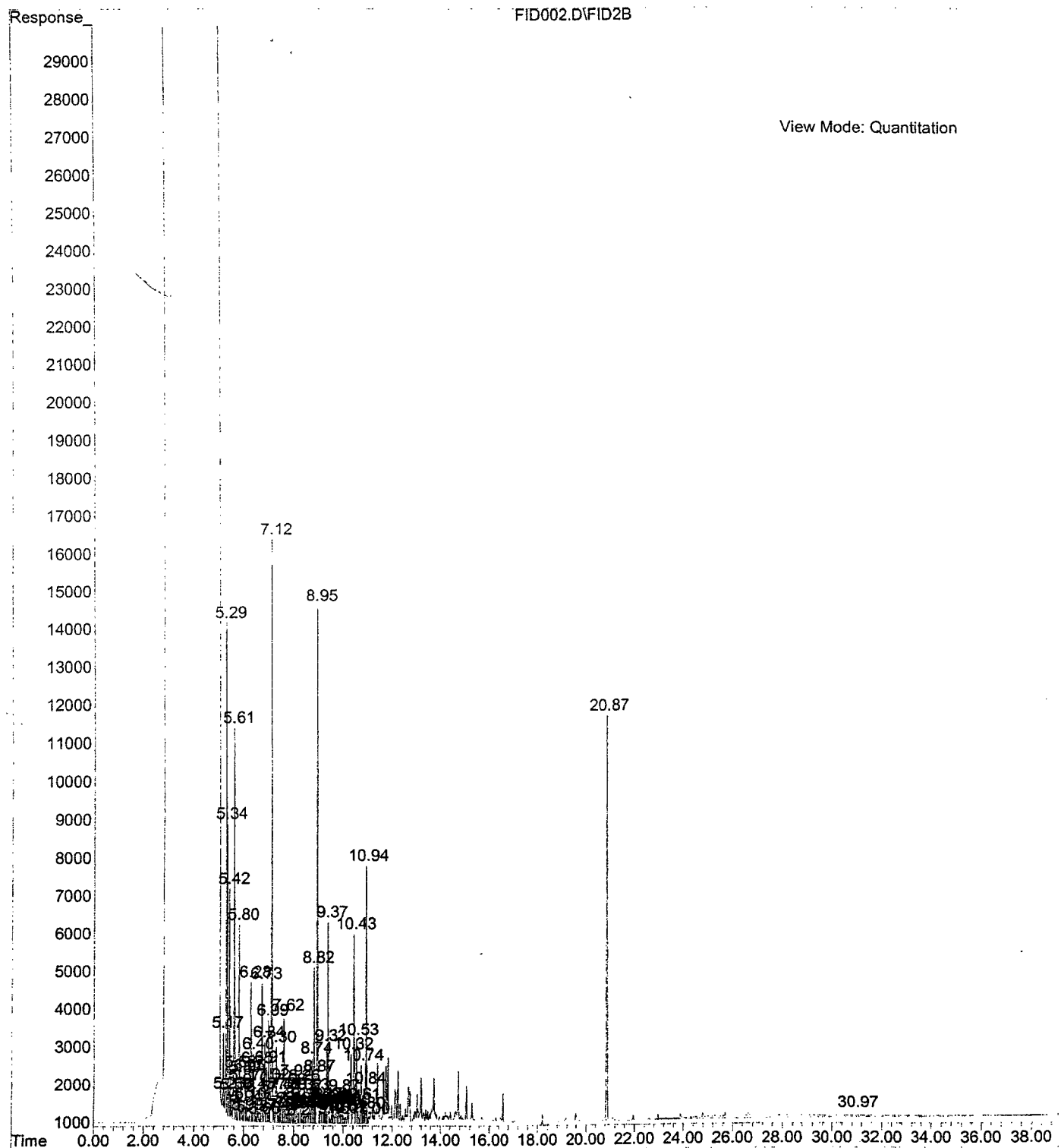
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2580

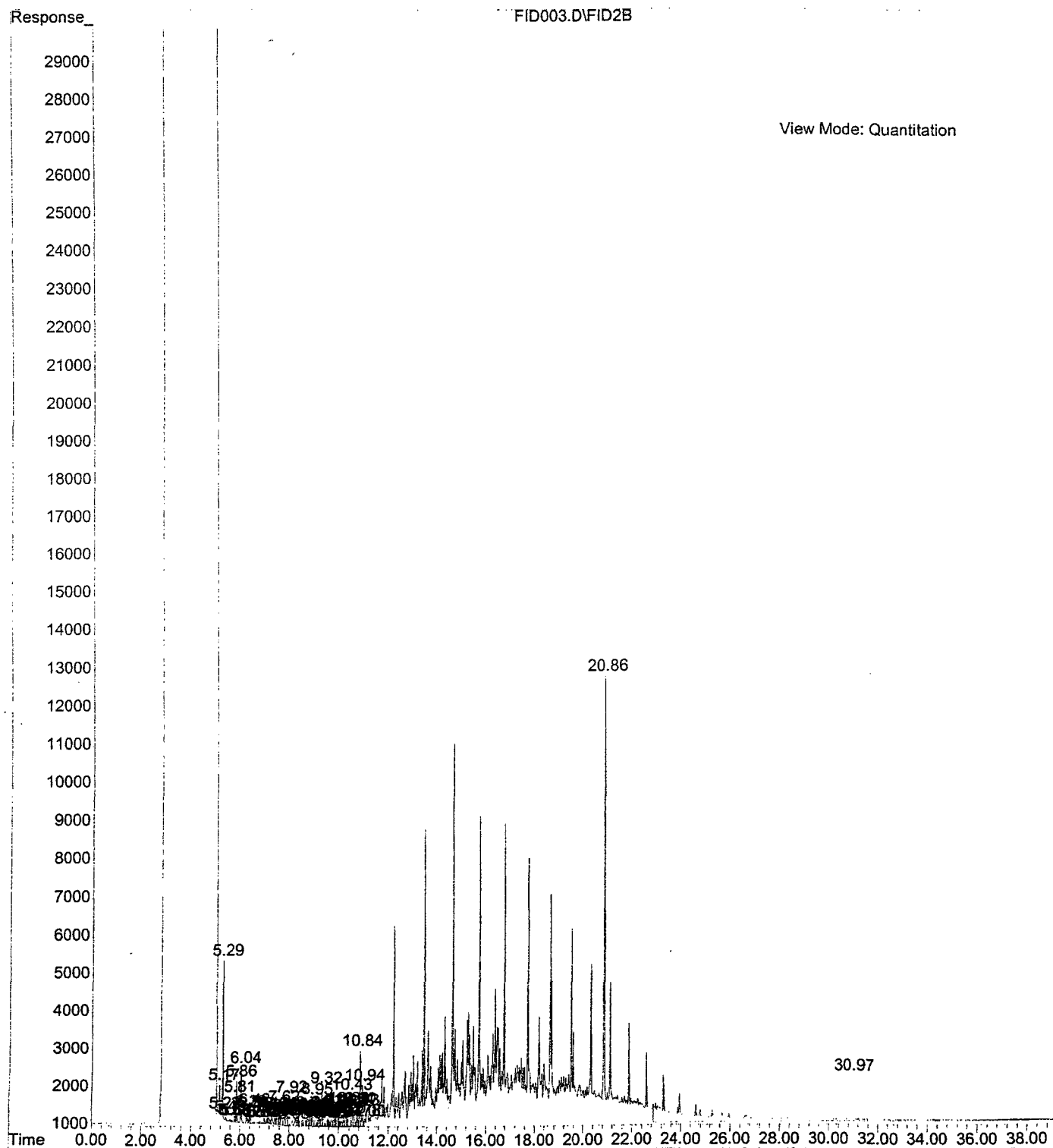
Relinquished by:			Received By:		
Signature	Date	Time	Signature	Date	Time
<i>Stephen S. [illegible]</i>	6/15/00	0930	<i>Shane [illegible]</i>	6/16/00	1710

Samples Iced: ☒ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____		Shipping and Lab Notes: <i>Please invoice EPFS directly. Please send results to Philip Services and a copy to EPFS.</i>	

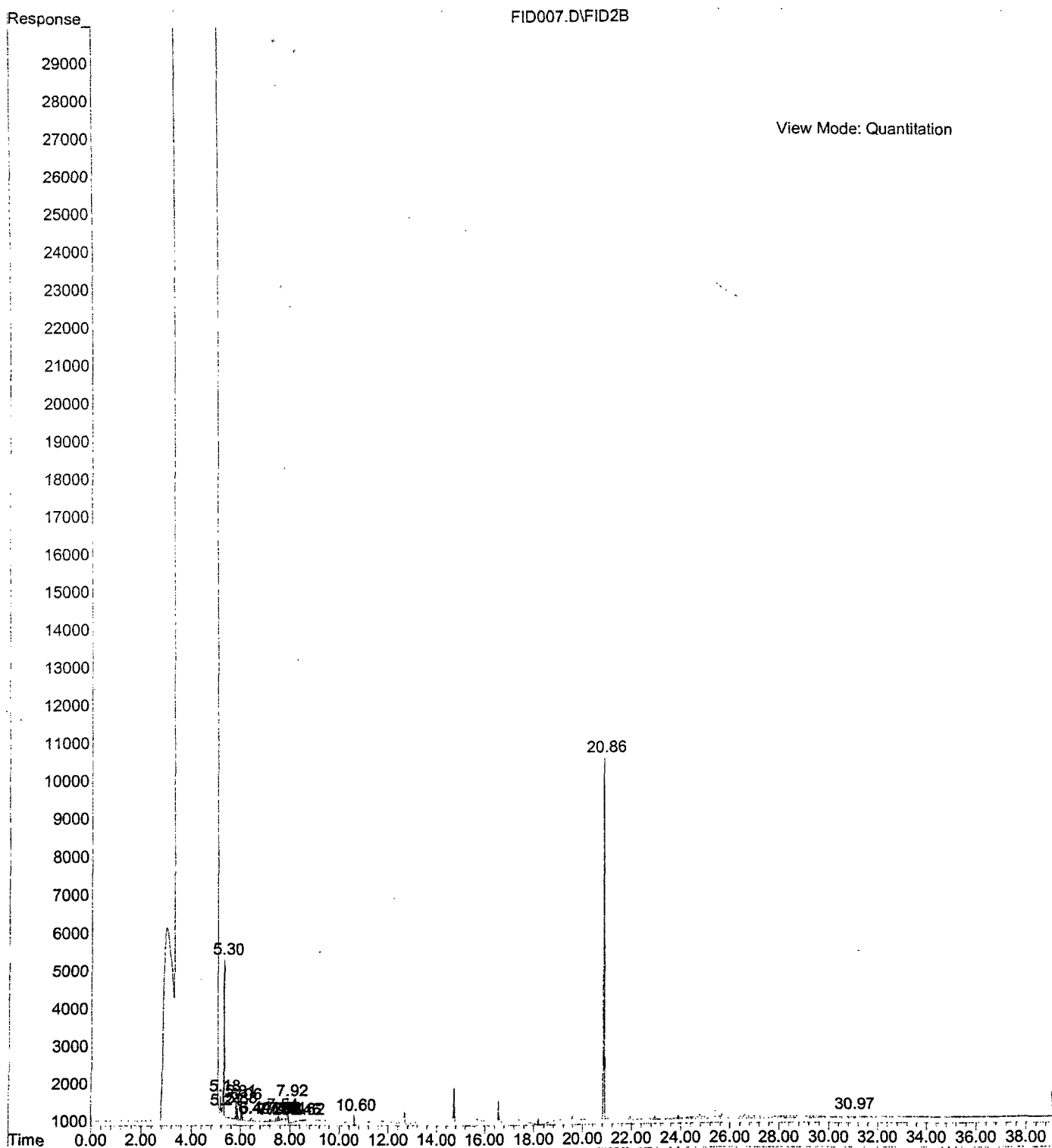
File : C:\HPCHEM\2\DATA\062900\FID002.D
Operator : cff
Acquired : 29 Jun 2000 21:40 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: gas ccv
Misc Info :
Vial Number: 2



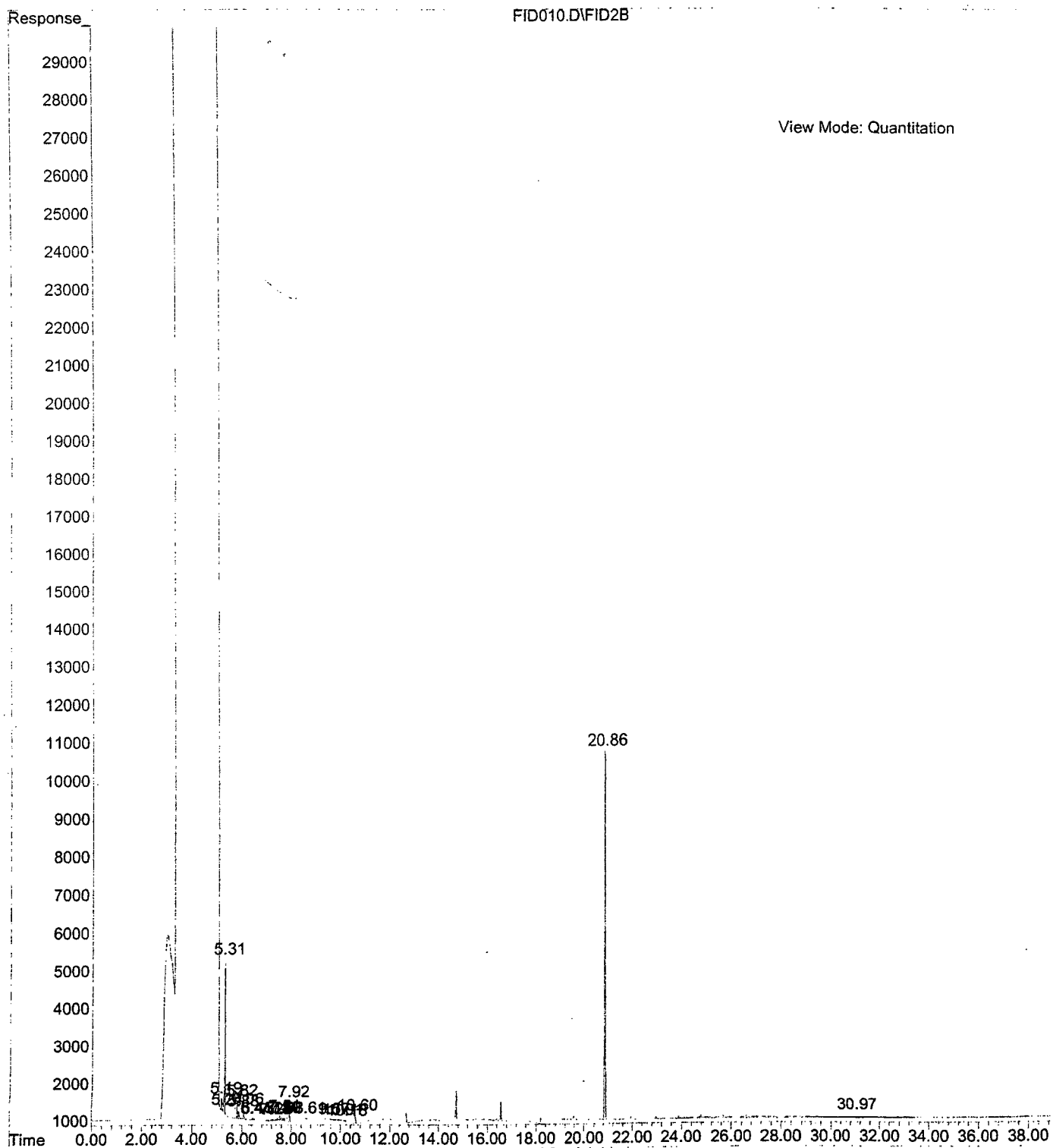
File : C:\HPCHEM\2\DATA\062900\FID003.D
Operator : cff
Acquired : 29 Jun 2000 22:34 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: dsl ccv
Misc Info :
Vial Number: 3



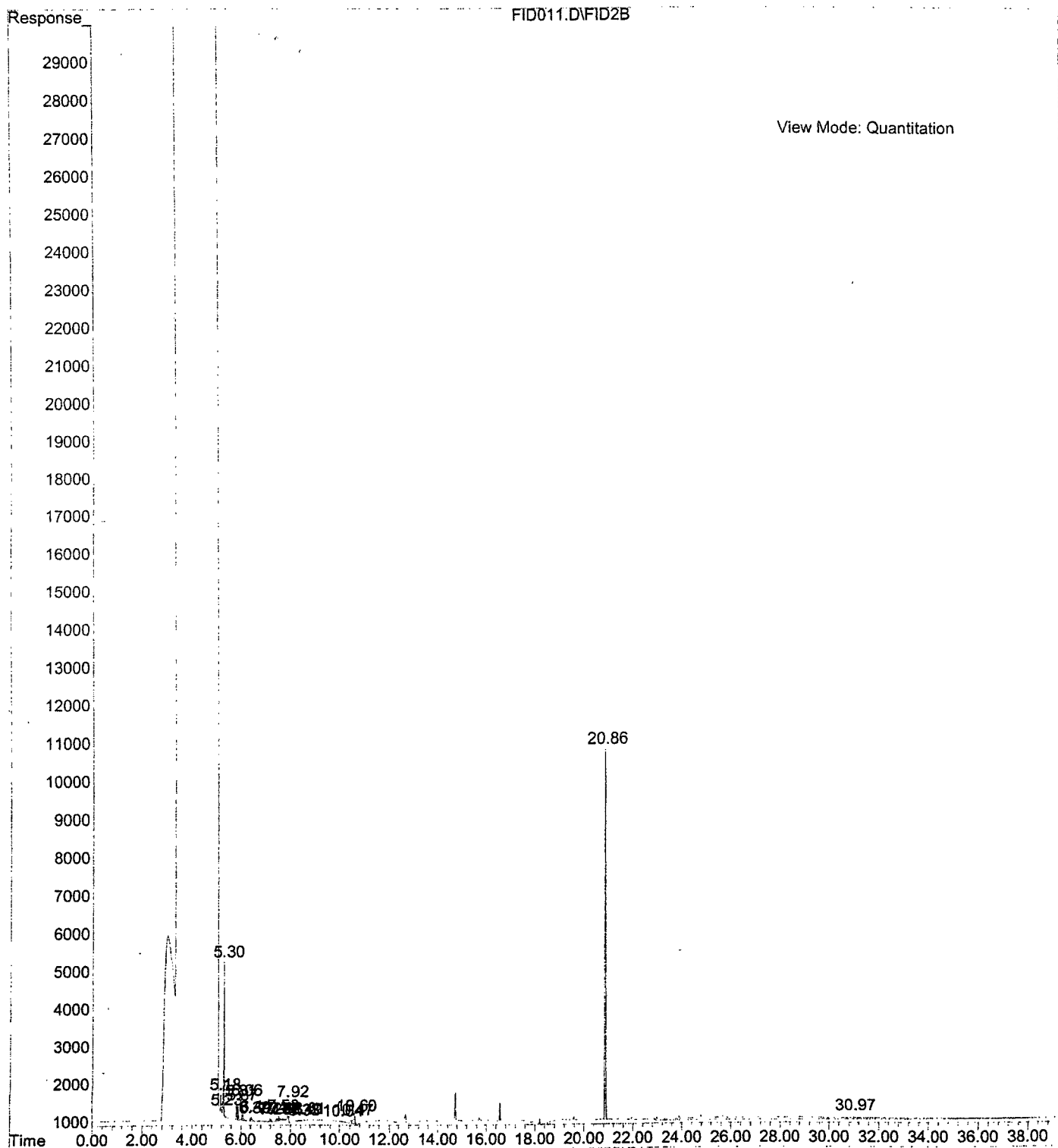
File : C:\HPCHEM\2\DATA\062900\FID007.D
Operator : cff
Acquired : 30 Jun 2000 2:14 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006068-01
Misc Info :
Vial Number: 7



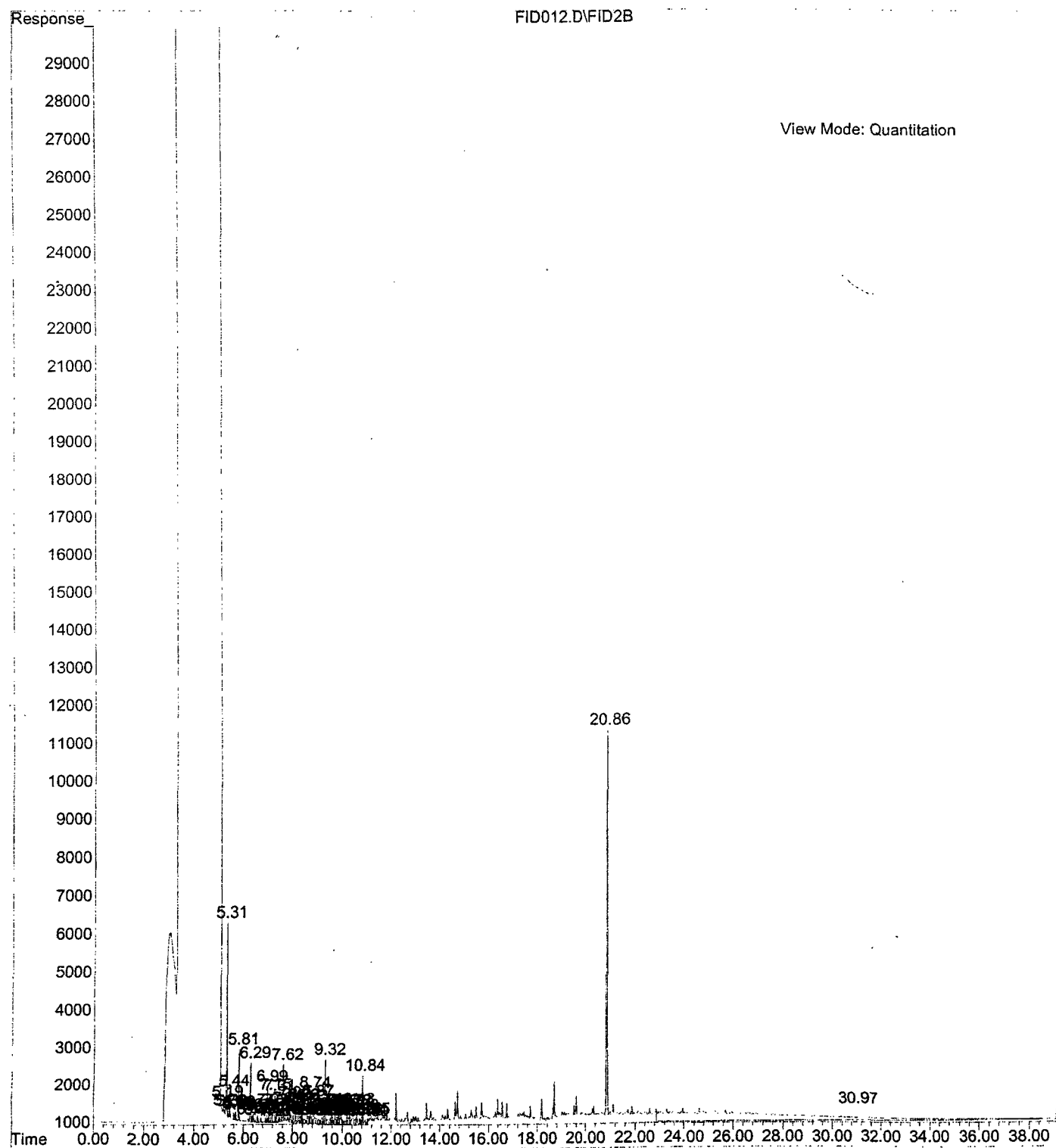
File : C:\HPCHEM\2\DATA\062900\FID010.D
Operator : cff
Acquired : 30 Jun 2000 4:59 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006068-02
Misc Info :
Vial Number: 10

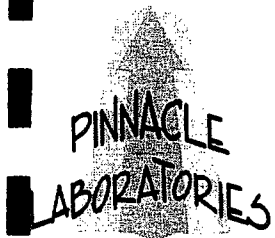


File : C:\HPCHEM\2\DATA\062900\FID011.D
Operator : cff
Acquired : 30 Jun 2000 5:54 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006068-03
Misc Info :
Vial Number: 11



File : C:\HPCHEM\2\DATA\062900\FID012.D
Operator : cff
Acquired : 30 Jun 2000 6:49 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006068-04
Misc Info :
Vial Number: 12





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Albuquerque, New Mexico 87107
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Pinnacle Lab ID number **006069**
July 03, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ EXCAVATION
Project Number 62800243

Attention: ROBERT THOMPSON/LEAUDRA STANLEY

On 06/16/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze 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.

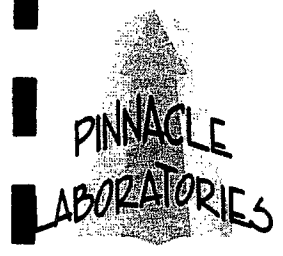
Per the client request, samples were reaccessioned to include diesel analyses.

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

H. Mitchell Rubenstein, Ph. D.
General Manager

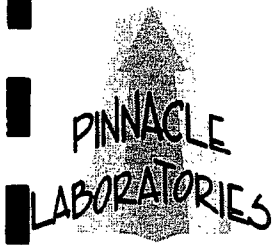
MR: jt

Enclosure



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Albuquerque, New Mexico 87107
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CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006089
SAMPLE #	: 62800243	DATE RECEIVED	: 06/16/00
SAMPLE NAME	: JAQUEZ EXCAVATION	REPORT DATE	: 07/03/00
#	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
	JAQEXC-SS-5	NON-AQ	06/15/00
	JAQEXC-SS-6	NON-AQ	06/15/00



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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

ST : EPA 8015 MODIFIED (DIRECT INJECT)
IENT : PHILIP ENVIRONMENTAL
JECT # : 62800243
JECT NAME : JAQUEZ EXCAVATION
PINNACLE I.D.: 006069

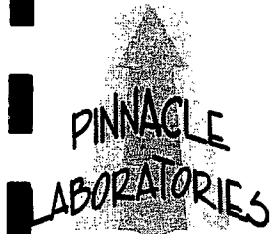
AMPLE			DATE	DATE	DATE	DIL.
	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
	JAQEXC-SS-5	NON-AQ	06/15/00	06/29/00	06/30/00	1
	JAQEXC-SS-6	NON-AQ	06/15/00	06/29/00	06/30/00	1

PARAMETER	DET. LIMIT	UNITS	JAQEXC-SS-5	JAQEXC-SS-6
AL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10
EL HYDROCARBONS, C10-C22	10	MG/KG	< 10	< 10
EL HYDROCARBONS, C22-C36	10	MG/KG	< 10	< 10

ACULATED SUM:

IRROGATE:
ERPHENYL (%) 109 108
IRROGATE LIMITS (66 - 151)

HEMIST NOTES:



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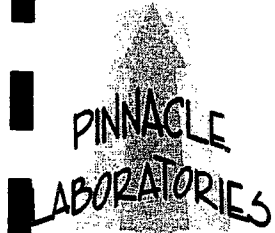
GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

ST	: EPA 8015 MODIFIED (DIRECT INJECT)		
ANALYST I.D.	: 062900	PINNACLE I.D.	: 006069
CLIENT	: PHILIP ENVIRONMENTAL	DATE EXTRACTED	: 06/29/00
OBJECT #	: 62800243	DATE ANALYZED	: 06/29/00
OBJECT NAME	: JAQUEZ EXCAVATION	SAMPLE MATRIX	: NON-AQ

PARAMETER	UNITS	
EL HYDROCARBONS, C6-C10	MG/KG	< 10
EL HYDROCARBONS, C10-C22	MG/KG	< 10
EL HYDROCARBONS, C22-C36	MG/KG	< 10

IRROGATE:
TERPHENYL (%) 102
IRROGATE LIMITS (80 - 151)

HEMIST NOTES:



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

ST : EPA 8015 MODIFIED (DIRECT INJECT)
MSD # : 006068-01
PINNACLE I.D. : 006069
SITE : PHILIP ENVIRONMENTAL
DATE EXTRACTED : 06/29/00
OBJECT # : 62800243
DATE ANALYZED : 06/30/00
OBJECT NAME : JAQUEZ EXCAVATION
SAMPLE MATRIX : NON-AQ
UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
HYDROCARBONS	<10	200	172	86	169	85	2	(56 - 148)	20

EMIST NOTES:

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

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



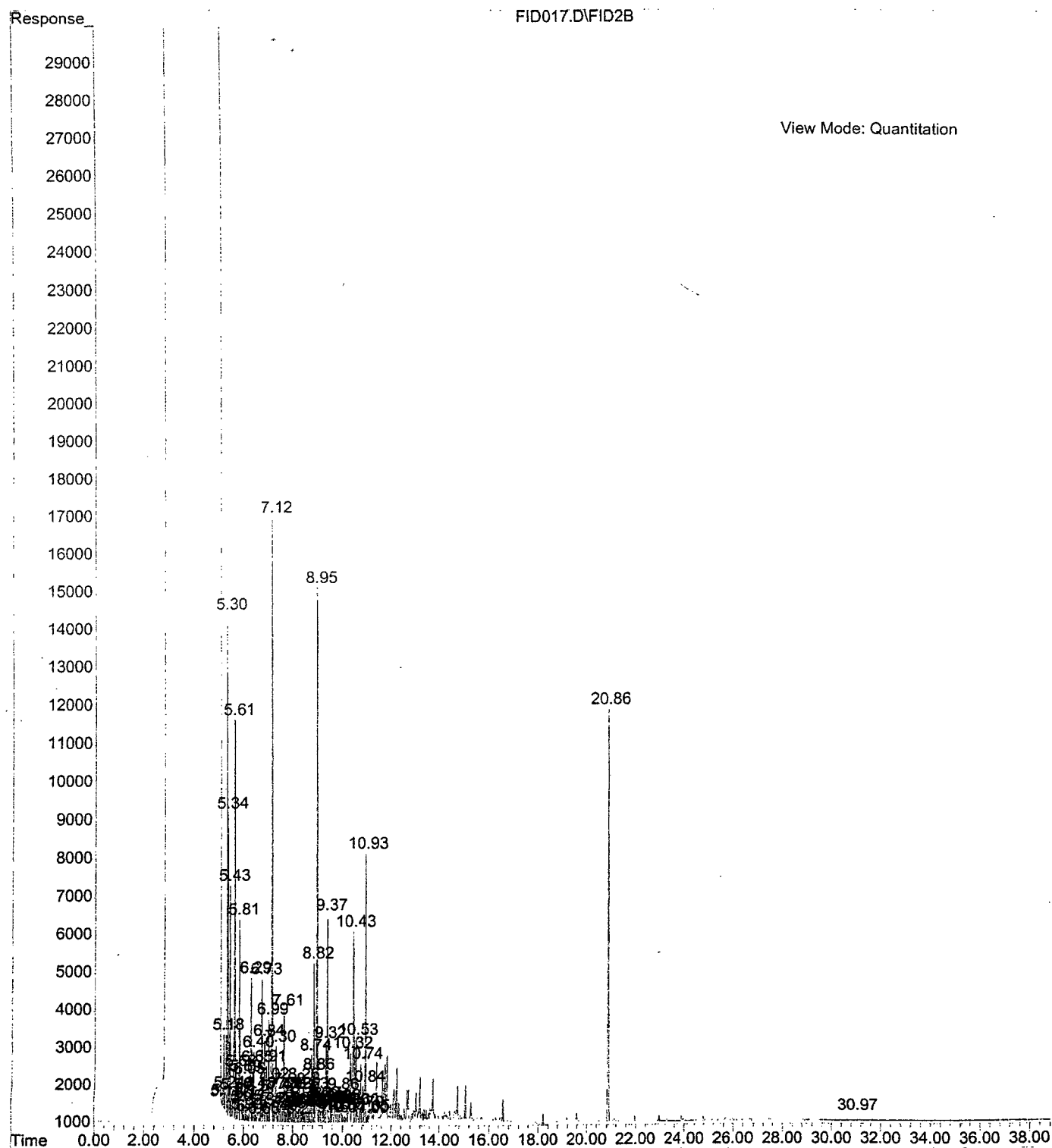
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2581

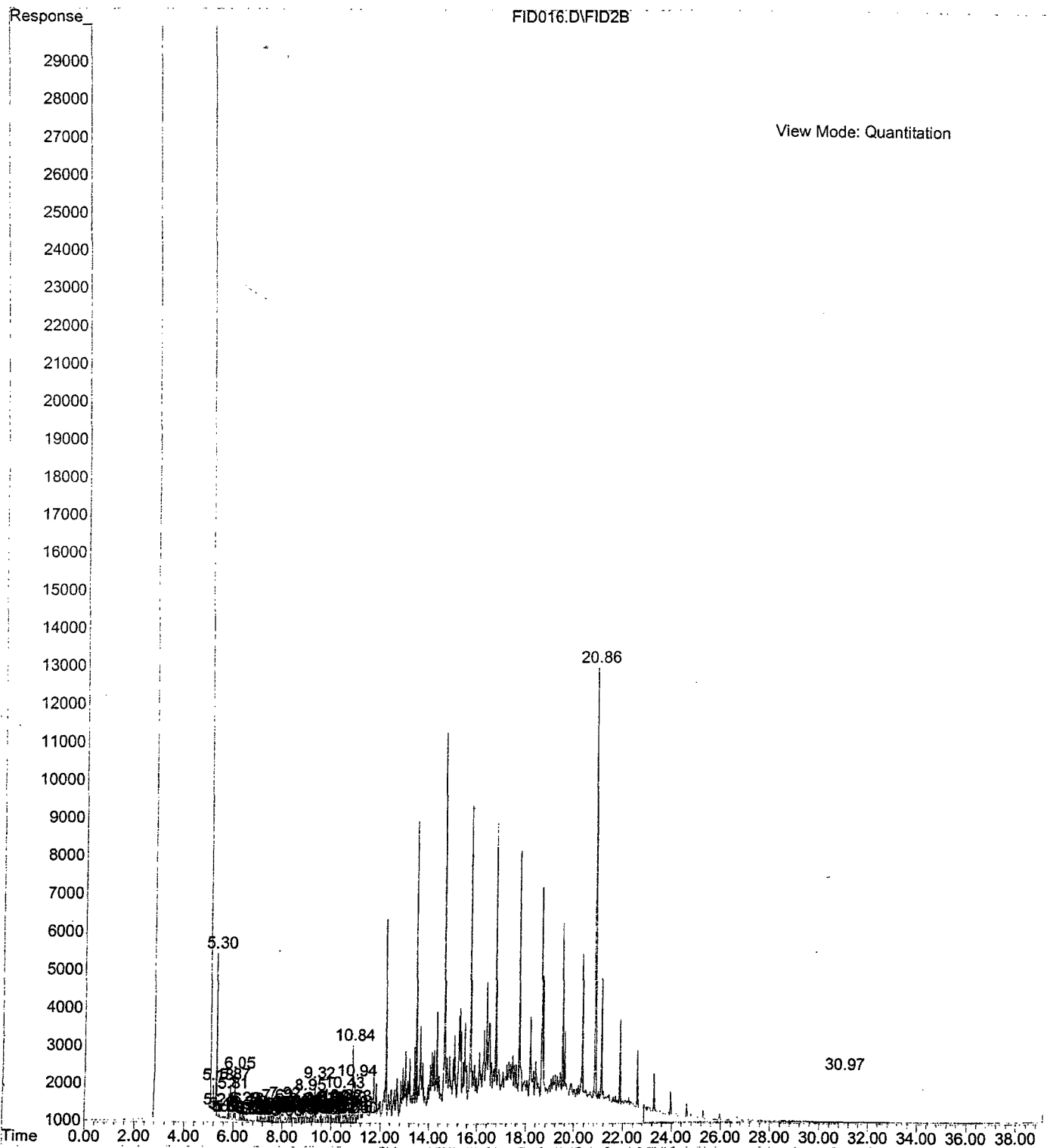
Relinquished by:			Received By:		
Signature	Date	Time	Signature	Date	Time
Stephen Stallard	6/15/00	0930	Francine Trino	6/16/00	1710

Samples Iced: ☒ Yes ☐ No Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____	Carrier: Shipping and Lab Notes: Please invoice EPFS directly. Please send result to Philip Services and a copy to EPFS. Rec'd @ 4.8°C	Airbill No.
--	--	--------------------

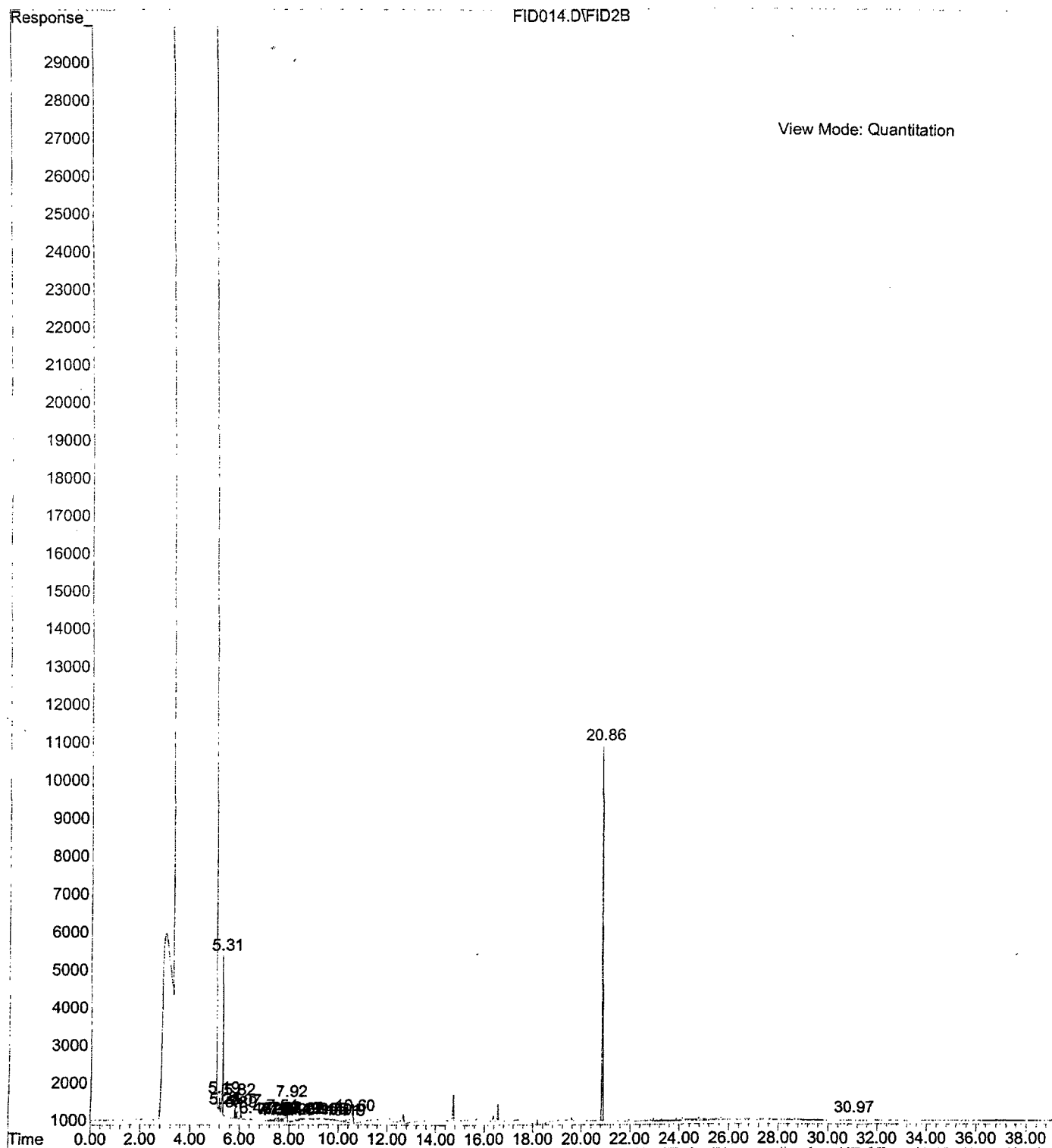
File : C:\HPCHEM\2\DATA\062900\FID017.D
Operator : cff
Acquired : 30 Jun 2000 11:22 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: GAS CCV
Misc Info :
Vial Number: 17



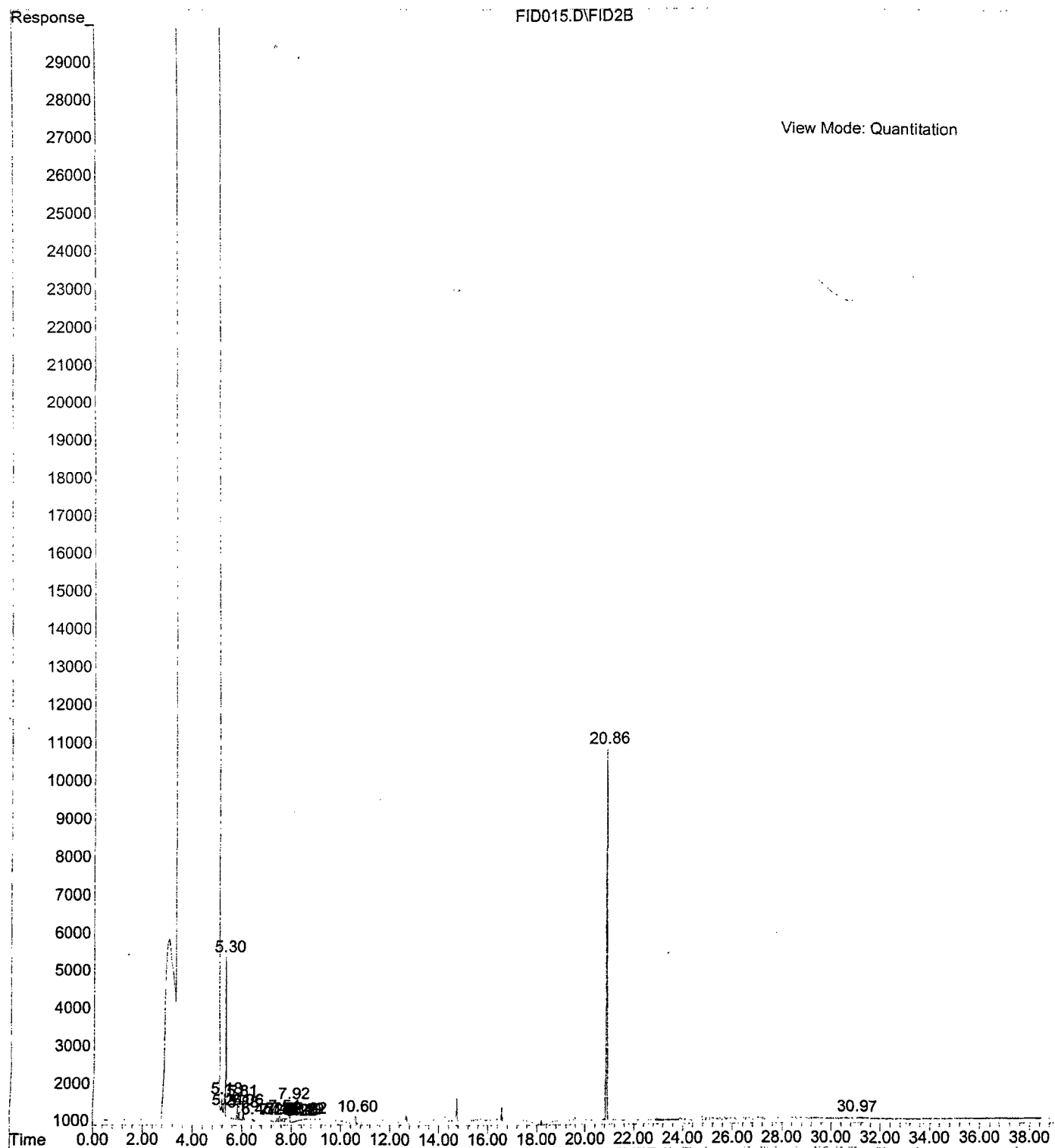
File : C:\HPCHEM\2\DATA\062900\FID016.D
Operator : cff
Acquired : 30 Jun 2000 10:28 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: DSL CCV
Misc Info :
Vial Number: 16



File : C:\HPCHEM\2\DATA\062900\FID014.D
Operator : cff
Acquired : 30 Jun 2000 8:39 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006069-01
Misc Info :
Vial Number: 14



File : C:\HPCHEM\2\DATA\062900\FID015.D
Operator : cff
Acquired : 30 Jun 2000 9:33 using AcqMethod NM032100.M
Instrument : FID-1
Sample Name: 006069-02
Misc Info :
Vial Number: 15



ATTACHMENT 7
TEMPORARY MONITOR WELLS
GEOLOGIC LOGS AND
WELL COMPLETION DIAGRAMS

RECORD OF SUBSURFACE EXPLORATION

PHILIP SERVICES CORP.

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # TMW-1
Well #
Page 1 of 2

Project Number 2800243 Phase
Project Name Jaquez Excavation
Project Location Jaquez Cornfield
Blanco, New Mexico.

Elevation
Borehole Location
GWL Depth
Drilled By S. STELLAVATO
Well Logged By S. STELLAVATO
Date Started 7/7/00
Date Completed 7/7/00

Drilling Method 4" ID HSA HAND AUGER
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (Inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S	
0				0-1' light-brown fine Sandy Clay. some cobbles. Dry.						Ø PPM
1				1'-2' med-brown fine sandy clay. Moist. some roots.						Ø PPM
2				2'-3' dark-gray to black fine sandy clay. Moist.						30 PPM
3				3'-3.5' Light-GRAY fine SAND. Little clay, moist.						
4				3.5'-6' dark-gray to black fine SAND. Wet.						180 PPM
5										
6				TD = 6' BGS.						
7										
8										

Comments: Groundwater At Approximately 5' BGS. Black fine Sand.
Strong odor.

Geologist Signature

Stephen Stellavato

MONITOR WELL INSTALLATION FORM

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # TMW-1

Well #

Page 2 of 2

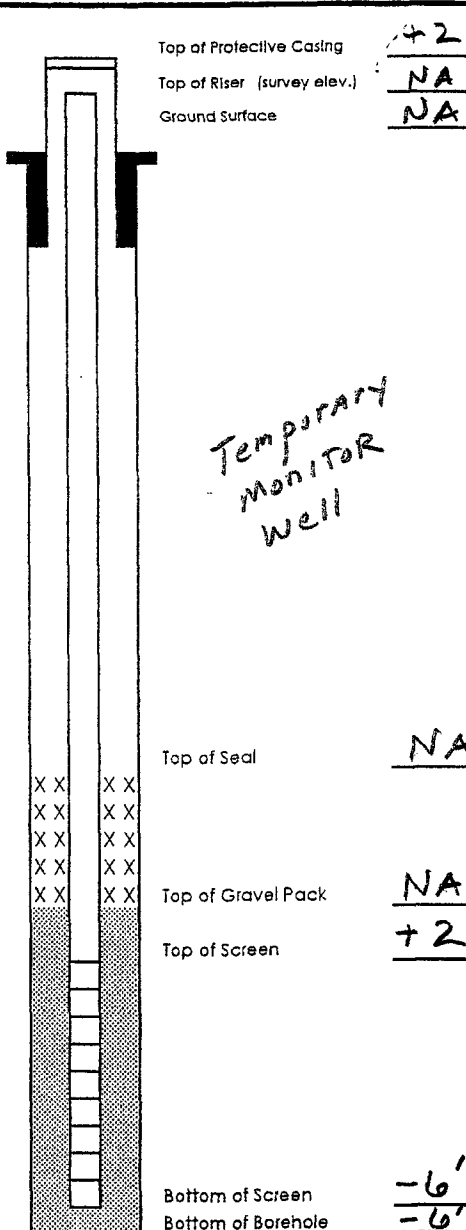
Project Name JAGUEZ EXCAVATION
 Project Number 62800243 Phase
 Site Location JAGUEZ Cornfield
BLANCO, NM

Elevation _____
 Well Location _____
 GWL Depth _____
 Installed By K. B. BIELA

On-Site Geologist S. STELLAVATO
 Personnel On-Site NONE
 Contractors On-Site NONE
 Client Personnel On-Site NONE

Date/Time Started 7/7/00 1130
 Date/Time Complete 7/7/00 1200

Depths in Reference to Ground Surface		
Item	Material	Depth (feet)
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen	2"	+2'
Bottom of Well Screen	2"	-6'
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		-5'
Total Depth of Borehole		-6'



Top of Protective Casing +2

Top of Riser (survey elev.) NA

Ground Surface NA

Top of Seal NA

Top of Gravel Pack NA

Top of Screen +2

Bottom of Screen -6'

Bottom of Borehole -6'

Comments Temporary Monitor Well.

Geologist Signature Stephen Stellavato

RECORD OF SUBSURFACE EXPLORATION

PHILIP SERVICES CORP.

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # TMW-2
Well # _____
Page 1 of 2

Project Number 62800243 Phase _____
Project Name JAQUEZ EXCAVATION
Project Location JAQUEZ Cornfield
BLANCO, New Mexico

Elevation _____
Borehole Location _____
GWL Depth _____
Drilled By S. Stellavato
Well Logged By S. Stellavato
Date Started 7/7/00
Date Completed 7/7/00

Drilling Method HAND AUGER
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S	
0				0-1' Light-brown fine sandy clay. dry. Cobbles and roots.						0 PPM
1				1'-2.5' med-brown fine sandy clay. moist. roots.						0 PPM
2				2.5'-3.5' dark-gray to black fine sandy clay. moist. roots.						15 PPM
3				3.5'-4.5' dark-gray fine sand. moist.						35 PPM
4				4.5'-6' light-gray fine sand. wet.						70 PPM
5										
6				TD = 6' BGS.						
7										
8										

Comments:

Groundwater at approximately 5' BGS. Light-gray sand.
Black sandy clay above water table. Strong odor.

Geologist Signature

Stephen Stellavato

MONITOR WELL INSTALLATION FORM

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # TMW-2

Well #

Page 2 of 2

Project Name JAQUEZ EXCAVATION

Project Number 62800243 Phase

Site Location JAQUEZ Cornfield

Blanco, New Mexico

On-Site Geologist S STELLAVATO

Personnel On-Site NONE

Contractors On-Site NONE

Client Personnel On-Site NONE

Elevation

Well Location BLANCO, NM

GWL Depth

Installed By K PADILLA

S STELLAVATO

Date/Time Started 7/7/00 1240

Date/Time Complete 7/7/00 1240

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen	2"	+2
Bottom of Well Screen	2"	-6'
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		-5'
Total Depth of Borehole		-6'

Top of Protective Casing

Top of Riser (survey elev.)

Ground Surface

+2

NA

NA

Temporary Monitor Well

Top of Seal

Top of Gravel Pack

Top of Screen

Bottom of Screen

Bottom of Borehole

NA

NA

+2

-6'

-6'

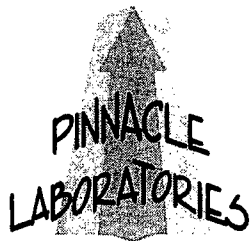
Comments

Temporary Monitor Well

Geologist Signature

Stephen Stellavato

ATTACHMENT 8
TEMPORARY MONITOR WELLS
SAMPLING RESULTS



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

Pinnacle Lab ID number **007026**
July 17, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/LEAUDRA STANLEY

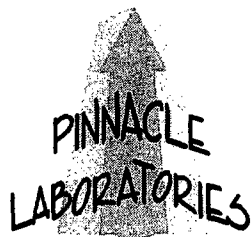
On 07/14/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

H. Mitchell Rubenstein, Ph. D.
General Manager

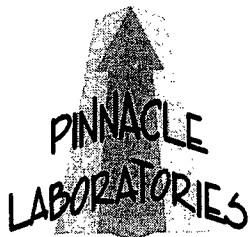
MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 007026
PROJECT #	: 62800107	DATE RECEIVED	: 07/14/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 07/17/00
PIN			
ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	JAQ-0007-TMW01	AQUEOUS	07/13/00
02	JAQ-0007-TMW02	AQUEOUS	07/13/00
03	TRIP BLANK	AQUEOUS	07/13/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

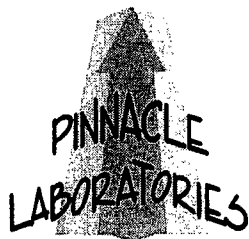
PINNACLE I.D.: 007026

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0007-TMW01	AQUEOUS	07/13/00	NA	07/14/00	1
02	JAQ-0007-TMW02	AQUEOUS	07/13/00	NA	07/14/00	1
03	TRIP BLANK	AQUEOUS	07/13/00	NA	07/14/00	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0007-TMW01	JAQ-0007-TMW02	TRIP BLANK
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 108 112 104
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



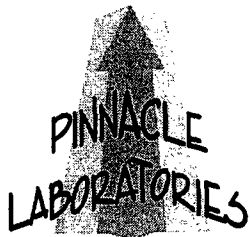
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 007026
BLANK I. D.	: 071400	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 07/14/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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 (%) 111
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 007021-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 007026
DATE EXTRACTED : NA
DATE ANALYZED : 07/14/00
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	17.4	87	17.9	90	3	(80 - 120)	20
TOLUENE	<0.5	20.0	20.7	104	20.9	105	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	22.5	113	22.7	114	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	68.7	115	69.4	116	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2595

[illegible]

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>Joe Wagner</i>	7/13/00	1557	<i>A. Mitchell</i>	7/14	12:55

Samples Iced: ☒ Yes ☐ No		Carrier: GREYHOUND LINES	Airbill No. 6LI1606LS1057
Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☒ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____		Shipping and Lab Notes: RCD on ice 3.9°C	