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REPORTS

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EL PASO FIELD SERVICES



614 Reilly Avenue
Farmington, NM 87401

**ANNUAL REPORT
JAQUEZ COM. C #1 AND JAQUEZ COM. E #1**

April 2002

Prepared by:



MWH

MONTGOMERY WATSON HARZA

614 Reilly Avenue
Farmington, NM 87401
(505) 559-2178

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EXECUTIVE SUMMARY

The Jaquez Com. C #1 and Jaquez Com. E #1 (Jaquez) groundwater site is located in Section 6, Township 29N, Range 9W, in San Juan County, near Blanco, New Mexico, as shown on Figure 1. The meter stations are located within 40 feet (ft) of one another. El Paso Field Services (EPFS) manages the site.

Environmental concerns at the Jaquez site include dissolved-phase hydrocarbons in groundwater at concentrations above New Mexico Water Quality Control Commission (NMWQCC) standards and petroleum hydrocarbons in soil at concentrations potentially above NMWQCC standards. The land adjacent to the site is presently occupied by the local residents and is used for farming. The Citizens Ditch, an elevated surface water conveyance for irrigation and potable water for the City of Bloomfield, bisects the site. High groundwater elevations caused by leakage from the ditch locally affect groundwater flow pathways and remediation strategies.

EPFS has delineated the groundwater plume and is aggressively remediating the north half of the site (north of the ditch), using air sparging and soil vapor extraction (SVE). Free product has been removed and active free product recovery is no longer required. The south half of the site is presently undergoing enhanced biodegradation with passive venting and nutrient amendments. Activities conducted during 2001 included expansion of the air sparge and soil vapor extraction system, continued air sparging and soil vapor extraction north of the Citizen's ditch, and nutrient application to enhance bioremediation south of Citizen's ditch. This report presents the results of these activities and on-going groundwater monitoring.

In 2001, the air sparging and SVE remediation systems resulted in significantly reduced petroleum hydrocarbons in groundwater on the north side of Citizens Ditch. The 2000 average benzene concentrations in impacted wells in this area were 3,017 micrograms per liter ($\mu\text{g/L}$) in R1, 1,795 $\mu\text{g/L}$ in R2, and 800 $\mu\text{g/L}$ in R4. The 2001 average benzene concentrations for the same wells were 69 $\mu\text{g/L}$ in R1, 140 $\mu\text{g/L}$ in R2, and 111 $\mu\text{g/L}$ in R4. This corresponds to an average reduction in benzene concentrations of 97.7 percent in R1, 92.2 percent in R2, and 86.1 percent in R4 from 2000 to 2001.

1.0 INTRODUCTION

At the request of El Paso Field Services (EPFS), MWH prepared the following annual report and recommendations for soil and groundwater remediation at the Jaquez Com. C #1 and Jaquez Com. E #1 meter sites (the Jaquez site). EPFS manages the Jaquez site, which is located in Section 6, Township 29N, Range 9W, in San Juan County, near Blanco, New Mexico. The site location is shown on Figure 1. Figure 2 provides a detailed site map. As shown on Figure 2, the meter stations are located within 40 feet (ft) of one another.

This annual report presents a summary of activities undertaken at the Jaquez site in 2001. These activities included:

- Expansion of the air sparging and soil vapor extraction (SVE) systems
- Continued air sparging, SVE, and groundwater monitoring on the north side of Citizens ditch
- Nutrient and Oxygen Release Compound® (ORC®) applications and groundwater monitoring on the south side of Citizens ditch

Three contractors conducted the fieldwork at the Jaquez site in 2001. Philip Environmental conducted the work from January through June, Golden Environmental Management (GEM; now AE Schmidt Environmental [AESE]) performed the work from June to October, and AMEC Environmental completed work for the remainder of the year starting in November 2001.

1.1 SUMMARY OF PREVIOUS ACTIVITIES

A chronological summary of activities at the Jaquez site is provided below:

- Late 1992 - Landowner expressed concern regarding potential hydrocarbon contamination in a garden area near the meter site location.
- March 1993 - Comprehensive soil and groundwater investigation performed on meter site location and nearby garden area.
- June 1993 - EPNG submits a remedial plan to New Mexico Oil Conservation Division (NMOCD).
- July 1993 - NMOCD approves the remedial plan.
- August 1993 - Remediation activities initiated.
- September 1993 - Remediation activities completed.
- September 1993 - Monitoring wells R-1 through R-5 and M-1 through M-5 were installed north and south of Citizen's Ditch. Initial sampling for benzene, toluene, ethyl benzene, and xylene (BTEX) indicated monitoring wells R-1, R-2, R-4, M-3, and M-4 were above New Mexico Water Quality Control Commission (NMWQCC) standards. Monitoring wells at the site were initially sampled monthly and are now sampled quarterly.

- October 1993 to October 1996 – Phase separated hydrocarbons (PSH) were observed in monitor wells R-1 and R-2 during the months of seasonally low groundwater levels (i.e., January through May). Passive skimmer systems were installed to remove the PSH during periods of PSH accumulation.
- November 1996 - A pumping test was initiated to determine if light non-aqueous phase liquids (LNAPL) could be removed during high seasonal groundwater by depressing the water table in and around R-1 and R-2.
- December 1996 - EPFS injected approximately 500 gallons of urea nitrate in water into the passive vent system and installed magnesium peroxide socks in monitoring wells M-3 and M-4 to supply oxygen to enhance natural biodegradation of hydrocarbons in groundwater.
- January 1997 - EPFS installed a belt skimmer in R-2 to remove phase-separated hydrocarbons.
- February 1997 - EPFS installed a belt skimmer in R-1 to remove phase-separated hydrocarbons.
- November 1997 - EPFS installed two temporary monitoring wells inside the excavated area north of R-1 to determine if PSH could be recovered during high groundwater season.
- June 1997 - Belt skimmer PSH recovery system shut down due to seasonal reduction of product thickness related to local irrigation.
- January 1998 - EPFS restarts belt skimmer in R-1 and R-2.
- April 1998 - Belt skimmer PSH recovery system shut down due to seasonal reduction of product thickness related to local irrigation.
- July 1998 - EPFS injected approximately 500 gallons of urea nitrate in water into the passive vent system and installed magnesium peroxide socks in monitoring wells M-3, M-4, R-3, and R-4 to supply oxygen to enhance natural biodegradation of hydrocarbons in groundwater.
- November 1998 - EPFS conducts investigation of possible hydrocarbon seep of groundwater into the surface water of an arroyo to the south of the property. No hydrocarbons are found during this investigation.
- June 1999 – EPFS submits soil and groundwater remediation workplan to the NMOCD for sparging in the area north of Citizens Ditch.
- June 1999 – Landowner encountered discolored soils while plowing. EPFS and NMOCD sample area of concern.
- August 1999 – One sparge well, one SVE point, and five monitoring points are installed and a soil vapor extraction and aquifer pilot test were performed north of Citizens ditch.
- August 1999 – EPFS submits soil sample results and work plan for additional soil and groundwater investigations as requested by NMOCD.
- September 1999 – NMOCD approves soil and groundwater investigation work plan with modifications.
- October 1999 – EPFS submits Pilot Test Report and workplan for soil and groundwater remediation using sparge techniques to the NMOCD.

- November 1999 – Landowner requests test trench across field. Test trench reveals small area of residual contamination on west side of garden area.
- December 1999 – Meeting with landowner reveals possible second pit location on north side of Citizens Ditch. Four test trenches excavated in possible pit area. No evidence of pit or impacted soils found.
- January 2000 – EPFS submits soil investigation results and amended work plan for soil and groundwater investigation.
- January 2000 – EPFS begins air sparging remediation of the aquifer.
- January 2000 – EPFS installs two additional down gradient monitor wells as requested by Mr. Jaquez and the NMOCD.
- February 2000 – EPFS samples the existing six-inch irrigation well as requested by Mr. Jaquez and the NMOCD.
- February 2000 – EPFS samples sediment in the ditch as requested by Mr. Jaquez.
- May 2000 - New Mexico Air Quality Board advises on air permit requirements and notice of intent requirements for the remediation system effluent.
- June 2000 – EPFS collects a series of air samples from the effluent of the soil vapor extraction system for calculating the total estimated emissions.
- June 2000 – EPFS samples surface water from Citizens Ditch both upgradient and downgradient of the Jaquez Com E #1 and Com C #1 site.
- June 2000 – EPFS excavated approximately 204 cubic yards of soil from the northwest corner of the garden area then backfilled the excavation with aggregate rock topped with a mixture of clean soil and livestock manure.
- June 2000 – EPFS injected 70 gallons of urea nitrate mixed with 600 gallons of potable water into the passive air system south of Citizens Ditch.
- July 2000 – EPFS installs two temporary groundwater monitoring wells in the garden area south of Citizens Ditch.
- August 2000 – EPFS samples seep that had developed at the toe of the ditch embankment on the north side of the former cornfield.
- October 2000 – EPFS begins an evaluation of the remediation system to ensure optimum performance and effectiveness.
- December 2000 – EPFS concludes the evaluation of the air sparge and SVE system and incorporates functional changes to effect the most aggressive results.

1.2 REPORT ORGANIZATION

This report is organized into five sections and supporting appendices. Section 1 of the report provides an introduction and summary of past activities. Section 2 presents activities conducted at the site during 2001 and Section 3 provides results from site operations and monitoring. Conclusions and recommendations are provided in Section 4 and references are presented in Section 5. Supporting information provided in supplemental reports and analytical data are provided as appendices to this report.

2.0 DESCRIPTION OF 2001 ACTIVITIES

Activities performed at the Jaquez site during 2001 included the following:

- Installation of 2 sparge wells (SW4 and SW5)
- Installation of a second soil vapor extraction well (VW2)
- Air sparging and SVE operations continued at the area north of Citizens Ditch
- Nutrient injection into the passive vent system south of Citizens Ditch
- Groundwater sampling of each monitoring well north of Citizens Ditch in February, May, June, July, August, and November 2001
- Groundwater sampling of each permanent monitoring well south of Citizens Ditch in February, May, August, and November 2001
- Surface water sampling of the Citizens Ditch in January, May, and December 2001

2.1 SPARGE WELL AND SOIL VENT WELL INSTALLATION

Two sparge wells (SW4 and SW5) and a second vapor extraction well (VW2) were installed in the area north of Citizens Ditch on March 22, 2001.

The wells were installed using hollow stem auger (HSA) methods. The boring for SW4 was advanced to 26 feet below ground surface (ft bgs). Alluvial soils were encountered in this boring: very fine sands occurred at 0 to 5-ft bgs; clays with substantial sand stringers were observed to approximately 20-ft bgs, and medium to coarse sands were observed to total depth. The highest field-screen photoionization detector (PID) readings occurred at 4 to 6-ft bgs (13.5 to 40 PID units) and 12 to 15-ft bgs (45 to 105 PID units).

Sparge well SW4 was constructed of 0.01-inch slotted, 2-inch polyvinyl chloride (PVC) casing, screened at 20.8 to 25.8-ft bgs with a No. 10-20 gravel pack installed from 18 to 25.8-ft bgs. A 3-ft peltonite seal was installed on top of the gravel pack and the remainder of the borehole was grouted to 2-ft bgs. The well was completed aboveground with concrete from 0 to 2-ft bgs and a 4-ft steel protective casing "stickup". The geologic log and well completion diagram for SW4 are presented in Appendix A.

The boring for SW5 was advanced to 26.5-ft bgs. Alluvial soils were encountered in this boring: fill materials occurred at 0 to 5-ft bgs, followed by sands to 10-ft bgs, and clays to total depth. The clays were visibly impacted with hydrocarbons below 15-ft bgs. The highest field-screen PID readings occurred at 15-ft bgs (80 PID units) and 20-ft bgs (25 PID units).

Sparge well SW5 was constructed of 0.01-inch slotted, 2-inch PVC casing, screened at 20.3 to 25.3-ft bgs with a No. 10-20 gravel pack installed from 16.8 to 26.5-ft bgs. A 3-ft peltonite seal was installed on top of the gravel pack and the remainder of the borehole was grouted to 2-ft bgs. The well was completed aboveground with concrete from 0 to 2-ft bgs and a 4-ft steel protective casing "stickup". The geologic log and well completion diagram for SW5 are presented in Appendix A.

The boring for VW2 was advanced to about 13.5-ft bgs. Alluvial soils were encountered in this boring: fine to very fine sands occurred at 0 to 1-ft bgs; an olive-gray clay occurred at 2 to 4-ft bgs, with a black stringer noted at approximately 3-ft bgs. A sand graded to clay from 6.5 to 7.5-ft bgs then returned to sand at 12-ft bgs. Strong hydrocarbon odors were observed at approximately 6.5 to 7.5-ft bgs and continued to the bottom of the boring. Elevated field-screen PID readings occurred at 2-ft bgs (592 PID units), 3-ft bgs (66 PID units), 4-ft bgs (83 PID units) and 10-ft bgs (403 PID units).

Vapor extraction well VW2 was constructed of 0.01-inch slotted, 2-inch PVC casing, screened at 7 to 12-ft bgs with a No. 10-20 gravel pack installed from 6 to 13.5-ft bgs. A 5.5-ft bentonite seal was installed on top of the gravel pack and the remainder of the borehole was grouted to 1-ft bgs. The well was completed aboveground with concrete from 0 to 2-ft bgs and a 3-ft steel protective casing "stickup". The geologic log and well completion diagram for VW2 are presented in Appendix A.

Three, 55-gallon drums of soil boring cuttings were properly disposed of offsite at landfarm #2 at the Envirotech Soil Remediation Facility in Hilltop, New Mexico.

2.2 AIR SPARGING AND SOIL VAPOR EXTRACTION

2.2.1 Air Sparging

The air sparge system compresses ambient air and delivers it to the subsurface via piping and injection wells, referred to as sparge wells. The air is injected below the water table and rises in channels (in all but the coarsest soils) through the soils to the vadose zone where it either dissipates or is captured by the SVE system. The passage of air through the saturated soils results in exchange of volatile contaminants from the dissolved state or non-aqueous liquid (NAPL) phase to the vapor phase for transport from the saturated zone. Air sparging also promotes the dissolution of oxygen into the groundwater, which in turn promotes bioremediation of dissolved petroleum hydrocarbons.

2.2.2 Soil Vapor Extraction

The SVE system strips and extracts volatile compounds from soil by inducing differential pressures by way of a vacuum that, in turn, induce subsurface airflow. The vacuum draws the compounds out of the soil above the water table through a perforated pipe in a shallow well referred to as an extraction well. At the Jaquez site, the extracted air is discharged directly to the atmosphere.

2.2.3 Air permitting

An air permit is not required as long as air emissions remain below 25 tons/year.

The volatilized hydrocarbons are emitted through the system effluent that is measured weekly using a PID.

Air samples were collected in January, February, March, April, May, June, July, August, October, and December 2001 and subjected to laboratory analysis.

Benzene removal rates were calculated as follows:

$$M = \frac{1.1 * C * Q * T}{1 * 10^9}$$

where :

M = Emission rate (tons per year)

C = Laboratory's benzene or BTEX concentration (milligrams per cubic meter [mg/m³])

Q = Flow Rate (m³/hour)

T = Operating hours (hours)

The factor 1.1 converts metric tons to U.S. customary unit tons. The denominator, 1*10⁹, converts mg to metric tons.

Benzene and BTEX removal rates at the Jaquez site are discussed in Section 4.1. In Section 4.1, actual removal rates are calculated based on actual operating hours. The laboratory analytical results for the air samples are presented as Appendix B.

2.2.4 Summary of Operations

The air sparge and SVE system was pilot tested in 1999 and started full-scale operation in 2000. During 2001 operation, the remediation system was on twelve hours per day, five days per week. Subcontractors collected weekly system performance measurements including: subsurface pressure, flow rates, temperatures, dissolved oxygen (DO) in groundwater, and the radius influence induced by the remediation system. These data are presented in Appendix C.

System shutdowns occurred as follows:

- January 1, 2001 New Year Holiday
- July 4, 2001
- August 22 to September 27, 2001: repair of air sparge blower
- October 26 to 31, 2001: static conditions evaluated
- November 5 to 27, 2001: repair of sparge blower electric motor
- December 22 through 31, 2001: Christmas Holiday
- February 14 and 15, May 31, June 1, July 5, and November 28 to 29: sampling events

2.3 NUTRIENT INJECTION

In October 2001, EPFS injected 205 gallons of 12.4 percent urea nitrate (volume basis) into the passive vent system. The solution was injected as a nutrient source for indigenous microorganisms to enhance natural degradation of subsurface hydrocarbons.

2.4 GROUNDWATER SAMPLING

Monitoring wells R1 through R6 were sampled in February, May, June, July, August, and November 2001 and analyzed for BTEX (U.S. Environmental Protection Agency [EPA] Method 8021 modified). The February and May 2001 samples were collected by Philip Environmental, Farmington, New Mexico; the August 2001 samples were collected by GEM (now AESE), Farmington, New Mexico; and the November samples were collected by AMEC, Farmington, New Mexico.

Monitoring wells M1 through M6 were sampled in February, May, August, and November 2001 and analyzed for BTEX (EPA Method 8021 modified). Monitoring wells M3 and M4 were also analyzed for nitrate and nitrite (EPA Method 353.2/354.1/4500). The nitrate tests were performed to track the migration of urea nitrate and/or its transformation products in the subsurface after the injection of this fertilizer in the passive vent system. They were also performed to evaluate whether nutrient additions caused exceedances in the NMWQCC nitrate standard (10 mg/L).

Samples were analyzed by Pinnacle Laboratories (BTEX analyses) in Albuquerque, New Mexico and their subcontractor, Severn Trent Laboratories (nitrate/nitrite analyses) in Pensacola, Florida.

Prior to sampling, field personnel checked for PSH and measured water levels using a Heron oil-water interface probe. Measurements were recorded on a field sampling sheet.

Monitoring wells were bailed and sampled using a disposable Teflon[®] bailer. Field parameters collected during each sampling event included the following:

- Temperature
- pH
- Electrical conductivity (EC)
- Dissolved oxygen (R1 through R6 weekly and M1 through M6 quarterly)

Temperature, pH, and EC readings were collected using YSI 63 or Hydac water quality monitors. DO readings were collected using a YSI 95 DO meter. Purge volumes, water levels, DO, pH, and turbidity measurements were recorded on the field sampling sheets provided in Appendix D.

2.5 SURFACE WATER SAMPLING

Surface water samples were collected from Citizens Ditch, upgradient and downgradient of the site, in January, May, and December 2001. Field personnel collected the samples directly into laboratory-supplied bottles. The samples were analyzed by Pinnacle Laboratories in Albuquerque, New Mexico for BTEX, using EPA Method 8021 modified.

3.0 RESULTS

3.1 AIR SPARGING AND SOIL VAPOR EXTRACTION

The air sparging system operated at sparge well SW-1 with an injection pressures of 6.5 to 7.5 pounds per square inch (psi) and flow rates of 2 to 7 standard cubic feet per minute (scfm) from January to March 26, 2001. The air sparging system operated at sparge wells SW1, SW4, and SW5 at injection pressures of 6 to 10.5 psi and flow rates of 3 to 7 scfm (SW1), 2 to 6 scfm (SW4), and 2.5 to 8.5 scfm (SW5) for the remainder of the year, except as noted in Section 2.2.4.

The SVE system operated at vapor extraction well VW1 with an extraction rate of 40 to 42 scfm from January to March 26, 2001. The SVE system operated at vapor extraction well VW2 with an extraction rate of 10 to 14 scfm for the remainder of the year, except as noted in Section 2.2.4.

In 2001, the SVE system removed a total of 0.018 tons of benzene and 0.020 tons of BTEX. An average benzene removal rate of 2.0×10^{-3} tons/month was observed in 2001. The highest removal rates were observed in April 2001 (0.016 tons of benzene and 0.017 tons of BTEX). The April 2001 values accounted for 90 and 84 percent of the annual removal of benzene and BTEX, respectively. This may be attributed to installation of new sparge wells and low groundwater levels, which resulted in increased vadose zone thickness and BTEX removal rates.

Monthly average PID readings representing SVE removal rates in 2001 were as follows: January (11 PID units), February (14 PID units), March (101 PID units), April (752 PID units), May (329 PID units), June (373 PID units), July (192 PID units), August (95 PID units), and December (105 PID units).

The enhanced removal rates of benzene and BTEX in April 2001 (as indicated by the PID readings) are attributed to the switch from extracting at VW1 to VW2, which exposed new sources and air flow pathways. It should be noted that the SVE system was connected to VW2 on March 26, 2001 and the March 30, 2001 PID reading exceeded the previous reading (March 20, 2001) by 278 PID units.

Monthly benzene and BTEX emissions calculations are included as Appendix E.

3.2 NUTRIENT INJECTION

As stated in Section 3.3, 205 gallons of 12.4 percent urea nitrate (volume basis) was pumped into the passive air system located south of Citizens Ditch near monitoring wells M3, M4, and M5 (see Figure 1) in October, 2001. Groundwater samples from monitoring wells M3 and M4 were submitted for laboratory analyses of nitrate and nitrite to determine the concentration of nutrients available for biodegradation of hydrocarbons. The laboratory analyses were also performed to evaluate whether nutrient additions caused exceedances in the NMWQCC nitrate standard (10 mg/L).

Table 1 presents the 2001 nitrate and nitrite results. Nitrate concentrations were below the NMWQCC standard for nitrate in groundwater (10 milligrams per liter [mg/L]). It is interesting to note that in February 2001, the nitrite concentration exceeded the nitrate concentration in monitoring well M4. This could be an indication of enhanced natural attenuation, during which anaerobic bacteria are metabolizing petroleum hydrocarbons in monitoring well M4 and converting nitrate to nitrite by using nitrate as a terminal electron acceptor. However, this could also be a laboratory artifact because it is the first time that the nitrite concentration has exceeded the nitrate concentration in monitoring wells M3 or M4.

TABLE 1 2001 GROUNDWATER LABORATORY ANALYTICAL RESULTS FOR NITRATE AND NITRITE, JAQUEZ COM. C#1 AND JAQUEZ COM. E#1				
Monitoring Well	Sample Date	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate/Nitrite (mg/L)
M3	Feb-01	<0.05	<0.05	NA
	May-01	0.18	<0.1	0.18
	Aug-01	0.15	<0.10	0.15
	Nov-01	NA	NA	0.23
M4	Feb-01	3.37	4.47	NA
	May-01	9.3	0.12	9.4
	Aug-01	5	<0.10	5
	Nov-01	NA	NA	66
NMWQCC Standard		10	NE	NE
mg/L = milligrams per liter NA = not analyzed NE = not established				

3.3 GROUNDWATER LEVELS AND ANALYTICAL RESULTS

3.3.1 Groundwater Levels

Groundwater elevation isopleths were developed for February (Figure 3), May (Figure 4), August (Figure 5), and November 2001 (Figure 6). Groundwater flows into the north side of Citizens Ditch in a southern direction. The groundwater flow direction diverges to the southeast at the southern edge of the Jaquez site. The water table mounds immediately north, underneath, and south of Citizens Ditch. The groundwater mound apparently occurs because Citizens Ditch is losing water to the shallow aquifer in the vicinity of the Jaquez site. In addition, air sparging raises the groundwater elevation on the north side of Citizens Ditch. The raised water table propagates to monitoring well M4 on the south side of Citizens Ditch. In November 2001, the water mound is reduced because no sparging was conducted from August 22 to September 27, 2001 and November 5 to 28, 2001.

3.3.2 Groundwater Analytical Results

Table 2 presents the 2001 laboratory analytical results for the Jaquez site monitoring wells. Appendix F presents the 2001 laboratory analytical reports and Appendix G presents analytical data from 1993 through 2001.

TABLE 2
2001 GROUNDWATER LABORATORY ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS
JAQUEZ COM. C#1 AND JAQUEZ COM. E#1

MW#	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
M1	2/14/01	10	<0.5	<0.5	<0.5
	5/31/01	1	<0.5	<0.5	0.6
	8/21/01	<0.5	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
M2	2/14/01	<0.5	<0.5	<0.5	<0.5
	5/31/01	<0.5	<0.5	<0.5	<0.5
	8/21/01	<0.5	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
M3	2/14/01	0.6	<0.5	<0.5	0.6
	5/31/01	1.2	<0.5	<0.5	1.7
	8/21/01	1.6	<0.5	1.2	4.5
	11/29/01	0.7	<0.5	<0.5	<0.5
M4	2/14/01	94	<0.5	0.7	13
	5/31/01	78	<0.5	<0.5	<0.5
	8/21/01	30	<0.5	1.4	7.8
	11/29/01	78	<0.5	11	78
M5	2/14/01	<0.5	<0.5	<0.5	<0.5
	5/31/01	0.6	<0.5	<0.5	<0.5
	8/21/01	<0.5	<0.5	<0.5	<0.5
	11/29/01	5.6	<0.5	<0.5	<0.5
M6	2/14/01	<0.5	<0.5	<0.5	<0.5
	5/31/01	<0.5	<0.5	<0.5	<0.5
	8/21/01	<0.5	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
R1	2/15/01	120	<10	<10	190
	6/1/01	17	<2.5	<2.5	19
	7/5/01	17	1.8	1.2	18
	8/23/01	22	1.2	1	4.2
	11/28/01	100	17	3.9	24
R2	2/15/01	620	400	43	440
	6/1/01	120	12	15	70
	7/5/01	39	31	18	220
	8/23/01	<2.5	22	22	310
	11/28/01	26	5.8	<5.0	85
R3	2/15/01	2.2	<0.5	<0.5	<0.5
	6/1/01	<0.5	<0.5	<0.5	<0.5
	7/5/01	<0.5	<0.5	<0.5	1.8
	8/23/01	1.3	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
R4	2/15/01	19	<10	<10	36
	6/1/01	3.4	0.5	<0.5	2.2
	7/5/01	370	85	<2.5	14
	8/23/01	86	20	<2.5	12
	11/28/01	79	0.5	1.5	13
R5	2/15/01	<0.5	<0.5	<0.5	<0.5
	6/1/01	<0.5	<0.5	<0.5	<0.5
	7/5/01	<0.5	<0.5	<0.5	<0.5
	8/23/01	<0.5	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
R6	2/15/01	<0.5	<0.5	<0.5	<0.5
	6/1/01	<0.5	<0.5	<0.5	<0.5
	7/5/01	<0.5	<0.5	<0.5	<0.5
	8/23/01	<0.5	<0.5	<0.5	<0.5
	11/28/01	<0.5	<0.5	<0.5	<0.5
NMWQCC Standard		10	750	750	620
Notes:					
Bolded values exceed NMWQCC standards					

Benzene is the only dissolved petroleum hydrocarbon with concentrations exceeding its NMWQCC standard (10 µg/L). Benzene levels are consistently below 10 µg/L in the 12 Jaquez site monitoring wells, with the exception of R1, R2, R4, and M4. The single exceedance of benzene in monitoring well M1 occurred in February 2001 (10 µg/L).

3.3.3 Phase Separated Hydrocarbons

No PSH were detected at the Jaquez site in 2001. PSH was last observed in R1 and R2 on March 29, 2000.

3.3.4 Area North of Citizens Ditch

In the area north of Citizens Ditch, monitoring wells R1, R2 and R4 have historically exhibited either PSH or elevated levels of dissolved phase hydrocarbons, whereas monitoring wells R3, R5 and R6 have historically exhibited either no detectable levels of BTEX or levels below the NMWQCC standards.

3.3.4.1 Dissolved Hydrocarbons in Area North of Citizens Ditch

Table 3 compares the 2001 and 2000 trends in dissolved hydrocarbon concentrations in impacted wells on the north side of Citizens Ditch.

In 2001, the air sparge/SVE remediation system markedly reduced petroleum hydrocarbons in groundwater on the north side of Citizens Ditch. The 2000 average benzene concentrations in impacted wells in this area were 3,017 µg/L in R1, 1,795 µg/L in R2, and 800 µg/L in R4. The 2001 average benzene concentrations were 69 µg/L in R1, 140 µg/L in R2, and 111 µg/L in R4. Benzene concentrations declined an average of 97.7 percent in R1, 92.2 percent in R2, and 86.1 percent in R4 from 2000 to 2001.

TABLE 3 2001 TRENDS IN BTEX CONCENTRATIONS IN MONITORING WELLS R1, R2, AND R4, JAQUEZ COM. C#1 AND JAQUEZ COM. E#1					
Monitoring Well	Results	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
R1	2000 Avg	3,017	2,082	165	2,350
	2001 Avg	69	6.5	3.7	51
	Percent Change	97.7	99.7	97.8	97.8
R2	2000 Avg	1,795	2,083	152	1,750
	2001 Avg	140	94	NA	225
	Percent Change	92.2	95.5	NA	87.1
R4	2000 Avg	800	808	67	1,715
	2001 Avg	111	116	3.4	15.4
	Percent Change	86.1	85.6	94.9	99.1
NMWQCC Standard		10	720	720	650
Notes:					
Percent change between first and last quarter of 2001					
Bolded values exceed NMWQCC standards					
NA = not applicable because average includes a non-detect					

Benzene isoconcentration maps were constructed for February (Figure 7), May (Figure 8), August (Figure 9), and November (Figure 10). Figures 7 through 9 show the groundwater plume decreasing in concentration and aerial extent. Figure 10 shows the rebound in benzene concentrations caused by the shutdowns of the air sparging/SVE system (August through September and November 2001).

The charts in Appendix H compare the 2001 seasonal rise and fall of the water table to the benzene concentrations in R1 and R2.

3.3.4.2 Dissolved Hydrocarbons and Dissolved Oxygen Levels in the Area North of Citizens Ditch

One goal of air sparging is to supply air (oxygen) to groundwater containing elevated levels of petroleum hydrocarbons. DO measurements indicate the distribution of oxygen in groundwater.

In the absence of sparging, low DO levels are expected when subsurface microbial populations are consuming oxygen as petroleum hydrocarbons are metabolized. Higher DO levels are expected in the absence of petroleum hydrocarbons in an oxygenated aquifer. The goal of air sparging is to supply DO to groundwater containing elevated levels of dissolved petroleum hydrocarbons.

Appendix I presents charts comparing 2001 total BTEX concentrations and DO concentrations in monitoring wells R1 through R6. The charts indicate several scenarios:

- low DO levels where elevated BTEX levels are present (R2) and/or low DO levels where low BTEX levels are present (R5)
- high DO levels where low BTEX levels are present (R6)
- high DO levels where elevated BTEX levels are present (R1 and R4)

The current air sparging system has induced differential DO concentrations in Jaquez site groundwater. Air sparging has provided additional DO to monitoring wells R1 and R4, but was not as successful in delivering DO to R2. Monitoring wells R2 and R5 appear to receive less influence from the sparging than monitoring wells R1 and R4. It is possible, however, that the current BTEX levels are low enough in monitoring wells R1 and R4 to only exert a limited demand on DO. Finally, monitoring well R3 has contained both low and high levels DO at different times and relatively low BTEX concentrations. DO increased in R3 when sparge wells SW4 and SW5 became active and declined when the sparge blower was being repaired.

3.3.5 Area South of Citizens Ditch

BTEX concentrations in the area south of Citizens Ditch remain below NMWQCC groundwater standards in monitor wells M1, M2, M3, M5, and M6. These monitoring wells have exhibited either non-detectable or trace levels of BTEX since 1998, with the

exception of February 2000 (benzene in M3 was 30 µg/L). Monitoring well M1 was sampled four times in 2001 with an average benzene concentrations of 3 µg/L.

Monitoring well M4 has exhibited concentrations of benzene above NMWQCC groundwater standards since 1996, often decreasing significantly when the water table is high. Average 2001 and 2000 benzene concentrations are similar (70 and 51 µg/L, respectively), indicating a continuing source and/or a fluctuating water table. Toluene, ethylbenzene and total xylenes concentrations remained below NMWQCC groundwater standards in M4.

The charts in Appendix H compare the seasonal rise and fall of the water table to the benzene concentrations in M1 and M4.

3.4 SURFACE WATER SAMPLING

Surface water samples were collected from Citizens Ditch, upgradient and downgradient of the site, in January, May, and December 2001. Table 4 presents the analytical results for these samples. Laboratory analyses indicated only one minor detection of ethylbenzene and total xylenes in the May 2001 upgradient sample. These detections were determined to be laboratory artifacts upon re-analysis. The analytical reports are included as Appendix J.

TABLE 4 2001 SURFACE WATER SAMPLES FROM CITIZENS DITCH, JAQUEZ COM. C#1 AND JAQUEZ COM. E#1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
Downgradient of site	01/19/01	<0.5	<0.5	<0.5	<0.5
	05/01/01	<0.5	<0.5	<0.5	<0.5
	12/20/01	<0.5	<0.5	<0.5	<0.5
Upgradient of site	01/19/01	<0.5	<0.5	<0.5	<0.5
	05/01/01	<0.5	<0.5	<0.5	<0.5
	12/20/01	<0.5	<0.5	<0.5	<0.5
Notes: Mg/L = micrograms per liter					

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Based on a review of the 2001 data, the following conclusions are provided:

- Significant reductions in benzene concentrations were achieved in 2001. This is attributed to on-going remediation efforts including, but not limited to, installation of the new sparge wells and reconfiguration of the SVE system.
- In 2001, the air sparge/SVE remediation system significantly reduced petroleum hydrocarbons in groundwater on the north side of Citizens Ditch. The 2000 average benzene concentrations in impacted wells in this area were 3,017 micrograms per liter ($\mu\text{g/L}$) in R1, 1,795 $\mu\text{g/L}$ in R2, and 800 $\mu\text{g/L}$ in R4. The 2001 average benzene concentrations for the same wells were 69 $\mu\text{g/L}$ in R1, 140 $\mu\text{g/L}$ in R2, and 111 $\mu\text{g/L}$ in R4. Benzene concentrations declined an average of 97.7 percent in R1, 92.2 percent in R2, and 86.1 percent in R4 from 2000 to 2001.
- Reductions in dissolved hydrocarbons were observed in the first three quarters of 2001 during active sparging. The November 2001 sampling event indicated that limited rebound may occur in some wells in the absence of active sparging. However, November 2001 data were still significantly lower than 2000 values.
- Based on the most recent data, all but three groundwater wells on the north side (R1, R2 and R4) and one well on the south side (M4) are below standards.
- Air sparging appears to raise groundwater elevations on the north side of the site. North side mounding extends to the south side to monitoring well M4 along the alignment of a subsurface pipeline.
- Nutrient additions on the south side of Citizens Ditch are treating only the leading (downgradient) edge of the plume.
- Air permitting is not required for the current Jaquez remediation system, because benzene and BTEX emissions are less than 25 tons per year.
- The remediation system is operating at optimal levels for the present configuration.
- Even though air sparging and SVE have successfully reduced dissolved petroleum hydrocarbon concentrations on the north side of Citizens Ditch, additional remediation of the plume underneath the ditch and in the area between monitoring well M4 and Citizens Ditch is needed.
- Surface water in Citizens Ditch is not impacted by the dissolved phase hydrocarbons in soil and groundwater at the Jaquez site.

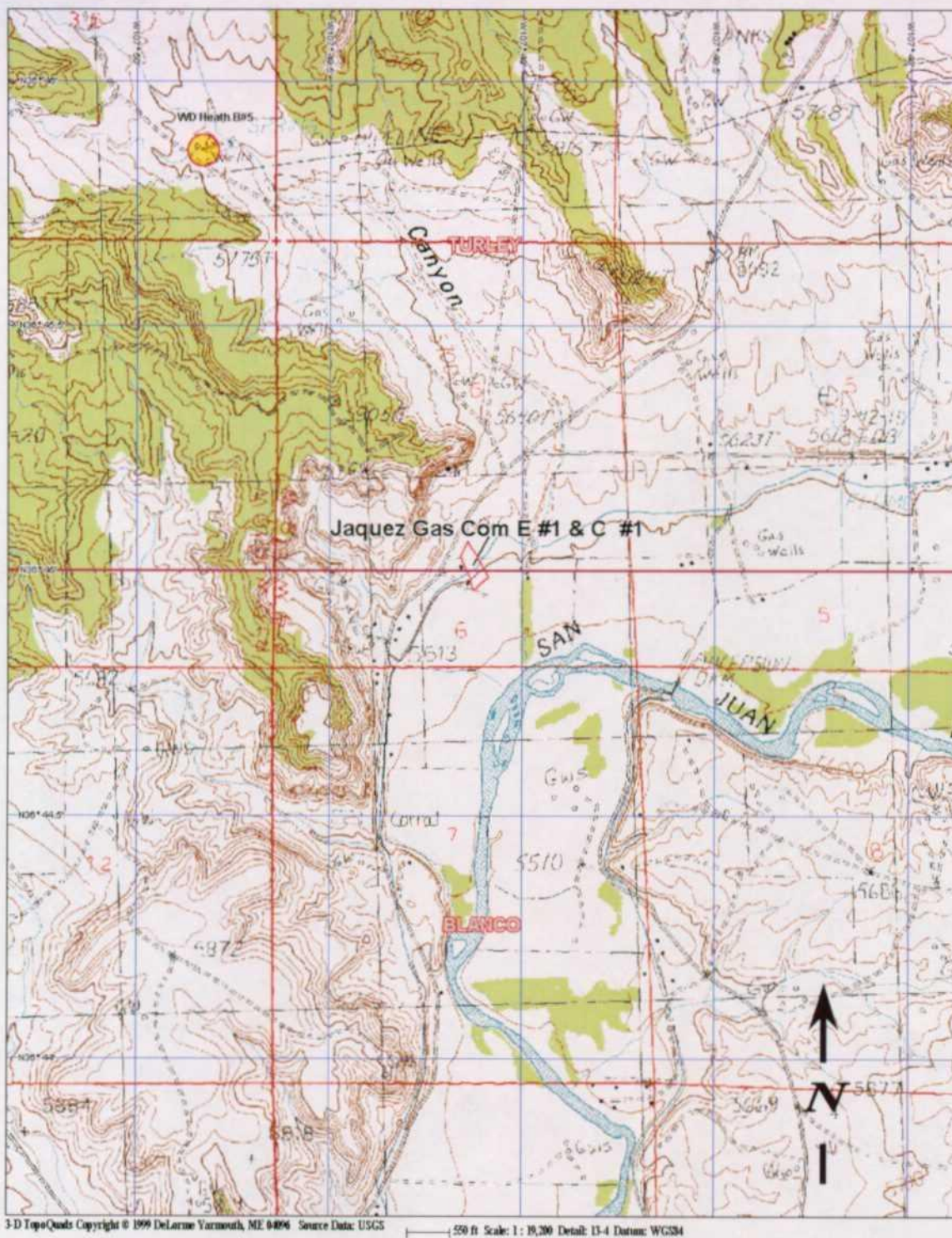
4.2 RECOMMENDATIONS

Based on review of the 2001 data, the following recommendations are provided:

- Evaluate the application of air sparging and/or ORC® in the area south of Citizens Ditch including soils under the ditch near and in the existing pipeline trenches.
- Shut off the SVE and air sparging systems quarterly. Collect groundwater elevations from all Jaquez site monitoring wells 24 hours after shutdown. Sample all wells after groundwater elevations are collected and restart the air sparge/SVE system immediately after sampling events.
- Evaluate the effectiveness of the current configuration of the SVE and air sparging systems to optimize petroleum hydrocarbon removal rates.
- Collect biweekly dissolved oxygen levels from R1, R2, R3, R4, R5, R6, M3, M4 and M5.
- Sample monitoring wells M4, R1, R2, and R4 quarterly for BTEX, to evaluate the effectiveness of remediation system.
- Sample monitoring wells M1, M2, M3, M5, M6, R3, R5, and R6 annually.
- Discontinue the practice of adding aqueous nutrients to the passive air system and analyzing groundwater in monitoring wells M3 and M4 for nitrate and nitrite.
- Collect the last surface water samples from Citizens Ditch in June 2002, in accordance with an EPFS letter to NMOCD dated June 21, 2001.
- Collect biweekly oxygen and PID readings of soil gases and record subsurface pressures.
- Collect monthly air samples from SVE effluent for laboratory analyses.

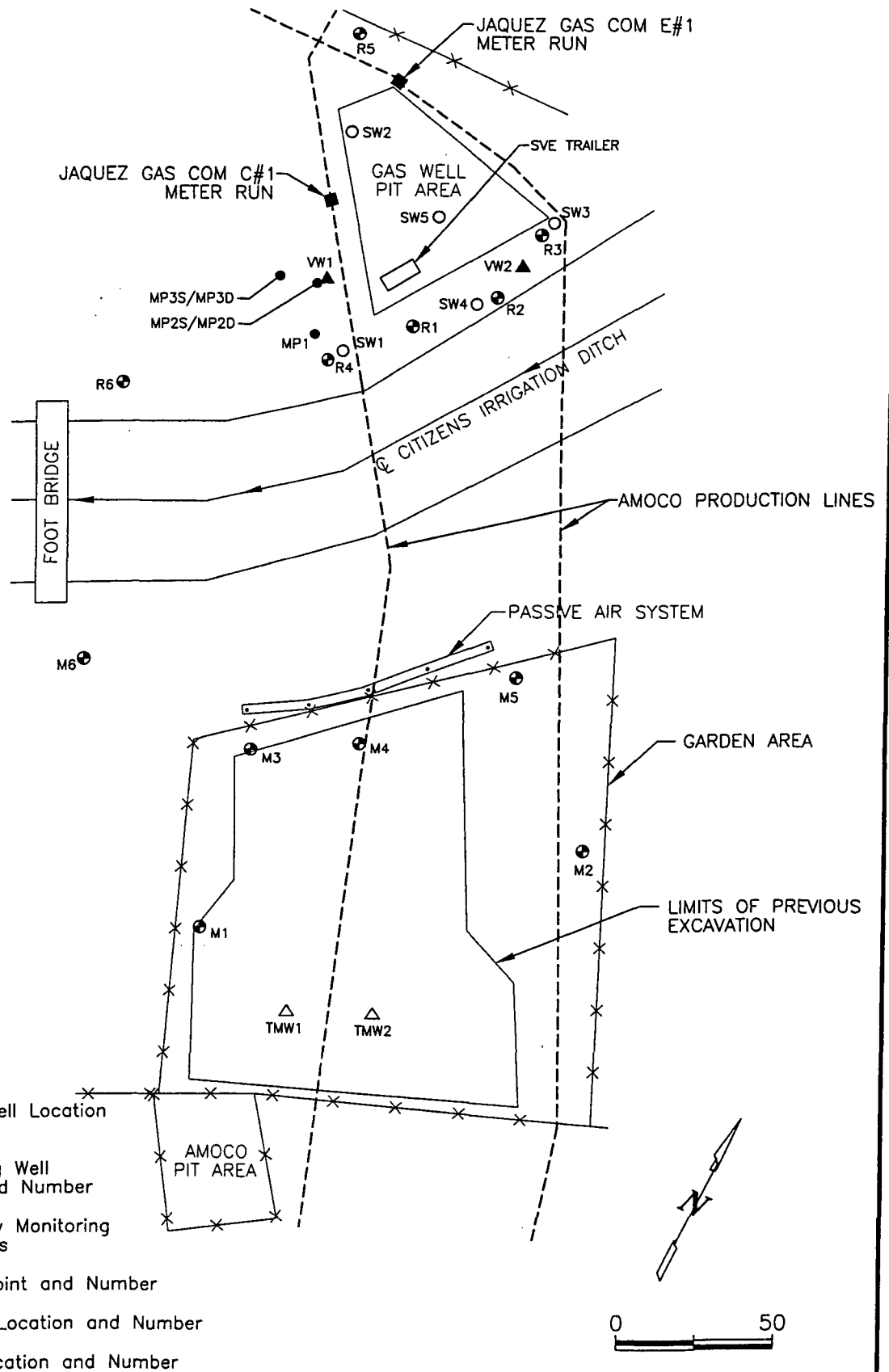
5.0 REFERENCES

- EPFS, 2002. *Monthly Report for December 2001 Jaquez Com C #1 and Jaquez Com E #1 Site.* January 2002.
- EPFS, 2002. *Monthly Report for November 2001 Jaquez Com C #1 and Jaquez Com E #1 Site.* January 2002.
- EPFS, 2001. *Jaquez Com C #1 and Jaquez Com E #1 Soil Vapor Extraction Remediation System.* October 2001.
- EPFS, 2001. *Jaquez Com C #1 and Jaquez Com E #1 Annual Report for Soil and Groundwater Remediation.* April 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* September 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* August 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* July 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* April 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* March 2001.
- EPFS, 2001. *Monthly Report for Jaquez Com C #1 and Jaquez Com E #1 Site.* February 2001.
- EPFS, 2001. *Jaquez Com C #1 and Jaquez Com E #1 Remediation System Evaluation.* December 2000



**Jaquez Gas Com E#1 & C#1
 Site Location Map**

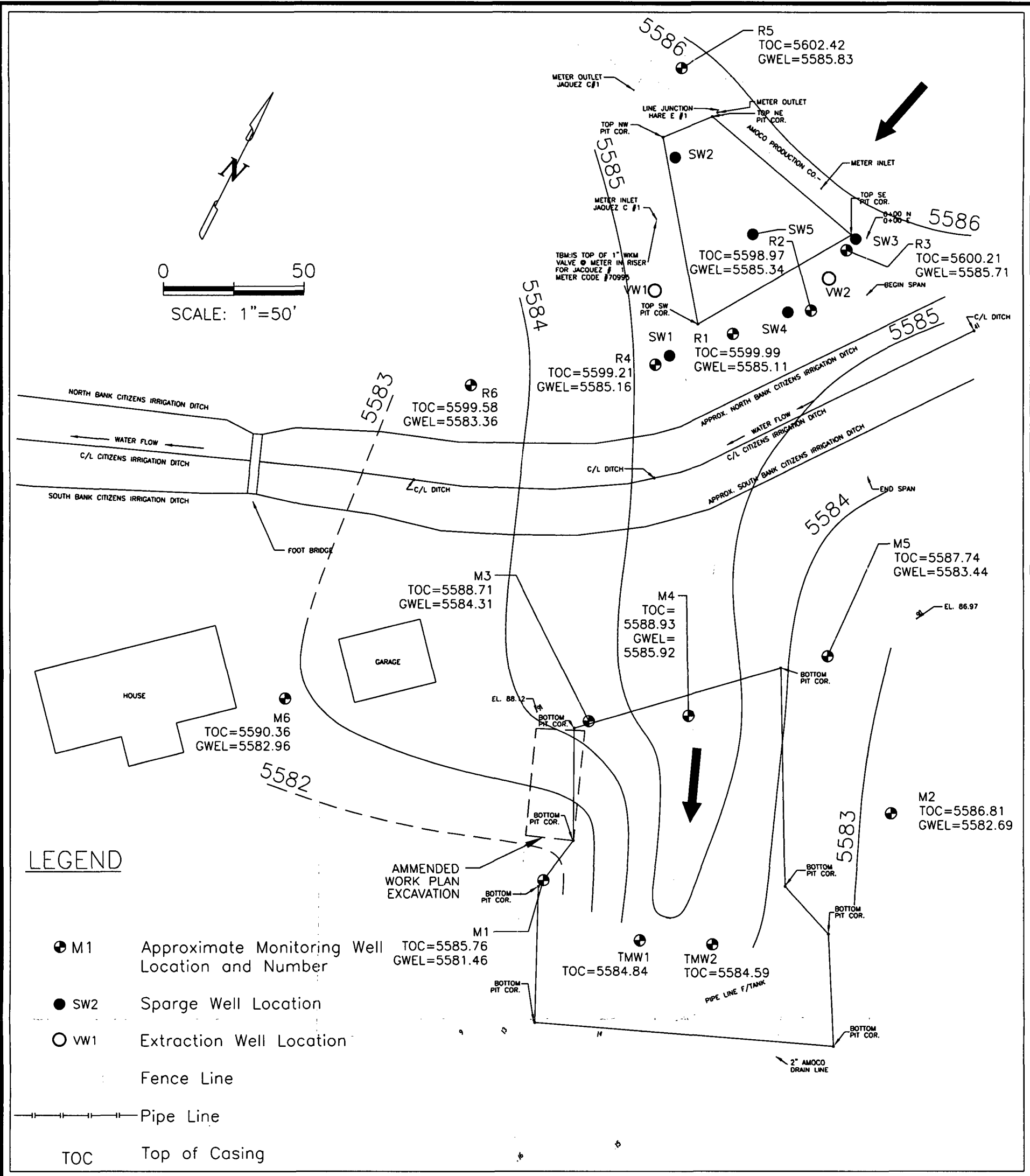
Figure 1



SITE MAP
JAQUEZ COM C#1 AND
JAQUEZ COM E#1

EL PASO FIELD SERVICES

FIGURE 2

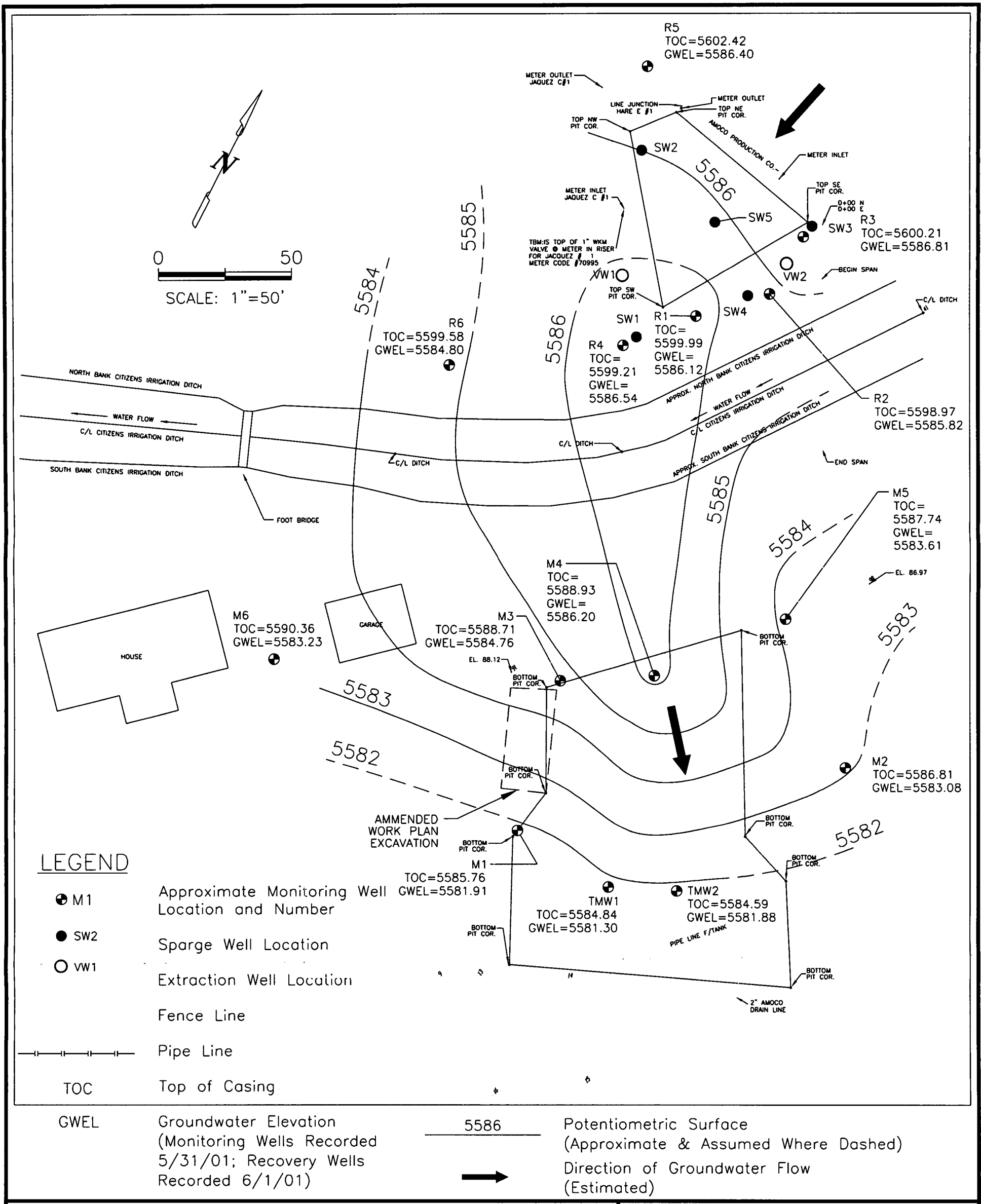


GROUNDWATER CONTOUR MAP
 JAQUEZ COM C#1 AND
 JAQUEZ COM E#1 (2/14/01)

EL PASO FIELD SERVICES

FIGURE 3

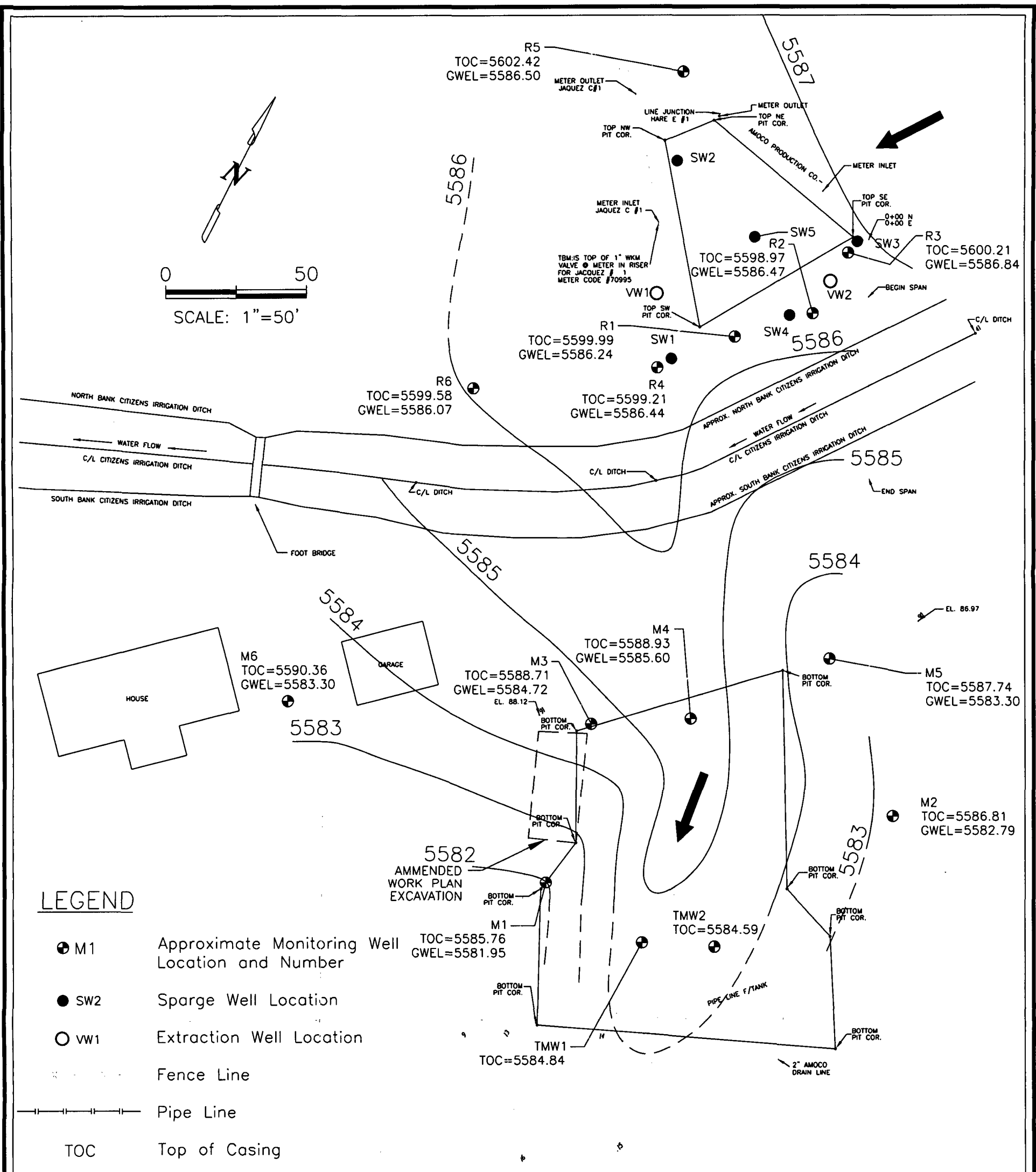
Jaquez_01.dwg



GROUNDWATER CONTOUR MAP
JAQUEZ COM C#1 AND
JAQUEZ COM E#1 (5/31/01)

EL PASO FIELD SERVICES

FIGURE 4



5586

→

Potentiometric Surface (Approximate & Assumed Where Dashed)

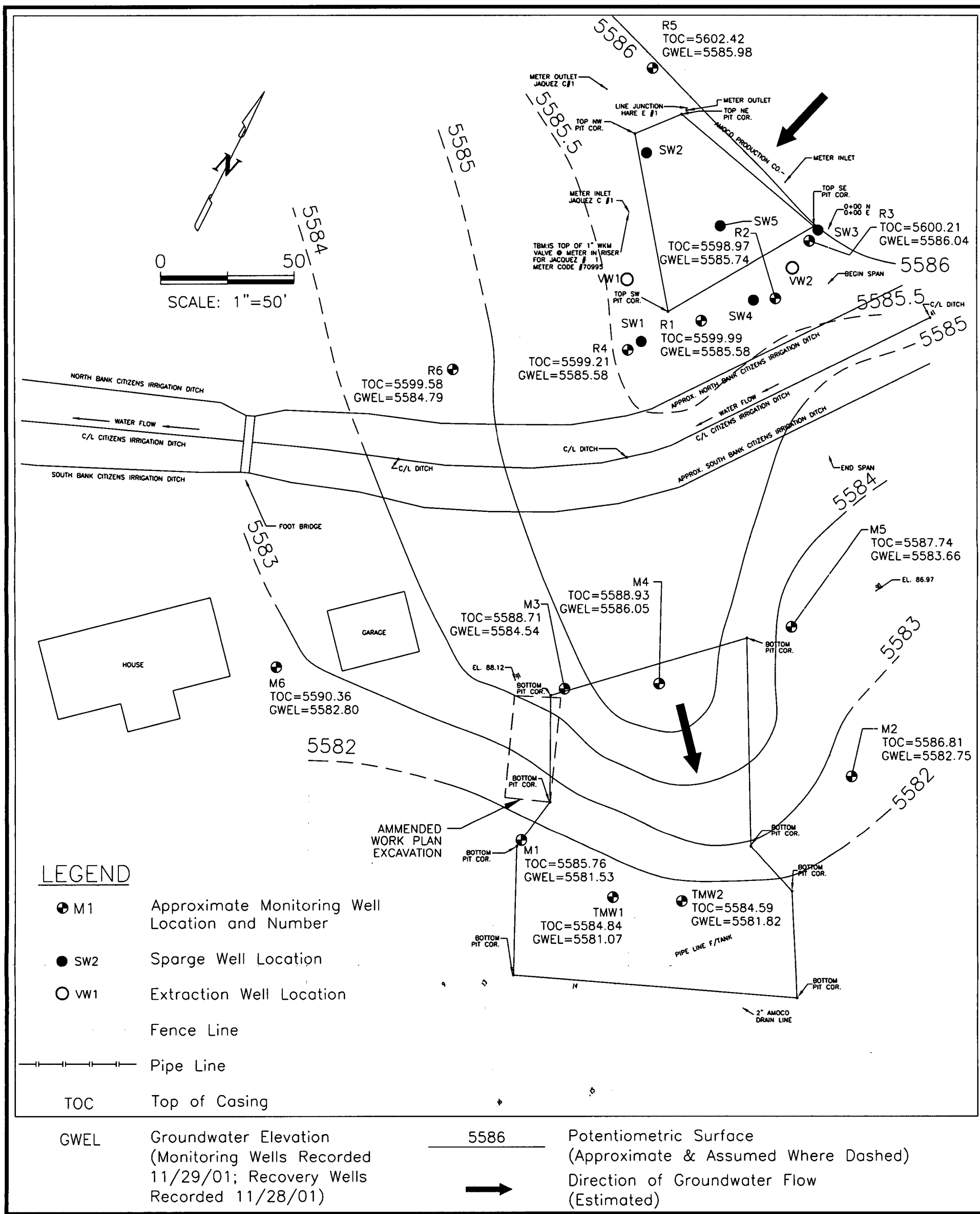
Direction of Groundwater Flow (Estimated)

GROUNDWATER CONTOUR MAP
JAQUEZ COM C#1 AND
JAQUEZ COM E#1 (8/21/01)

EL PASO FIELD SERVICES

FIGURE 5

Jaquez_01.dwg



GROUNDWATER CONTOUR MAP
 JAQUEZ COM C#1 AND
 JAQUEZ COM E#1 (11/28/01)

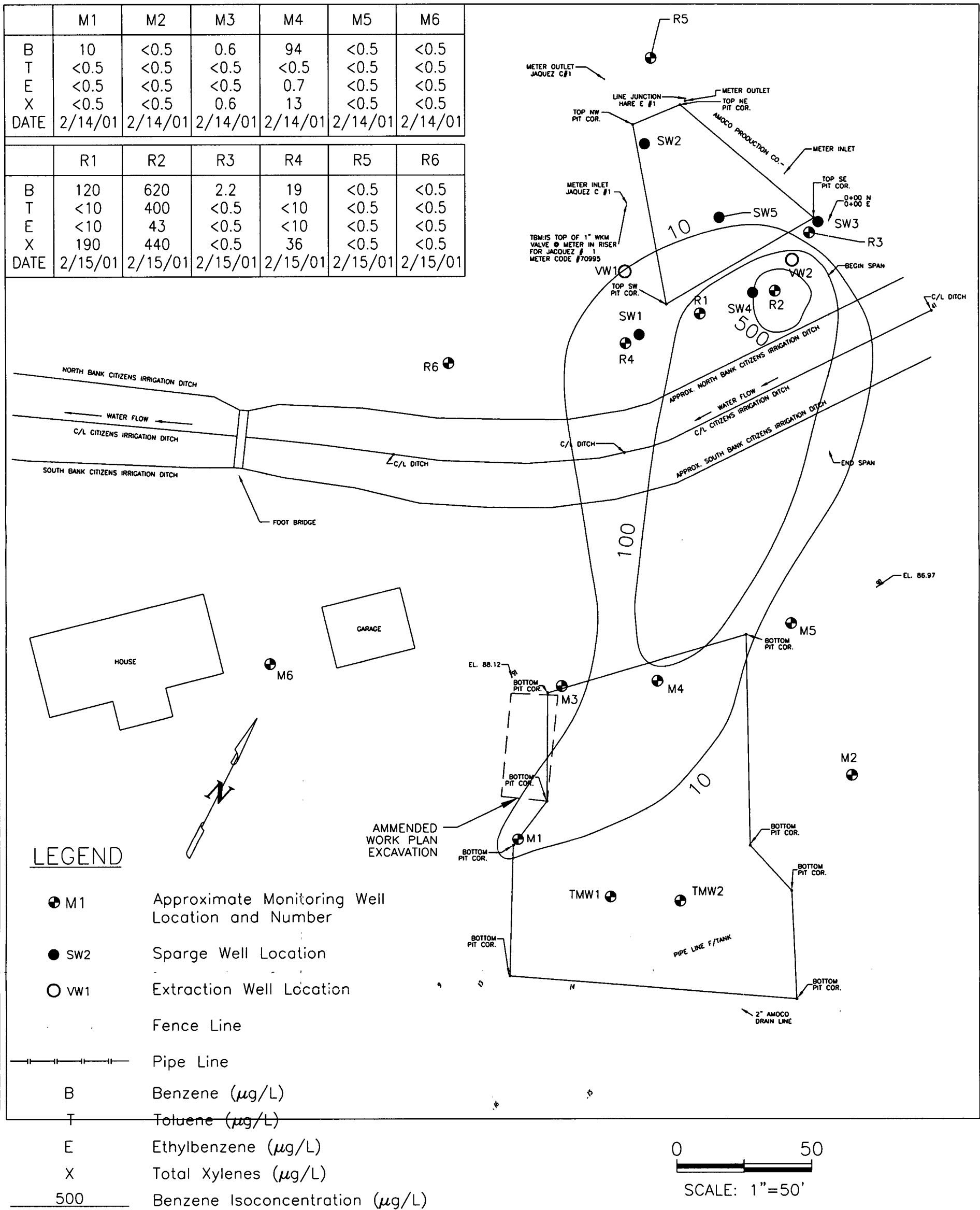
EL PASO FIELD SERVICES

FIGURE 6

Jaquez_01.dwg

	M1	M2	M3	M4	M5	M6
B	10	<0.5	0.6	94	<0.5	<0.5
T	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
E	<0.5	<0.5	<0.5	0.7	<0.5	<0.5
X	<0.5	<0.5	0.6	13	<0.5	<0.5
DATE	2/14/01	2/14/01	2/14/01	2/14/01	2/14/01	2/14/01

	R1	R2	R3	R4	R5	R6
B	120	620	2.2	19	<0.5	<0.5
T	<10	400	<0.5	<10	<0.5	<0.5
E	<10	43	<0.5	<10	<0.5	<0.5
X	190	440	<0.5	36	<0.5	<0.5
DATE	2/15/01	2/15/01	2/15/01	2/15/01	2/15/01	2/15/01



BENZENE CONCENTRATION MAP
 JAQUEZ COM C#1 AND
 JAQUEZ COM E#1 (2/14/01)

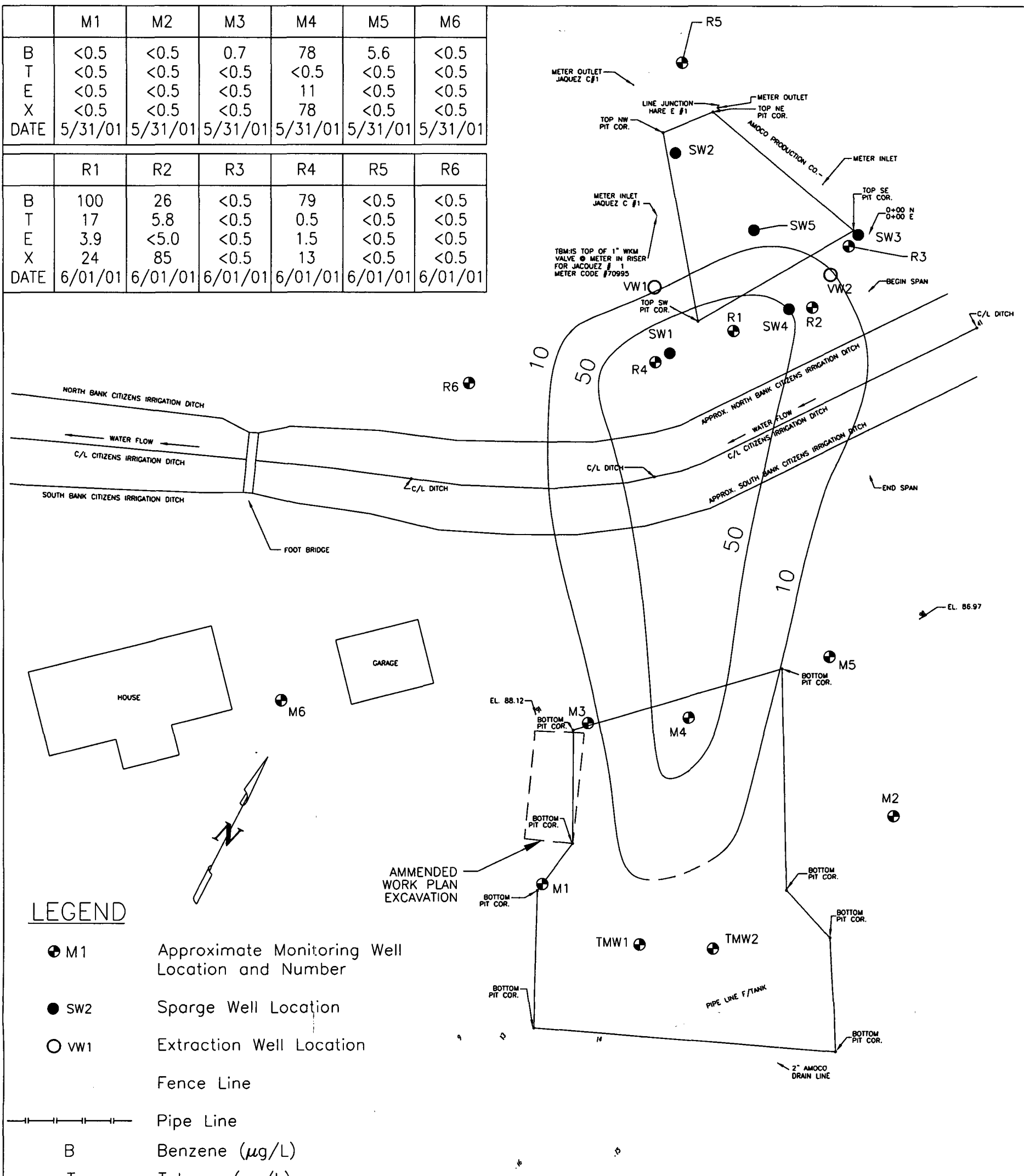
EL PASO FIELD SERVICES

FIGURE 7

Jaquez_01.dwg

	M1	M2	M3	M4	M5	M6
B	<0.5	<0.5	0.7	78	5.6	<0.5
T	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
E	<0.5	<0.5	<0.5	11	<0.5	<0.5
X	<0.5	<0.5	<0.5	78	<0.5	<0.5
DATE	5/31/01	5/31/01	5/31/01	5/31/01	5/31/01	5/31/01

	R1	R2	R3	R4	R5	R6
B	100	26	<0.5	79	<0.5	<0.5
T	17	5.8	<0.5	0.5	<0.5	<0.5
E	3.9	<5.0	<0.5	1.5	<0.5	<0.5
X	24	85	<0.5	13	<0.5	<0.5
DATE	6/01/01	6/01/01	6/01/01	6/01/01	6/01/01	6/01/01



BENZENE CONCENTRATION MAP
JACQUEZ COM C#1 AND
JACQUEZ COM E#1 (11/28/01)

EL PASO FIELD SERVICES

FIGURE 10

APPENDIX A

2001 GEOLOGIC LOGS AND WELL COMPLETION FORMS

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # 1

Well # SW-4

Page of

Project Name Jaquez Sparge / VE Wells

Project Number 62800399 Phase

Project Location Jaquez Com #C1 & E1

Elevation N/A

Borehole Location Jaquez SW-4

GWL Depth 13.6' @ 0900

Logged By MJN - GEM

Drilled By PSC

Date/Time Started 3/22/01 - 0804

Date/Time Completed 3/22/01 - 1251

Well Logged By MJN - GEM

Personnel On-Site D. Padilla, D. Motto, L. Winn

Contractors On-Site

Client Personnel On-Site

Drilling Method HSA CME-75

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			0-4.5' medium yellowish brown well sorted very fine sand.	S					
		13.5"	less than 10% silt, unconsolidated			0		1.5	
1		13"				1		13.5	
5									
2		18"	change to black with HC odor at 4'			1		4.0	
3		15"	Approx. 30% clay 70% silty sand starting at 4' bgs			1			
10		18"	silty sand stringer at 4' bgs			1			
5		18"	4.5-100 olive gray	CL	1.6			105	
6			clay very moist, 3" sand stringer at 6' bgs then back to clay with very fine sand.					45	
15			4" silty sand stringer at 8' bgs then back to silty clay with minor very fine sand						
7		18"	10'-17' silty sand						
8		18"	sand is very fine					10	
20		18"	unconsolidated grading from olive black to medium yellowish brown clay at 13.5- 14 back to silty sand					0	
10		18"	olive gray saturated					0	
			17-18.5 md. yellow						
25			brown md. to coarse sand. Saturated uncon. Moderately well sorted						
			18.5- 23.5 clay						
30									
35									
40									

Comments: 18" SS Sampling continuos. Sample is very moist at 12', HC odor, DTW @ 13.6' bgs @ 0900 hrs.

Geologist Signature

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # 2

Well # VW-2

Page of

Project Name Jaquez Sparge/VE Well

Project Number 62800399 Phase

Project Location Jaquez Com #C1 & E1

Elevation N/A

Borehole Location Jaquez VW-2

GWL Depth N/A

Logged By MJN - GEM

Drilled By PSC

Date/Time Started 3/22/01 - 1310

Date/Time Completed 3/22/01 - 1450

Well Logged By MJN - GEM

Personnel On-Site L. Winn, D. Padilla, D. Motto

Contractors On-Site

Client Personnel On-Site

Drilling Method HSA CME-75

Air Monitoring Method YSI 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	1	18"	0-12" md. yellowish brown fine to very fine			56		0.2	
	2	18"	well sorted, unconsolidated sand, olive gray at 2-4' with black stringer at approx. 3'					592	
5	3	18"				79		66	
	4	18"				0		83	
	5	18"	olive gray grades to black at 5.5'						
10	6	18"	strong HC odor, sand grades to silt to clay from 6.5'-7.5' then back to sand with md. yellowish brown color to black at 11.75'-12' bgs still very strong HC odor			2		403	
15			TD 13.67' Bgs						
20									
25									
30									
35									
40									

Comments: 4 bags sand, 2 bags 3/8" bentonite chips, hydrated with 10 gallons water.

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Philip Services Corporation

4000 Monroe Road

Farmington, New Mexico 87401

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

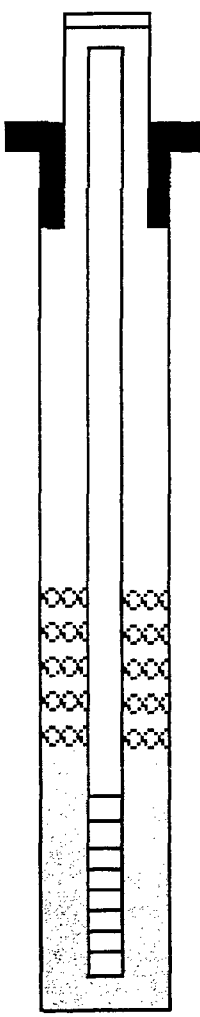
Borehole # 2
Well # VW-2
Page of

Project Name Jaquez
Project Number 62800399 Cost Code
Project Location Jaquez Com#1 C1 & E1

Elevation N/A
Well Location Jaquez VW-2
GWL Depth NA
Installed By PSC

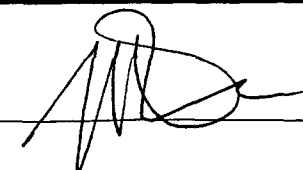
On-Site Geologist MJN - GEM
Personnel On-Site D. Padilla, D. Motto, L. Winn
Contractors On-Site PSC
Client Personnel On-Site

Date/Time Started 3/22/01 - 1307
Date/Time Completed 3/22/01 - 1450

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing	4" x 5' Steel Prot.	3'		Top of Protective Casing <u>3'</u>
Bottom of Protective Casing	4" x 5' Steel Prot.	-2'		Top of Riser <u>3'</u>
Top of Permanent Borehole Casing	NA			Ground Surface <u>0</u>
Bottom of Permanent Borehole Casing	NA			
Top of Concrete	2 bags quikrete	+1"		
Bottom of Concrete	2 bags quikrete	-3"		
Top of Grout	NA			
Bottom of Grout	NA			
Top of Well Riser		+ 3'		
Bottom of Well Riser		-7		
Top of Well Screen	.01 2" pvc	-7		Top of Seal <u>-1.5'</u>
Bottom of Well Screen	.01 2" pvc	-12		
Top of bentonite Seal	See below	-1.5		
Bottom of bentonite Seal	3/8 wyo bent chips	-5'11"		Top of Gravel Pack <u>-5'11"</u>
Top of Gravel Pack	10-20 SS	-5'11"		Top of Screen <u>-7'</u>
Bottom of Gravel Pack	"	-13'5"		
Top of Natural Cave-In	NA			
Bottom of Natural Cave-In	NA			
Top of Groundwater	NA			Bottom of Screen <u>-12'</u>
Total Depth of Borehole		-13.5'		Bottom of Borehole <u>-13.5'</u>

Comments: No GW this is a SVE well. Not present for final completion.

Geologist Signature



RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

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

Borehole # 3
Well # SW-5
Page of

Project Name Jaquez Sparge/VE Well
Project Number 62800399 Phase
Project Location Jaquez Com # C1 & E1

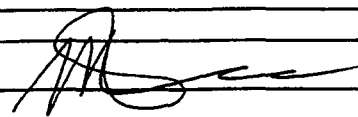
Elevation N/A
Borehole Location Jaquez SW-5
GWL Depth 11.67' @ 1620
Logged By MJN - GEM
Drilled By PSC
Date/Time Started 3/22/01 - 1501
Date/Time Completed 3/22/01 - 1700

Well Logged By MJN - GEM
Personnel On-Site L. Winn, D. Padilla, D. Motto
Contractors On-Site
Client Personnel On-Site
Drilling Method HSA CME-75
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			0-26.5' Material backfill material predominantly sand dark yellow brown to 10' bgs then olive gray. HC impacted minor clay past 15' bgs. Bottom 5' of Augers had thick clay packed on flights						
5									
10						80			15' bgs
15									
20			TD = 26.5' bgs			25			20' bgs
25									
30									
35									
40									

Comments: No sampling due to backfill material.

Geologist Signature



MONITORING WELL INSTALLATION RECORD

Philip Services Corporation

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

Borehole # 3
Well # SW-5
Page 1 of 1

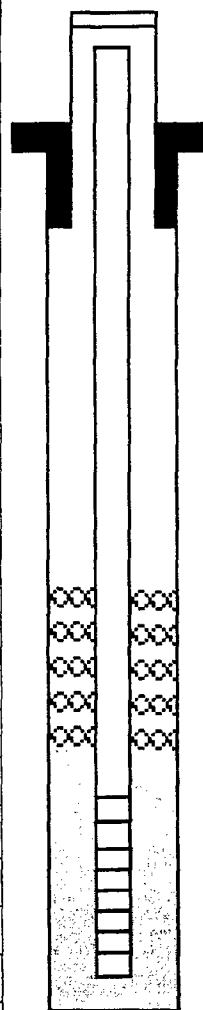
Project Name Jaquez
Project Number 62800399 Cost Code _____
Project Location Jaquez Com C#1 & E#1

Elevation N/A
Well Location Jaquez SW-5
GWL Depth 11.67' bgs
Installed By PSC

On-Site Geologist MJN - GEM
Personnel On-Site L. Winn, D. Padilla, D. Motto
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 3/22/01 - 1501
Date/Time Completed 3/22/01 - 1700

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing	4" x 5' Steel Prot.	3'	Top of Protective Casing <u>3'</u>	
Bottom of Protective Casing	4" x 5' Steel Prot.	-2'	Top of Riser <u>-4"</u>	
Top of Permanent Borehole Casing	NA		Ground Surface <u>0</u>	
Bottom of Permanent Borehole Casing	NA			
Top of Concrete	2 bags quikrete	+1"		
Bottom of Concrete	2 bags quikrete	-3"		
Top of Grout		-2.0'		
Bottom of Grout		-13.4'		
Top of Well Riser		-4"		
Bottom of Well Riser		-244"		
Top of Well Screen		-244"		
Bottom of Well Screen		-304"		
Top of bentonite Seal	1 bucket pellets	-13'4"	Top of Seal <u>-13'4"</u>	
Bottom of bentonite Seal	1 bag 3/8" chips	-16'8"		
Top of Gravel Pack	10-20 silica	-16'8"	Top of Gravel Pack <u>-16'8"</u>	
Bottom of Gravel Pack	10-20 silica, <u>5 bags</u>	<u>26.5'</u>	Top of Screen <u>-244"</u>	
Top of Natural Cave-In	N/A			
Bottom of Natural Cave-In	N/A			
Top of Groundwater	N/A			
Total Depth of Borehole		-26.5'	Bottom of Screen <u>-304"</u>	
			Bottom of Borehole <u>-26.5'</u>	



Comments: Not present for final completion.

Geologist Signature _____

APPENDIX B

2001 LABORATORY ANALYTICAL RESULTS – AIR

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number
January 07, 2002

112086

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS GW PROJ JACQUEZ GC #C1
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 12/21/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous and air** 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

PINNACLE
LABORATORIES

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

CLIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 112086
PROJECT #	: 1517000121	DATE RECEIVED	: 12/21/01
PROJECT NAME	: EPFS GW PROJ JACQUEZ GC #C1	REPORT DATE	: 01/07/02
PINNACLE		DATE	
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
112086 - 01	JAQ-0112-CDUG	AQUEOUS	12/20/01
112086 - 02	JAQ-0112-CDDG	AQUEOUS	12/20/01
112086 - 03	JAQ-0112-AIR	AIR	12/20/01
112086 - 04	TRIP BLANK	AQUEOUS	11/26/01

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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJ JACQUEZ GC #C1

PINNACLE I.D.: 112086

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
03	JAQ-0112-AIR	AIR	12/20/01	NA	12/21/01	5
PARAMETER		DET. LIMIT	UNITS		JAQ-0112-AIR	
BENZENE		0.05	MG/M ³		3.5	
TOLUENE		0.05	MG/M ³		1.2	
ETHYLBENZENE		0.05	MG/M ³		< 0.3	
TOTAL XYLENES		0.05	MG/M ³		0.4	

SURROGATE:
3RB-1-FLUOROBENZENE (%) 112
SURROGATE LIMITS (74 - 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.	: 112086
BLANK I. D.	: 122101	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/21/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS GW PROJ JACQUEZ GC #C1		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:
BROMOFLUOROBENZENE (%) 112
SURROGATE LIMITS: (80 - 120)
ANALYST NOTES:
N/A



Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 12-20-01 PAGE: 1 OF 1

Accession #: 112006

SHADES ARE A START FOR USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC

ADDRESS: 2060 ALTON Place
Farmington N.M. 87401

PHONE: (505) 337-7928

FAX: (505) 326 5721

BILL TO: SCOTT POPC

COMPANY: El Paso Field Services

ADDRESS: 604 Reilly Ave
Farmington NM 87401

ANALYSIS REQUEST																								NUM OF CONTAINERS
Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject																								2
(M8015) Gas/Purge & Trap																								2
8021 (BTEX)/8015 (Gasoline) MTBE																								1
8021 (BTEX) ☒ MTBE ☐ TMB ☐ PCE	X	X	X	X																				7
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:																								

SAMPLE ID	DATE	TIME	ANALYST	LAB
1A9-0112-CDUG	12-20-01	0950	HAO	
1A9-0112-CDUG	12-20-01	0943	HAO	
1A9-0112-ADR	12-20-01	0940	HAO	
Trip Blank	12-20-01	1445	HAO	

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY:		RELINQUISHED BY:	
PROJ. NO.: 1517000/21	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Signature: [Signature]	Time:	Signature:	Time:
PROJ. NAME: CPFS G.W. project	METHANOL PRESERVATION ☐		Comments: FIXED FEE ☐	Printed Name: Chris Macz	Date: 12-20-01	Printed Name:	Date:
P.O. NO.:	COMMENTS: Jaquez GC #C1 meter # (70995)			Company: AMEC		Company:	
SHIPPED VIA: Greyhound				See reverse side (Force Majeure)			
RECEIVED BY:		RECEIVED BY (LAB):		RECEIVED BY:		RECEIVED BY:	
Signature: [Signature]		Signature: [Signature]		Signature: [Signature]		Signature: [Signature]	
Time:		Time:		Time:		Time:	
Printed Name:		Printed Name:		Printed Name:		Printed Name:	
Date:		Date:		Date:		Date:	
Company:		Company:		Company:		Company:	





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

Pinnacle Lab ID number **110062**
October 23, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

On 10/12/01 - Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air 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.

Due to the presence of numerous peaks, Pinnacle Laboratories suspected that the EPA 8021 results may be false positives. On October 23, reanalysis (by GC/MS) of the airbag did not confirm the earlier results indicating that analysis by EPA 8021 yielded false positives. The chromatogram (included) from the GC/MS analysis illustrates the presence of many hydrocarbons that probably resulted in the false positives.

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	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 110062
PROJECT #	: 6169	DATE RECEIVED	: 10/12/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 10/23/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
110062 - 01	JAQ-0110-AIR	AIR	10/11/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 110062

SAMPLE	DATE	DATE	DATE	DIL.		
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0110-AIR	AIR	10/11/01	NA	10/12/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0110-AIR
BENZENE	0.05	MG/M ³	4.9 *
TOLUENE	0.05	MG/M ³	0.59 *
ETHYLBENZENE	0.05	MG/M ³	< 0.05
TOTAL XYLENES	0.05	MG/M ³	< 0.05
METHYL-t-BUTYL ETHER	0.25	MG/M ³	1.3 *

SURROGATE:
BROMOFLUOROBENZENE (%) 106
SURROGATE LIMITS (74 - 120)

CHEMIST NOTES:
= see case narrative



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 110062
BLANK I. D.	: 101201	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 10/12/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS REMEDIATION PROJECT		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
OTHAL XYLENES	MG/M ³	<0.05
DIETHYL-t-BUTYL ETHER	MG/M ³	<0.25
1,3,5-TRIMETHYLBENZENE	MG/M ³	<0.05
1,2,4-TRIMETHYLBENZENE	MG/M ³	<0.05

UNSATURATED:
ROMOFLUOROBENZENE (%) 98
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
/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 # : 101201
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 110062
DATE EXTRACTED : N/A
DATE ANALYZED : 10/12/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	2.14	107	2.05	103	4	(80 - 120)	20
TOLUENE	<0.05	2.00	2.08	104	2.00	100	4	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	2.07	104	2.00	100	3	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	6.21	104	6.01	100	3	(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: 10-11-01 PAGE: 1 OF 1

PLI Accession # 110002

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA Wynn

COMPANY: G.E.M.

ADDRESS: 906 San Juan Blvd S.W. 40
Farmington NM. 87401

PHONE: (505) 566-9116

FAX: (505) 566-9120

BILL TO: SCOTT Pope

COMPANY: El Paso Field Services

ADDRESS: 604 Reilly Ave
Farmington NM.

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject	(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:	NUMBER OF CONTAINERS
		X																				

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
19-0110-ATR	10/11/01	11:30	ATR	01

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO.: G169	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Signature: [Signature]	Time: 1500	Signature: [Signature]	Time: [Time]
PROJ. NAME: EFS Remediation Project	METHANOL PRESERVATION ☐	COMMENTS: FIXED FEE ☐		Printed Name: [Name]	Date: 10/11/01	Printed Name: [Name]	Date: [Date]
P.O. NO.:				Company: [Company]		Company: [Company]	
SHIPPED VIA:				See reverse side (Force Majeure)			
SAMPLE RECEIPT		JAQUEZ GC #C1 Meter # 70985		RECEIVED BY:		RECEIVED BY: (LAB) 2	
NO. OF CONTAINERS		PLEASE FAX RESULTS Friday		Signature: [Signature]	Time: [Time]	Signature: [Signature]	Time: 0925
				Printed Name: [Name]	Date: [Date]	Printed Name: [Name]	Date: 10/12/01
				Company: [Company]		Pinnacle Laboratories Inc.	

Data File : C:\HPCHEM\1\DATA\102201\10220123.D

Acq : 23 Oct 2001 12:52 am

Sample : 110062-01 RR

Misc : 50mL AIR

MS Integration Params: RTEINT.P

Quant Time: Oct 23 6:22 2001

Vial: 7

Operator: DSR

Inst : GC/MS #2

Multiplr: 1.00

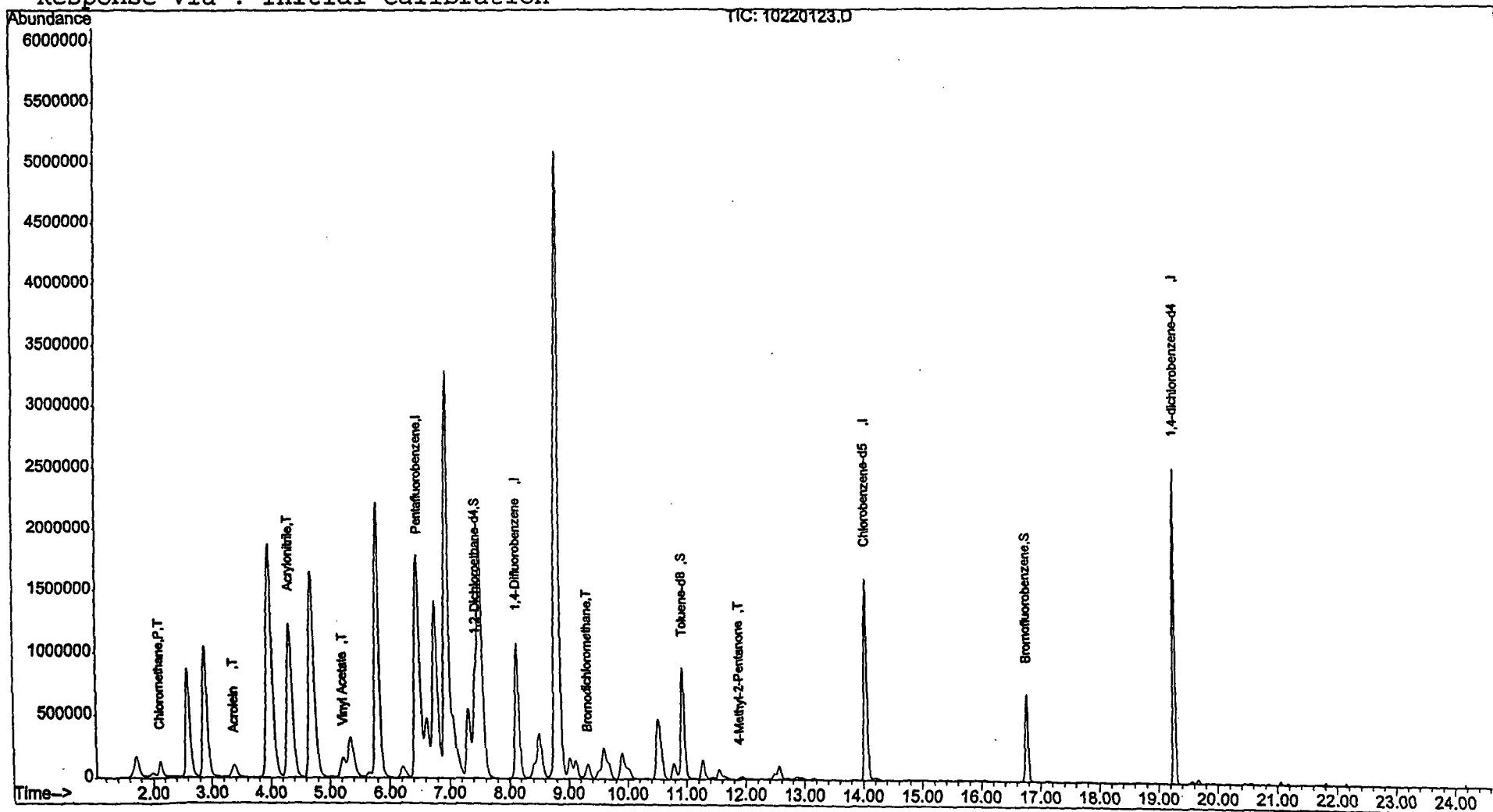
Quant Results File: 8260B.RES

Method : C:\HPCHEM\1\METHODS\8260B.M (RTE Integrator)

Title : PINNACLE GC-MS VOA

Last Update : Sun Oct 21 14:53:03 2001

Response via : Initial Calibration



10220123.D 8260B.M

Tue Oct 23 06:22:54 2001

MS1

Page 2

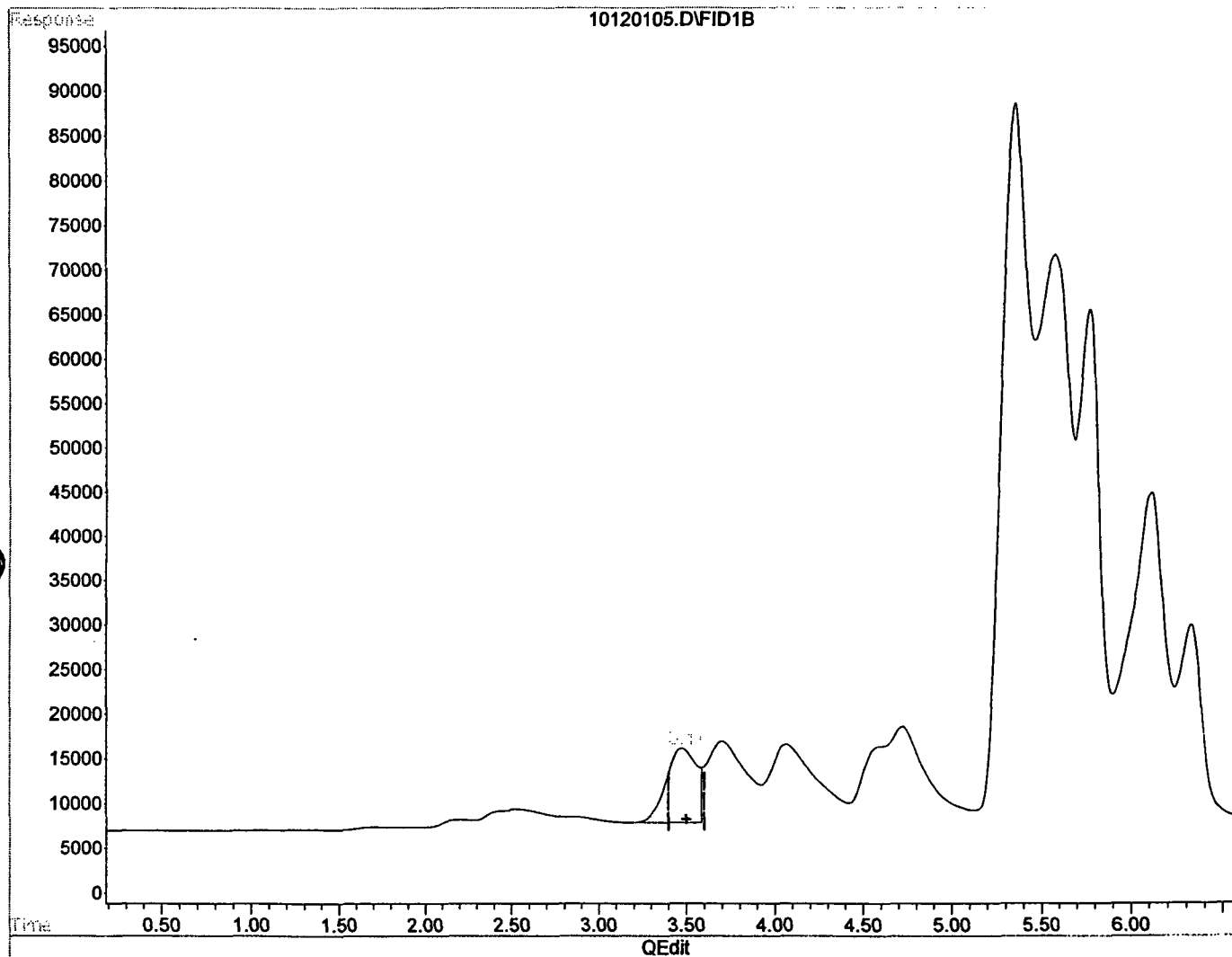
GC/MS

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\101201\10120105.D\FID1B.CH Vial: 5
 Signal #2 : C:\HPCHEM\1\DATA\101201\10120105.D\FID2A.CH
 Acq On : 12 Oct 2001 11:40 Operator: DSR
 Sample : 110062-01 Inst : GC-2
 Misc : 50mL AIR Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2D.E
 Quant Time: Oct 12 12:11 2001 Quant Results File: BTEX1011.RES

GC/PID

Method : C:\HPCHEM\1\METHODS\BTEX1011.M (Chemstation Integrator)
 Title :
 Last Update : Fri Oct 12 10:03:56 2001
 Response via : Multiple Level Calibration



(2) MTBE (T)

3.47min 12.674ug/L m

response 970431





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

Pinnacle Lab ID number **108099**
August 31, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

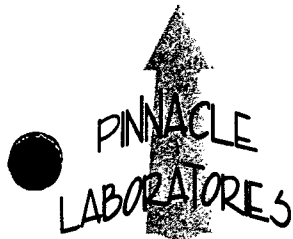
On 08/23/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

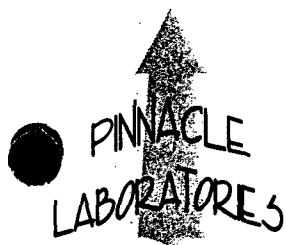
MR: jt

Enclosure



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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 108099
PROJECT #	: 6169	DATE RECEIVED	: 08/23/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 08/31/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
108099 - 01	JAQ 0108-AIR	AIR	08/22/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 108099

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
1	JAQ-0108-AIR	AIR	08/22/01	NA	08/23/01	10
PARAMETER		DET. LIMIT	UNITS	JAQ-0108-AIR		
BENZENE		0.05	MG/M ³	12		
TOLUENE		0.05	MG/M ³	4.2		
ETHYLBENZENE		0.05	MG/M ³	1.0		
TOTAL XYLENES		0.05	MG/M ³	2.6		
METHYL-t-BUTYL ETHER		0.25	MG/M ³	3.6		
SURROGATE:						
BROMOFLUOROBENZENE (%)				95		
SURROGATE LIMITS				(74 - 120)		

CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108099
LAB I. D.	: 082301	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/23/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS REMEDIATION PROJECT		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
MOTAL XYLENES	MG/M ³	<0.05
1,2-DIMETHYL-4-BUTYL ETHER	MG/M ³	<0.25
1,3,5-TRIMETHYLBENZENE	MG/M ³	<0.05
1,2,4-TRIMETHYLBENZENE	MG/M ³	<0.05

LABORATORY GATE:
1,2-DIBROMOFLUOROBENZENE (%) 90
LABORATORY LIMITS: (80 - 120)
LABORATORY 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 # : 082301
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 108099
DATE EXTRACTED : N/A
DATE ANALYZED : 08/23/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.80	90	1.81	91	1	(80 - 120)	20
TOLUENE	<0.05	2.00	2.00	100	2.01	101	0	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	2.05	103	2.06	103	0	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	6.17	103	6.82	114	10	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

UNSHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: C169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: Chris A. M... Time: 1400		Signature: Time:	
PROJ. NAME: EPS Remediation project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date: Chris A. M... 8-22-01		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Company:		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)			
SAMPLE RECEIPT		JAGUEZ S.V.E. meter # (70995)		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
NO. CONTAINERS				Signature: Time:		Signature: Time: Marcine Torrid 0850	
CUSTODY SEALS				Printed Name: Date:		Printed Name: Date: Marcine Torrid 8/23	
RECEIVED INTACT				Company:		Company:	
BLUE ICE						Pinnacle Laboratories Inc.	



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **107123**
August 03, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

On 07/30/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air 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.

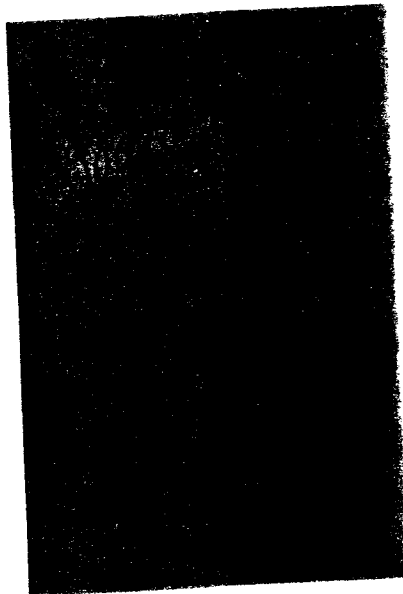
If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.



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	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 107123
PROJECT #	: 6169	DATE RECEIVED	: 07/30/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 08/03/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
107123 - 01	JAQ-0107-AIR	AQUEOUS	07/30/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 107123

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0107-AIR	AIR	07/30/01	NA	07/31/01	10
PARAMETER		DET. LIMIT	UNITS	JAQ-0107-AIR		
BENZENE		0.05	MG/M ³	17		
TOLUENE		0.05	MG/M ³	5.2		
ETHYLBENZENE		0.05	MG/M ³	0.8		
TOTAL XYLENES		0.05	MG/M ³	2.3		

SURROGATE:
BROMOFLUOROBENZENE (%) 109
SURROGATE LIMITS (74 - 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.	: 107123
BLANK I. D.	: 073101	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 07/31/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS REMEDIATION PROJECT		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:
BROMOFLUOROBENZENE (%)

90

SURROGATE LIMITS: (80 - 120)

CLIENT NOTES:

NA



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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 # : 073101
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 107123
DATE EXTRACTED : NA
DATE ANALYZED : 07/31/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.90	95	1.96	98	3	(80 - 120)	20
TOLUENE	<0.05	2.00	1.97	99	2.05	103	4	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	2.03	102	2.12	106	4	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	6.06	101	6.36	106	5	(80 - 120)	20

CLIENT 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 **106101**
June 26, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

Jaquez Air 6/21/01

On 06/22/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air 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

PINNACLE
LABORATORIES

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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 106101
PROJECT #	: 6169	DATE RECEIVED	: 06/22/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 06/26/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
106101 - 01	JAQ-0106-AIR	AIR	06/21/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 106101

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0106-AIR	AIR	06/21/01	NA	06/22/01	50
PARAMETER		DET. LIMIT	UNITS	JAQ-0106-AIR		
BENZENE		0.05	MG/M ³	43		
TOLUENE		0.05	MG/M ³	26		
ETHYLBENZENE		0.05	MG/M ³	2.8		
TOTAL XYLENES		0.05	MG/M ³	28		

SURROGATE:

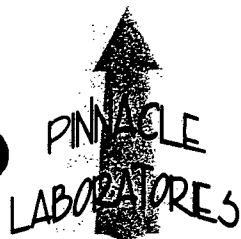
BROMOFLUOROBENZENE (%)

109

SURROGATE LIMITS (74 - 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.	: 106101
BLANK I. D.	: 062201	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/22/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS REMEDIATION PROJECT		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:

BROMOFLUOROBENZENE (%)

95

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	PINNACLE I.D.	: 106101
MSMSD #	: 062201	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/22/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS REMEDIATION PROJECT	UNITS	: MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	2.38	119	2.31	116	3	(80 - 120)	20
TOLUENE	<0.05	2.00	2.31	116	2.20	110	5	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	2.35	118	2.23	112	5	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	7.01	117	6.65	111	5	(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 **106006**
June 05, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM

Project Name EPFS QUARTERLY SAMPLING
Project Number 6169

Traquez Air

Attention: LISA WINN/SCOTT POPE

On 06/01/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air 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.

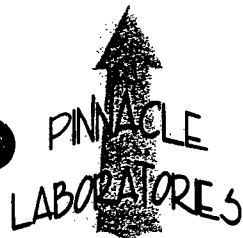
If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.



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	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 106006
PROJECT #	: 6169	DATE RECEIVED	: 06/01/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/05/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
106006 - 01	JAQ-0105-AIR	AIR	05/31/01



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

GAS CHROMATOGRAPHY RESULTS

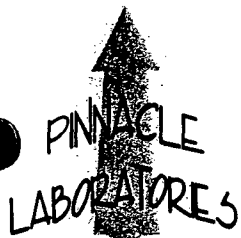
TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 106006

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0105-AIR	AIR	05/31/01	NA	06/01/01	5
PARAMETER		DET. LIMIT	UNITS	JAQ-0105-AIR		
BENZENE		0.05	MG/M ³	57		
TOLUENE		0.05	MG/M ³	35		
ETHYLBENZENE		0.05	MG/M ³	1.9		
TOTAL XYLENES		0.05	MG/M ³	2.9		

SURROGATE:
BROMOFLUOROBENZENE (%) 117
SURROGATE LIMITS (74 - 120)

CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106006
BLANK I. D.	: 060101	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/01/01
PROJECT #	: 6169	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:

BROMOFLUOROBENZENE (%)

99

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 # : 060101
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 106006
DATE EXTRACTED : N/A
DATE ANALYZED : 06/01/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.80	90	1.86	93	3	(80 - 120)	20
TOLUENE	<0.05	2.00	1.86	93	1.92	96	3	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	1.95	98	2.02	101	4	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	5.80	97	6.01	100	4	(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 **104127**
May 01, 2001

PHILIP SERVICE CORPORATION
4000 MONROE ROAD
FARMINGTON, NM 87401

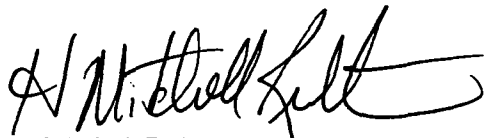
EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS JAQUEZ O & M
Project Number 62800400

Attention: ROBERT THOMPSON/SCOTT POPE

On 04/27/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air 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

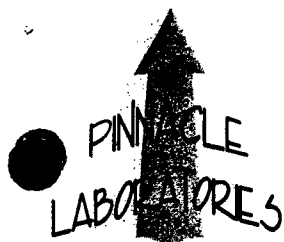
MR: jt

Enclosure



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

CLIENT	: PHILIP SERVICE CORPORATION	PINNACLE ID	: 104127
PROJECT #	: 62800400	DATE RECEIVED	: 04/27/01
PROJECT NAME	: EPFS JAQUEZ O & M	REPORT DATE	: 05/01/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
104127 - 01	JAQ-0401-AIR	AIR	04/26/01



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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 SERVICE CORPORATION
PROJECT # : 62800400
PROJECT NAME : EPFS JAQUEZ O & M

PINNACLE I.D.: 104127

SAMPLE		DATE		DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0401-AIR	AIR	04/26/01	NA	04/27/01	10
PARAMETER		DET. LIMIT	UNITS	JAQ-0401-AIR		
BENZENE		0.05	MG/M ³	1200		
TOLUENE		0.05	MG/M ³	57		
ETHYLBENZENE		0.05	MG/M ³	2.9		
TOTAL XYLENES		0.05	MG/M ³	27		

SURROGATE:

BROMOFLUOROBENZENE (%)

119

SURROGATE LIMITS (74 - 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.	: 104127
BLANK I. D.	: 042701	DATE EXTRACTED	: NA
CLIENT	: PHILIP SERVICE CORPORATION	DATE ANALYZED	: 04/27/01
PROJECT #	: 62800400	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS JAQUEZ O & M		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:

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

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 QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 104127
MSMSD #	: 042701	DATE EXTRACTED	: NA
CLIENT	: PHILIP SERVICE CORPORATION	DATE ANALYZED	: 04/27/01
PROJECT #	: 62800400	SAMPLE MATRIX	: AIR
PROJECT NAME	: EPFS JAQUEZ O & M	UNITS	: MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.88	94	1.87	94	1	(80 - 120)	20
TOLUENE	<0.05	2.00	1.92	96	1.89	95	2	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	2.01	101	2.00	100	0	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	5.94	99	5.90	98	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 2526

104127

Project Name <u>EPFS JAQUEZ O & M</u>		Type of Analysis and Bottle		Total Number of Bottles	Comments
Project Number <u>02800400 Phase Task 350007</u>		BTEX 8021			
Samplers <u>R. Thompson</u>		61		1	JAQUEZ EFFLUENT
Laboratory		LAB 917			
Sample Number (and depth)	Date	Time	Matrix		
JAG-0401-AIR	4/26/01	1400	AIR	X	
RT 4/26/01					

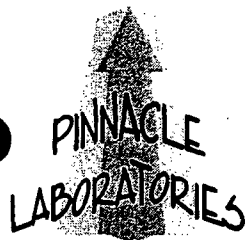
Relinquished by:

Received By:

Signature <u>Robert Thompson</u>	Date <u>4/26/01</u>	Time <u>1545</u>	Signature <u>Shannon Smith</u>	Date <u>4/27/01</u>	Time <u>0935</u>
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Samples Iced: ☐ Yes ☐ No	Carrier: <u>GREYHOUND LINES</u>	Airbill No. <u>GL11606919600</u>
Preservatives (ONLY for Water Samples)		
☐ Cyanide Sodium hydroxide (NaOH)		
☐ Volatile Organic Analysis Hydrochloric acid (HCl)		
☐ Metals Nitric acid (HNO3)		
☐ TPH (418.1) Sulfuric acid (H2SO4)		
☐ Other (Specify) _____		
☐ Other (Specify) _____		
Shipping and Lab Notes: <u>INVOICE SCOTT POPE w/EPFS DIRECTLY.</u> <u>SEND COPY OF LAB REPORT TO SCOTT POPE w/EPFS</u> <u>AND ROBERT THOMPSON w/PSC.</u>		





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

Pinnacle Lab ID number **103043**
March 22, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ SVE
Project Number 62800400

Attention: LISA WINN/SCOTT POPE

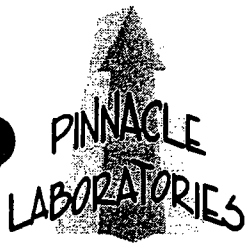
On 03/16/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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	: 103043
PROJECT #	: 62800400	DATE RECEIVED	: 03/16/01
PROJECT NAME	: JAQUEZ SVE	REPORT DATE	: 03/22/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
103043 - 01	JAQ-0301-AIR	AIR	03/15/01



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

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800400
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D. : 103043
DATE RECEIVED: 03/16/01

SAMPLE ID #	CLIENT ID	MATRIX	DATE ANALYZED	DATE SAMPLED	DIL. FACTOR
103043-01	JAQ-0301-AIR	AIR	03/16/01	03/15/01	1
PARAMETER	DET. LIMIT	UNITS			

Benzene	0.10	< 0.10	MG/M ³
Toluene	0.10	< 0.10	MG/M ³
Ethylbenzene	0.10	< 0.10	MG/M ³
m&p Xylenes	0.10	< 0.10	MG/M ³
o-Xylene	0.10	< 0.10	MG/M ³

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	91 (80 - 120)
Toluene-d8	98 (81 - 117)
Bromofluorobenzene	116 (74 - 121)



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Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800400
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D. : 103043

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	031601	NON-AQ	N/A	03/16/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

Benzene (71-43-2)	0.10	< 0.10	MG/M ³
Toluene (108-88-3)	0.10	< 0.10	MG/M ³
Ethylbenzene (100-41-4)	0.10	< 0.10	MG/M ³
m&p Xylenes (108-38-3, 106-42-3)	0.10	< 0.10	MG/M ³
o-Xylene (95-47-6)	0.10	< 0.10	MG/M ³

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	88 (80 - 120)
Toluene-d8	96 (81 - 117)
Bromofluorobenzene	114 (74 - 121)



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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
SPIKED SAMPLE : 031601
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800400
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D. : 103043
DATE ANALYZED : 03/16/01
UNITS : MG/M³

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
BENZENE	<0.10	5.00	4.82	4.89	96	98	1	11	76-127
TOLUENE	<0.10	5.00	4.78	4.82	96	96	1	13	76-125

Chain of Custody Record

**4000 Monroe Road
Farmington, NM 87401**

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

103043

COC Serial No. C 2860

[illegible]

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>Rita M. J.</i>	3-15-01	1600	<i>Shanene J. J.</i>	3/16/01	0950

Samples Iced:

☒ Yes ☐ No☒ Yes ☐ No

Preservatives (ONLY for Water Samples)

☐ Cyanide Sodium hydroxide (NaOH)☐ Volatile Organic Analytals Hydrochloric acid (HCl)☐ Metals Nitric acid (HNO₃)

☐ TPH (418.1) Sulfuric acid (H₂SO₄)

☐ Other (Specify) _____☐ Other (Specify) _____

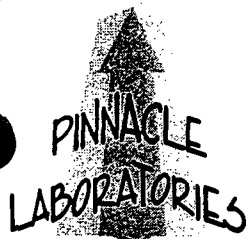
Carrier: Greyhound

Carrier: G-A Express

AltrbIII No GLT 1665088 1880598091779

Send report to Lisa Winn @ Phillip. send a copy of the report and invoice to EPFS.





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

Pinnacle Lab ID number **102075**
February 20, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ SVE
Project Number 62800165

Attention: ROBERT THOMPSON/SCOTT POPE

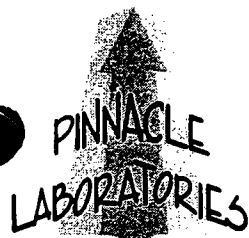
On 02/16/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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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	: 102075
PROJECT #	: 62800165	DATE RECEIVED	: 02/16/01
PROJECT NAME	: JAQUEZ SVE	REPORT DATE	: 02/20/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
102075 - 01	JAQ-0201-AIR	AIR	02/15/01



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 # : 62800165
PROJECT NAME : JAQUEZ SVE

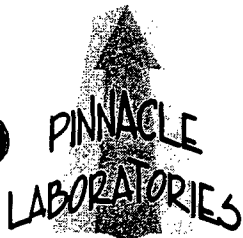
PINNACLE I.D.: 102075

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	JAQ-0201-AIR	AIR	02/15/01	NA	02/18/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0201-AIR
BENZENE	0.05	MG/M ³	0.39
TOLUENE	0.05	MG/M ³	0.20
ETHYLBENZENE	0.05	MG/M ³	0.08
TOTAL XYLENES	0.05	MG/M ³	1.3

SURROGATE:
BROMOFLUOROBENZENE (%) 113
SURROGATE LIMITS (74 - 120)

CHEMIST NOTES:
N/A



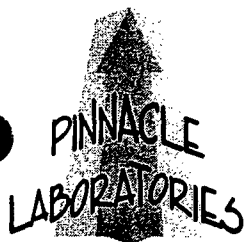
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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 102075
BLANK I. D.	: 021801	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 02/18/01
PROJECT #	: 62800165	SAMPLE MATRIX	: AIR
PROJECT NAME	: JAQUEZ SVE		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:
BROMOFLUOROBENZENE (%) 99
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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Phone (505) 344-3777
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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 021801
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800165
PROJECT NAME : JAQUEZ SVE
PINNACLE I.D. : 102075
DATE EXTRACTED : NA
DATE ANALYZED : 02/18/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.81	91	1.81	91	0	(80 - 120)	20
TOLUENE	<0.05	2.00	1.69	85	1.71	86	1	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	1.85	93	1.87	94	1	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	5.37	90	5.45	91	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



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

Pinnacle Lab ID number **101056**
January 22, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ SVE
Project Number 62800165

Attention: ROBERT THOMPSON/SCOTT POPE

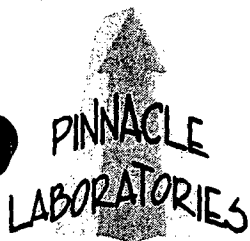
On 01/19/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze air samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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	: 101056
PROJECT #	: 62800165	DATE RECEIVED	: 01/19/01
PROJECT NAME	: JAQUEZ SVE	REPORT DATE	: 01/22/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
101056 - 01	JAQ-0101-AIR	AIR	01/18/01



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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 # : 62800165
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D.: 101056

SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0101-AIR	AIR	01/18/01	NA	01/19/01	1
PARAMETER	DET. LIMIT	UNITS	JAQ-0101-AIR			
BENZENE	0.05	MG/M ³	0.31			
TOLUENE	0.05	MG/M ³	0.16			
ETHYLBENZENE	0.05	MG/M ³	< 0.05			
TOTAL XYLENES	0.05	MG/M ³	1.0			

SURROGATE:
BROMOFLUOROBENZENE (%) 114
SURROGATE LIMITS (74 - 120)

ANALYST NOTES:
A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 101056
BLANK I. D.	: 011901	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 01/19/01
PROJECT #	: 62800165	SAMPLE MATRIX	: AIR
PROJECT NAME	: JAQUEZ SVE		

PARAMETER	UNITS	
BENZENE	MG/M ³	<0.05
TOLUENE	MG/M ³	<0.05
ETHYLBENZENE	MG/M ³	<0.05
TOTAL XYLENES	MG/M ³	<0.05

SURROGATE:
BROMOFLUOROBENZENE (%) 99
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 # : 011901
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800165
PROJECT NAME : JAQUEZ SVE
PINNACLE I.D. : 101056
DATE EXTRACTED : NA
DATE ANALYZED : 01/19/01
SAMPLE MATRIX : AIR
UNITS : MG/M

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.05	2.00	1.96	98	2.13	107	8	(80 - 120)	20
TOLUENE	<0.05	2.00	1.81	91	1.95	98	7	(80 - 120)	20
ETHYLBENZENE	<0.05	2.00	1.97	99	2.09	105	6	(80 - 120)	20
TOTAL XYLENES	<0.05	6.00	5.78	96	6.11	102	6	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

APPENDIX C
2001 SYSTEM DATA FIELD SHEETS



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 01-04-01

Time 12 30

Project Manager - Lisa Winn

Client Company EPFS

Sampler C Macz

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	88
Vent Flow	42

Sparge	
Magnehelic Gauge (psi)	7
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	2

PID Effluent	023
--------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	9.6	1995	49.4
R-1			
R-4			
INFLUENT	12.0	2361	57.9
EFFLUENT	22.7	3963	105.6
SPG. 1	1.2	260	62.9
SPG. 2			
SPG. 3			

WATER LEVEL DATA	
R-1	15.66
R-2	11.68
R-4	12.04

SITE NOTES: Ditch Level

Appears to Be Normal

Level

INCHES OF WATER		VALVE
		High or Low
MP-1	0.01	L
MP-2S	0.02	L
MP-2D	0.06	H
MP-3S	0.37	L
MP-3D	0.37	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	272			
R-2	155			
R-3	141			
R-4	264			
R-5	002			
R-6	004			
VE	003			
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Industrial Services Group

Well Observation Data

al Region

Monroe Road

ington, NM 87401

Serial No. WOD-

Page 1 of 1

Project Name JAQUEZ SUE

Project No. 62800165

Project Manager LISA WINN

Phase/Task No. 55

Client Company El Paso Field Services

Date 01-04-01

Site Name JAQUEZ

Depth Measurement Instrument Type

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (feet)	Depth to Water (feet)	Depth to Sinking Product (feet)	Total Well Depth (feet)	Floating Product Thickness (feet)	Sinking Product Thickness (feet)	Comments
R-1	1420			15.66					
R-2	1415			11.64					
R-3	1409			13.47					
R-4	1433			12.04					
R-5	1356			16.09					
R-6	1345			16.06					
V-W	1404			12.23					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature Chris A. May

Date 01-04-01

Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 01-11-01

Time 0900

Project Manager - Lisa Winn

Client Company EPFS

Sampler C. Macz

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	88
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	7
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	2
PID Effluent	10.2

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	6.1	1222	40.0
R-1			
R-4			
INFLUENT	11.6	2272	46.9
EFFLUENT	18.6	3651	87.6
SPG. 1	1.3	268	33.6
SPG. 2			
SPG. 3			

WATER LEVEL DATA	
R-1	14.38
R-2	11.77
R-4	11.13

SITE NOTES: Ditch Appears to Be at normal Level
No signs of H2SO4
Being in Sparger Area

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.01	L
MP-2D	0.0	H
MP-3S	0.38	L
MP-3D	0.38	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possible if hose is on "High" valve

	PID	Avail	Screen	DO (ppm)	Temp (°f)
R-1	5	239		6.04	15.9
R-2	4	170		0.15	14.3
R-3	3	130		0.78	13.8
R-4	6	295		4.70	14.3
R-5	2	004		1.25	15.5
R-6	1	006		5.74	13.7
VE	010				
M-1					
M-2					
M-3					
M-4					
M-5					
M-6					



Industrial Services Group

Region

Monroe Road

ington, NM 87401

Serial No. WOD-

Well Observation Data

Page 1 of 1

Project Name: TAQ-ez SVE

Project No. 62800165

Project Manager Lisa Winn

Phase.Task No. 55

Client Company FL Para Field Services

Date 01-11-07

Site Name T. Aguer

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature

Chris & Mary

Date 9-11-01

Reviewer

Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - **62800165**

Cost Code - **55**

Project Name - **Jaquez SVE O&M**

Date **JAN 19, 2001**

Time **0830**

Project Manager - **Lisa Winn**

Client Company **EPFS**

Sampler **C. Macz**

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	48
Eff. SCFM	88
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	2
Flow Gauge - Sparge 2	/
Flow Gauge - Sparge 3	/
Flow Gauge - Sparge 1	2

PID Effluent	0007
--------------	------

READINGS FROM THERMO ANEMOMETER			
	MPHS	FRM	TEMP (F)
VW	2.9	573	26.7
R-1	/	/	/
R-4	/	/	/
INFLUENT	10.1	2154	30.7
EFFLUENT	18.3	3407	73.3
SPG. 1	1.4	276	19.5
SPG 2	/	/	/
SPG 3	/	/	/

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Ditch Areas
Normal NF enough water
in V.E. well for DO
Readings after 1/2 g

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.0	L
MP-2D	0.05	L
MP-3S	0.31	L
MP-3D	0.31	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1 11	283		6.61	16.2
R-2 10	200		0.12	14.3
R-3 9	161		0.81	13.5
R-4 12	267		6.88	14.1
R-5 8	0002		1.44	15.3
R-6 7	0003		6.58	13.5
VE	0007			
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Region

Monroe Road

igron, NM 87401

Serial No. WOD-

Page 1 of 1

Project Name TAGUOZ SUE.

Project No. 62800/65

Project Manager LISA Winn

Phase.Task No. 55

Client Company El Paso Field Services

Date 01-18-01

Site Name TAQUOZ

Depth Measurement Instrument Type

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature _____ Date _____ Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 01-26-01

Time 0800

Project Manager - Lisa Winn

Client Company EPFS

Sampler C. Macz

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	48
Eff. SCFM	88
Vent Flow	40

Sparge	
Magnehelic Gauge (psi)	17
Flow Gauge - Sparge 2	/
Flow Gauge - Sparge 3	/
Flow Gauge - Sparge 1	2

PID Effluent	0.12
--------------	------

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	5.2	1039	35.5
R-1	/	/	/
R-4	/	/	/
INFLUENT	11.2	2333	41.7
EFFLUENT	20.3	3981	87.8
SPG. 1	1.2	357	30.1
SPG 2	/	/	/
SPG 3	/	/	/

WATER LEVEL DATA	
R-1	13.01
R-2	11.80
R-4	11.17

SITE NOTES: Level in ditch

Appears normal

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.04	L
MP-2D	0.0	H
MP-3S	0.40	L
MP-3D		

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	5 324		6.44	16.5
R-2	4 239		0.12	14.1
R-3	3 179		0.68	13.1
R-4	6 258		9.50	13.8
R-5	2 003		1.24	15.1
R-6	1 003		5.71	13.2
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Well Observation Data

Region

Monroe Road

igron, NM 87401

Serial No. WOD-

Project Name TAC w/2 SVE

Project Manager LISA Winn

Client Company El Paso Field Services

Site Name TAC-02

Page 1 of 1

Project No. 62800/65

Phase.Task No. 55

Date 01-26-01

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature Chris A. M.

Date 01-26-01

Reviewer

Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 02-01-01

Time 08 30

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris Macz

Vent System	
Mag. Influent (H2O")	<u>20</u>
Mag. Effluent (H2O")	<u>20</u>
Inf. SCFM	<u>46</u>
Eff. SCFM	<u>89</u>
Vent Flow	<u>38</u>

Sparge	
Magnehelic Gauge (psi)	<u>9</u>
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	<u>2</u>

PID Effluent	<u>025</u>
--------------	------------

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	<u>3.6</u>	<u>728</u>	<u>31.2</u>
R-1			
R-4			
INFLUENT	<u>7.7</u>	<u>1485</u>	<u>36.9</u>
EFFLUENT	<u>13.2</u>	<u>2592</u>	<u>79.6</u>
SPG. 1	<u>1.6</u>	<u>325</u>	<u>35.2</u>
SPG 2			
SPG 3			

WATER LEVEL DATA	
R-1	<u>13.27</u>
R-2	<u>12.60</u>
R-4	<u>13.30</u>

SITE NOTES: Stopped Sparging
at 1000 R-1 R-2 & R-4
water levels after sparge
system shut down

INCHES OF WATER		VALVE
		High or Low
MP-1	<u>0.0</u>	<u>L</u>
MP-2S	<u>0.02</u>	<u>L</u>
MP-2D	<u>0.0</u>	<u>H</u>
MP-3S	<u>0.39</u>	<u>L</u>
MP-3D	<u>0.18</u>	<u>L</u>

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail Screen	DO (ppm)	Temp (F)
R-1	<u>5</u>		<u>0.95</u>	<u>16.9</u>
R-2	<u>4</u>		<u>0.06</u>	<u>14.1</u>
R-3	<u>3</u>		<u>0.82</u>	<u>12.9</u>
R-4	<u>6</u>		<u>1.08</u>	<u>13.9</u>
R-5	<u>2</u>		<u>1.93</u>	<u>15.0</u>
R-6	<u>1</u>		<u>5.84</u>	<u>13.0</u>
VE	<u>025</u>			
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Industrial Services Group
Central Region -

Well Observation Data

Monroe Road

igton, NM 87401

Serial No. WQD-

Page 7 of 7

Project Name JAGUEZ SVE

Project No. 62800/65

Project Manager LISA Winn

Phase.Task No.' 55

Client Company El Paso Field Services

Date February 01-01

Site Name Jaquez

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments Alh water Levels Taken when Sparge system
on.

Signature Chris A. Man

Date 02-01-01

Reviewer	Date
----------	------



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 02-07-01

Time 0800

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris A. Magz

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	86
Vent Flow	40

Sparge	
Magnehelic Gauge (psi)	6.5
Flow Gauge - Sparge 2	/
Flow Gauge - Sparge 3	/
Flow Gauge - Sparge 1	2

PID Effluent	011
--------------	-----

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	10.7	2140	50.5
R-1	/	/	/
R-4	/	/	/
INFLUENT	9.5	2035	53.9
EFFLUENT	14.8	2452	43.3
SPG. 1	1.3	260	55.2
SPG 2	/	/	/
SPG 3	/	/	/

WATER LEVEL DATA	
R-1	12.89
R-2	12.62
R-4	12.22

SITE NOTES: _____

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.02	L
MP-2D	0.0	H
MP-3S	0.41	L
MP-3D	0.42	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Aval Screen	DO (ppm)	Temp (F)
R-1 S	235		8.07	16.8
R-2 4	207		0.14	14.2
R-3 3	186		0.71	12.7
R-4 C	192		8.88	13.7
R-5 2	005		2.23	14.9
R-6 1	004		6.63	12.8
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Industrial Services Group
Local Region

Well Observation Data

Monroe Road
igton, NM 87401

Serial No. WOD-

Page 1 of 1

Project Name TAQ W02 SVE

Project No. 62800165

Project Manager LISA Winn

Phase.Task No. 55

Client Company El Paso Field Services

Date 02-07-01

Site Name TAG 102

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments _____

Signature Ch. A. Ma Date 02-07-01 Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 02-14-01

Time 1500

Project Manager - Lisa Winn

Client Company EPFS

Sampler C Macz

Vent System	
Mag. Influent (H2O")	
Mag. Effluent (H2O")	
Inf. SCFM	
Eff. SCFM	
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	

PID Effluent	
--------------	--

READINGS FROM THERMOANEMOMETER			
	MPS	CFM	TEMP (F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 2			
SPG. 3			

WATER LEVEL DATA	
R-1	12.92
R-2	12.49
R-4	12.66

SITE NOTES: _____

INCHES OF WATER	VALVE
	High or Low
MP-1	
MP-2S	
MP-2D	
MP-3S	
MP-3D	

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1				
R-2				
R-3				
R-4				
R-5				
R-6				
VE				
M-1				
M-2				
M-3	1		2.62	5.1
M-4	2		3.69	8.2
M-5	3		5.31	7.0
M-6	4		1.68	8.7



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 02-15-01

Time 0830

Project Manager - Lisa Winn

Client Company EPFS

Sampler C. Maez

Vent System	
Mag. Influent (H2O")	
Mag. Effluent (H2O")	
Inf. SCFM	
Eff. SCFM	
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	

PID Effluent	
--------------	--

READINGS FROM THERMOANEMOMETER			
	MPH	FPM	TEMP (F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 2			
SPG. 3			

WATER LEVEL DATA	
R-1	14.88
R-2	13.63
R-4	14.05

SITE NOTES: System off
for quarterly water
sampling collected AIR
sample

INCHES OF WATER		VALVE
		High/Low
MP-1		
MP-2S		
MP-2D		
MP-3S		
MP-3D		

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1 9			0.11	16.8
R-2 8			0.15	13.9
R-3 7			0.78	12.4
R-4 10			0.70	13.7
R-5 6			2.14	14.6
R-6 5			6.33	12.6
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800165

Cost Code - 55

Project Name - Jaquez SVE O&M

Date 2 24 01

Time 0730

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris A. Maez

Vent System	
Mag. Influent (H2O")	<u>20</u>
Mag. Effluent (H2O")	<u>20</u>
Inf. SCFM	<u>46</u>
Eff. SCFM	<u>86</u>
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	<u>6.5</u>
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	<u>2</u>

PID Effluent	<u>006</u>
--------------	------------

READINGS FROM THERMOANEMOMETER			
	MPG	FPM	TEMP (F)
VW	<u>4.3</u>	<u>244</u>	<u>40</u>
R-1			
R-4			
INFLUENT	<u>9.2</u>	<u>1842</u>	<u>38.1</u>
EFFLUENT	<u>12.2</u>	<u>2380</u>	<u>78.4</u>
SPG. 1	<u>1.1</u>	<u>230</u>	<u>29.1</u>
SPG 2			
SPG 3			

WATER LEVEL DATA	
R-1	<u>12.94</u>
R-2	<u>12.25</u>
R-4	<u>11.74</u>

SITE NOTES: _____

INCHES OF WATER		VALVE
		High or Low
MP-1	<u>0.0</u>	<u>L</u>
MP-2S	<u>0.08</u>	<u>L</u>
MP-2D	<u>0.0</u>	<u>H</u>
MP-3S	<u>0.56</u>	<u>H</u>
MP-3D	<u>0.56</u>	<u>H</u>

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	<u>806</u>			
R-2	<u>543</u>			
R-3	<u>350</u>			
R-4	<u>604</u>			
R-5	<u>003</u>			
R-6	<u>003</u>			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - ~~62800165~~ 400

Cost Code - ~~52~~ 360007

Project Name - Jaquez SVE O&M

Date 3-2-01

Time 0800

Project Manager - Lisa Winn

Client Company EPFS

Sampler C. Mazz

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	86
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	7
Flow Gauge - Sparge 2	/
Flow Gauge - Sparge 3	/
Flow Gauge - Sparge 1	6

PID Effluent	20
--------------	----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.24	L
MP-2D	0.0	L
MP-3S	.59	L
MP-3D	60	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO-ANEMOMETER			
	IMPS	FFPM	TEMP (F)
VW	7.6	1514	44.5
R-1	/	/	/
R-4	/	/	/
INFLUENT	12.2	2448	43.5
EFFLUENT	19.2	3784	82.5
SPG. 1	2.1	418	48.9
SPG. 2	/	/	/
SPG. 3	/	/	/

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Ditch NOT Running

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1 S	553		7.45	16.5
R-2 4	484		0.17	13.8
R-3 3	467		0.46	11.8
R-4 6	491		10.22	13.0
R-5 2	002		1.55	14.4
R-6 1	001		7.46	12.2
VE				
M-1	Bailing Aug Rmk4			
M-2				
M-3				
M-4				
M-5				
M-6				



Industrial Services Group
at Region

Well Observation Data

Monroe Road
igron, NM 87401

Serial No. WOD-

Page 7 of 7

Project Name TAGWZ SVE

Project No. 62800400

Project Manager LISA Winn

Phase.Task No. 35000.7

Client Company EL Poso Field Services

Date 3-2-01

Site Name JAGUEZ

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature Chris P. M.

Date 3-2-01

Reviewer	Date
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Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 3-8-01

Time 0830

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris A Maez

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	46
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	7.5
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	5

RID Effluent	40
--------------	----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	5.7	1130	44.7
R-1			
R-4			
INFLUENT	11.6	2270	51.9
EFFLUENT	18.7	3691	92.2
SPG. 1	2.0	404	47.2
SPG 2			
SPG 3			

WATER LEVEL DATA	
R-1	11.52
R-2	11.37
R-4	11.13

SITE NOTES: Ditch Running
AT Normal Level

INCHES OF WATER		VALVE
		High/Low
MP-1	0.02	L
MP-2S	0.18	L
MP-2D	0.0	L
MP-3S	0.75	L
MP-3D		

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (°F)
R-1	617			
R-2	522			
R-3	455			
R-4	384			
R-5	003			
R-6	003			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Well Observation Data

Serial No. WOD-

Page 1 of 1

Project No. 62800400

Phase.Task No. 350067

Date 3-8, 2001

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Date 3-8, 2001

Reviewer _____ Date _____



Industrial Services Group
of Region

Well Observation Data

Monroe Road

Albuquerque, NM 87401

Serial No. WOD-

Page 1 of 1

Project Name Jaquez SVE

Project No. 62800400

Project Manager Lisa Winn

Phase/Task No. 350007

Client Company El Paso Field Services

Date 3-13-01

Site Name Jaquez

Depth Measurement Instrument Type

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (feet)	Depth to Water (feet)	Depth to Sinking Product (feet)	Total Well Depth (feet)	Floating Product Thickness (feet)	Sinking Product Thickness (feet)	Comments
M 1	1520			4.24					
M 2	1524			3.96					
M 3	1527			4.44					
M 4	1534			2.89					
M 5	1530			4.07					
M 6	1534			7.74					
Temp well 1	1517			3.80					
Temp well 2	1656			2.79					
R 1	1610			12.56					
R 2	1601			12.86					
R 3	1653			13.54					
R 4	1620			12.14					
R 5	1549			16.15					
R 6	1544			16.11					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments Temp well #2 key did not F.T. LOCK COULD NOT GET WATER LEVEL

Signature Olivia May

Date 3-13-01

Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 3-15-01

Time 0900

Project Manager - Lisa Winn

Client Company EPFS

Sampler C. Mac2

Vent System	
Mag. Influent (H2O")	20
Mag. Effluent (H2O")	20
Inf. SCFM	46
Eff. SCFM	86
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	7
Flow Gauge - Sparge 2	/
Flow Gauge - Sparge 3	/
Flow Gauge - Sparge 1	6

PID Effluent	46
--------------	----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.01	L
MP-2S	0.16	L
MP-2D	0.0	H
MP-3S	0.65	L
MP-3D	0.65	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

READINGS FROM THERMOANEMOMETER			
	MPH	FPM	TEMP (F)
VW	9.6	1902	51.7
R-1	/	/	/
R-4	/	/	/
INFLUENT	9.3	1856	60.9
EFFLUENT	20.5	4041	105.9
SPG. 1	2.2	449	67.6
SPG. 2	/	/	/
SPG. 3	/	/	/

WATER LEVEL DATA	
R-1	12.13
R-2	11.70
R-4	11.60

SITE NOTES: _____

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1 S	508		6.66	16.4
R-2 4	391		0.10	13.9
R-3 3	269		0.51	11.6
R-4 6	406		6.83	13.2
R-5 2	007		1.37	14.2
R-6 1	000		6.48	11.8
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Industrial Services Group
al Region

Well Observation Data

Monroe Road

Monroe Road
Albuquerque, NM 87401

Serial No. WOD-

Page ____ of ____

Project Name JAG #2 SVE

Project No. 62800400

Project Manager LISA Winn

Phase.Task No. 350007.

Client Company El Paso Field Services

Date 3-15-01

Site Name JAGLC3

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments _____

Signature Chris A May Date 3-15-01 Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 3-20-01

Time 0900

Project Manager - Lisa Winn

Client Company EPFS

Sampler C Macz

Vent System	
Mag. Influent (H2O")	<u>20</u>
Mag. Effluent (H2O")	<u>20</u>
Inf. SCFM	<u>46</u>
Eff. SCFM	<u>86</u>
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	<u>7</u>
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	<u>5</u>

PID Effluent	<u>60</u>
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INCHES OF WATER		VALVE
		High or Low
MP-1	<u>0.03</u>	<u>L</u>
MP-2S	<u>0.17</u>	<u>L</u>
MP-2D	<u>0.0</u>	<u>H</u>
MP-3S	<u>0.70</u>	<u>L</u>
MP-3D	<u>0.70</u>	<u>L</u>

Note: Record pressure as negative if hose is on "Low" valve

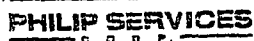
Record pressure as possitive if hose is on "High" valve

READINGS FROM THERMOANEMOMETER			
	MPS	RFM	TEMP (F)
VW	<u>15.4</u>	<u>3036</u>	<u>64.2</u>
R-1			
R-4			
INFLUENT	<u>10.7</u>	<u>2126</u>	<u>76.6</u>
EFFLUENT	<u>20.6</u>	<u>4070</u>	<u>121.2</u>
SPG. 1	<u>2.2</u>	<u>446</u>	<u>82.9</u>
SPG 2			
SPG 3			

	PID	Avail Screen	DO (ppm)	Temp (F)
R-1	<u>405</u>			
R-2	<u>270</u>			
R-3	<u>203</u>			
R-4	<u>310</u>			
R-5	<u>002</u>			
R-6	<u>001</u>			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WATER LEVEL DATA	
R-1	<u>12.29</u>
R-2	<u>11.81</u>
R-4	<u>11.67</u>

SITE NOTES: shut system
off 1200 NO D.O.
Readings Ditch running
Normal Level



Industrial Services Group
Central Region

Well Observation Data

Monroe Road
Albion, NM 87401

Serial No. WOD-

Project Name Agnez S.V.E

Project Manager LISA Winn

Client Company El Paso Field Services

Site Name JAGUER

Page 1 of 1

Project No. 62800400

Phase.Task No. 350 00.7

Date 3 21 01

Depth Measurement Instrument Type

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature Chris A. May

Date 3-21-01

Reviewer _____ Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 3-30-01

Time 0855

Project Manager - Lisa Winn

Client Company EPFS

Sampler C MAEZ

Vent System	
Mag. Influent (H2O")	25
Mag. Effluent (H2O")	25
Inf. SCFM	48
Eff. SCFM	64
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	6.5
Flow Gauge - Sparge 2	2
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 1	3

PID Effluent	338
--------------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	L
MP-2S	0.0	L
MP-2D	0.1	H
MP-3S	0.0	H
MP-3D	0.0	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPH	FPM	TEMP (F)
VW 2	2.2	446	65.8
R-1			
R-4			
INFLUENT	9.3	1847	66.5
EFFLUENT	12.2	2416	115.1
SPG. 1	1.5	309	71.9
SPG 5	1.3	268	75.5
SPC 4	1.1	227	75.7

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1 5	619		1.43	16
R-2 4	261		0.13	14.1
R-3 3	386		0.33	11.3
R-4 6	389		8.50	13.1
R-5 2	002		1.00	14.1
R-6 1	002		6.01	11.8
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WATER LEVEL DATA	
R-1	13.53
R-2	12.57
R-4	13.12

SITE NOTES: Noticed upon arrival product odor on location
Bailing all wells on North side dry except R-3



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 4-5-01

Time 0830

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris A Macz

Vent System	
Mag. Influent (H2O")	<u>25</u>
Mag. Effluent (H2O")	<u>25</u>
Inf. SCFM	<u>48</u>
Eff. SCFM	<u>64</u>
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	<u>6</u>
Flow Gauge - Sparge	<u>5.3</u>
Flow Gauge - Sparge	<u>4.2</u>
Flow Gauge - Sparge 1	<u>3</u>

PID Effluent	<u>325</u>
--------------	------------

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	<u>2.2</u>	<u>455</u>	<u>59.4</u>
R-1			
R-4			
INFLUENT	<u>8.9</u>	<u>1776</u>	<u>65.6</u>
EFFLUENT	<u>10.6</u>	<u>2094</u>	<u>114.6</u>
SPG. 1	<u>1.6</u>	<u>321</u>	<u>65.1</u>
SPG. 4	<u>1.0</u>	<u>218</u>	<u>58.2</u>
SPG. 5	<u>1.3</u>	<u>260</u>	<u>59.5</u>

WATER LEVEL DATA	
R-1	<u>12.94</u>
R-2	<u>12.54</u>
R-4	<u>12.28</u>

SITE NOTES: Ditch NOT Running
Bailed all wells Dry except
R-3. water in R3 more
Turbid orange in color.

INCHES OF WATER		VALVE
		High or Low
MP-1	<u>0.0</u>	<u>L</u>
MP-2S	<u>0.0</u>	<u>H</u>
MP-2D	<u>0.0</u>	<u>H</u>
MP-3S	<u>0.0</u>	<u>L</u>
MP-3D	<u>0.0</u>	<u>H</u>

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail Screen	DO (ppm)	Temp (F)
R-1 5	<u>512</u>		<u>7.65</u>	<u>16</u>
R-2 4	<u>408</u>		<u>0.00</u>	<u>14.4</u>
R-3 3	<u>165</u>		<u>0.35</u>	<u>11.3</u>
R-4 6	<u>326</u>		<u>9.34</u>	<u>12.8</u>
R-5 2	<u>001</u>		<u>2.09</u>	<u>14</u>
R-6 1	<u>002</u>		<u>5.25</u>	<u>11.8</u>
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

In Services Group

Monroe Road

igron, NM 87401

Serial No. WQD-

Project Name JAGUEZ SVE

Project Manager: LISA Winn

Client Company El Paso Field Services

Site Name JAGNEZ

Page 1 of 1

Project No. 62800400

Phase.Task No. 350007

Date 4-5-0

Depth Measurement Instrument Type

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments

Signature

Chris A May

Date _____

4-5-01

Reviewer

Date _____



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 4-12-01

Time 0800

Project Manager - Lisa Winn

Client Company EPFS

Sampler Chris A Macz

Vent System	
Mag. Influent (H2O")	<u>25</u>
Mag. Effluent (H2O")	<u>25</u>
Inf. SCFM	<u>56</u>
Eff. SCFM	<u>72</u>
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	<u>7.5</u>
Flow Gauge - Sparge 2	<u>3</u>
Flow Gauge - Sparge 3	<u>3</u>
Flow Gauge - Sparge 1	<u>3</u>

PID Effluent	<u>326</u>
--------------	------------

INCHES OF WATER		VALVE
		High or Low
MP-1	<u>0.0</u>	<u>H</u>
MP-2S	<u>0.0</u>	<u>L</u>
MP-2D	<u>0.0</u>	<u>H</u>
MP-3S	<u>0.0</u>	<u>H</u>
MP-3D	<u>0.0</u>	<u>H</u>

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO-ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	<u>2.0</u>	<u>412</u>	<u>55.7</u>
R-1	<u>1.0</u>	<u>179</u>	<u>58.9</u>
R-4	<u>1.8</u>	<u>309</u>	<u>59.3</u>
INFLUENT	<u>9.4</u>	<u>1841</u>	<u>56.1</u>
EFFLUENT	<u>12.9</u>	<u>3508</u>	<u>108.3</u>
SPG. 1	<u>1.6</u>	<u>329</u>	<u>57.3</u>
1 SPG 2	<u>0.8</u>	<u>179</u>	<u>58.9</u>
5 SPG 3	<u>1.8</u>	<u>309</u>	<u>59.3</u>

WATER LEVEL DATA	
R-1	<u>12.38</u>
R-2	<u>11.90</u>
R-4	<u>11.54</u>

SITE NOTES: DITCH NOT
Running

	PID	Avail. Screen	DO (ppm)	Temp (°F)
R-1	<u>621</u>		<u>7.90</u>	<u>16.1</u>
R-2	<u>552</u>		<u>4.81</u>	<u>15.4</u>
R-3	<u>355</u>		<u>0.21</u>	<u>11.3</u>
R-4	<u>266</u>		<u>9.57</u>	<u>12.7</u>
R-5	<u>002</u>		<u>0.29</u>	<u>13.8</u>
R-6	<u>001</u>		<u>5.64</u>	<u>11.7</u>
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 4/19/01

Time 1100

Project Manager - Robert Thompson

Client Company EPFS

Sampler R. THOMPSON

Vent System	
Mag. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	7.5
Flow Gauge - Sparge 1	5
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 5	4

Pressure	1583
----------	------

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	1.9	388	77.1
R-1			
R-4			
INFLUENT	16.4	3190	81.8
EFFLUENT	18.5	3710	137.6
SPG. 1	1.8	366	83.1
SPG. 4	1.4	290	85.2
SPG. 5	2.4	486	86.5

WATER LEVEL DATA	
R-1	12.43
R-2	11.79
R-4	13.35

SITE NOTES: DITCH IS FLOWING AGAIN.

INCHES OF WATER		VALVE
		High or Low
MP-1	0.01	H
MP-2S	0.02	H
MP-2D	0.03	H
MP-3S	0.02	H
MP-3D	0.02	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PD	Avail Screen	DO (ppm)	Temp (F)
R-1	1860 PPM		6.73	16.5
R-2	2108 PPM		0.00	15.3
R-3	652 PPM		0.00	11.6
R-4	1195 PPM		8.42	13.0
R-5	17.8 PPM		0.00	14.0
R-6	1.2 PPM		5.45	12.0
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 4/26/01

Time 1045

Project Manager - Robert Thompson

Client Company EPFS

Sampler ROBERT THOMPSON

Vent System	
Mag. Influent (H2O")	28
Mag. Effluent (H2O")	28
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	4
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	4

PID Effluent	773
--------------	-----

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.4	486	89.0
R-1			
R-4			
INFLUENT	15.7	2987	95.3
EFFLUENT	19.1	3725	150.4
SPG. 1	1.4	283	98.7
SPG. 4	1.7	345	106.8
SPG. 5	2.5	486	109.7

WATER LEVEL DATA	
R-1	11.42'
R-2	10.83'
R-4	11.50'

SITE NOTES: _____

INCHES OF WATER		VALVE
		Higher/Low
MP-1	.01	H
MP-2S	.01	H
MP-2D	.02	H
MP-3S	.01	H
MP-3D	.02	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possilive if hose is on "High" valve

	PID	Avail. Screenshot	DO (ppm)	Temp (F)
R-1	735		4.18	16.4°C
R-2	727		0.00	16.0°C
R-3	309		0.00	11.6°C
R-4	572		8.16	13.0°C
R-5	7		0.00	13.9°C
R-6	38		5.55	11.4°C
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 5/4/01

Time 10:30

Project Manager - Robert Thompson

Client Company EPFS

Sampler ROBERT THOMPSON

Vent System	
Mag. Influent (H2O")	30
Mag. Effluent (H2O")	30
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	4
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	4

PID Influent	312
--------------	-----

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.2	448	72.4
R-1			
R-4			
INFLUENT	18.1	3659	74.8
EFFLUENT	19.5	3800	126.1
SPG. 1	1.3	285	76.9
SPG. 4	1.7	333	81.8
SPG. 5	1.8	366	85.4

WATER LEVEL DATA	
R-1	10.74'
R-2	10.21'
R-4	10.43'

SITE NOTES: _____

INCHES OF WATER		VALVE
		High or Low
MP-1	0	H
MP-2S	0.2	H
MP-2D	0.4	H
MP-3S	0.2	H
MP-3D	0.7	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	320 PPM		8.44	16.2°C
R-2	341 PPM		4.68	18.9°C
R-3	10 PPM		0.00	11.7°C
R-4	194 PPM		10.12	12.7°C
R-5	2 PPM		0.00	13.6°C
R-6	4 PPM		5.92	10.7°C
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Project No.: 62800400

Cost Code: 350007

Date: 5/4/01

[illegible]

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments:

Signature: Pest Chamssan

Date: 5/4/01



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 5/11/01

Time 1430

Project Manager - Robert Thompson

Client Company EPFS

Sampler ROBERT THOMPSON

Vent System	
Mag. Influent (H2O")	28
Mag. Effluent (H2O")	28
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	4
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	4

Flow Effluent	349
---------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.0	402	95.3
R-1			
R-4			
INFLUENT	16.6	3290	91.9
EFFLUENT	20.2	3890	150.4
SPG. 1	2.3	448	107.9
SPG. 4	1.3	268	109.0
SPG. 5	2.2	411	109.7

WATER LEVEL DATA	
R-1	10.55'
R-2	10.00'
R-4	11.13'

SITE NOTES: _____

INCHES OF WATER		VALVE
		High or Low
MP-1	0	H
MP-2S	.2	H
MP-2D	.5	H
MP-3S	.2	H
MP-3D	.2	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PD	Avail. Screen	DO (ppm)	Temp (°F)
R-1	232 PPM		5.12	16.2°C
R-2	364 PPM		5.20	20.0°C
R-3	300 PPM		0.00	12.3°C
R-4	155 PPM		7.83	12.8°C
R-5	5 PPM		0.00	13.7°C
R-6	6 PPM		7.51	10.8°C
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 5/18/01

Time 1230

Project Manager - Robert Thompson

Client Company EPFS

Sampler ROBERT THOMPSON

Vent System	
Mag. Influent (H2O")	28
Mag. Effluent (H2O")	28
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	4
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	4

PID Effluent	328
--------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.1	419	97.3
R-1			
R-4			
INFLUENT	15.2	3084	100.3
EFFLUENT	19.7	3855	150.0
SPG. 1	1.7	358	107.9
SPG. 4	1.4	278	109.2
SPG. 5	1.9	387	111.9

WATER LEVEL DATA	
R-1	10.10'
R-2	9.77'
R-4	9.97'

SITE NOTES: _____

INCHES OF WATER		VALVE
		Higher/Low
MP-1	0	H
MP-2S	0	H
MP-2D	.2	H
MP-3S	.2	H
MP-3D	.3	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (C)
R-1	339 PPM		4.88	16.7°C
R-2	345 PPM		5.57	20.6°C
R-3	293 PPM		0.40	12.7°C
R-4	161 PPM		8.44	13.0°C
R-5	4 PPM		0.00	13.9°C
R-6	4 PPM		0.00	11.1°C
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



Jaquez Remediation System Data Sheet and Field Notes

2001

Project Number - 62800400

Cost Code - 350007

Project Name - Jaquez SVE O&M

Date 5/24/01

Time 1230

Project Manager - Robert Thomp

Client Company EPFS

Sampler ROBERT THOMPSON

Jaquez O&M

DATA

Vent System	
Mag. Influent (H2O")	28
Mag. Effluent (H2O")	28
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	4
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	4

PID Effluent	328
--------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.4	492	94.8
R-1			
R-4			
INFLUENT	14.8	2989	100.0
EFFLUENT	19.1	3726	151.5
SPG. 1	1.6	328	101.2
SPG. 4	1.2	258	104.7
SPG. 5	2.5	485	108.4

WATER LEVEL DATA	
R-1	10.36'
R-2	9.78'
R-4	10.45'

SITE NOTES: _____

INCHES OF WATER		VA
		High
MP-1	0.00	1
MP-2S	0.00	1
MP-2D	0.01	H
MP-3S	0.02	H
MP-3D	0.00	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail Screen	DO (ppm)	Temp (°f)
R-1	331 PPM		7.67	16.5°C
R-2	369 PPM		8.30	20.8°C
R-3	348 PPM		4.74	12.8°C
R-4	190 PPM		10.75	12.9°C
R-5	2 PPM		0.38	13.5°C
R-6	4 PPM		8.71	11.3°C
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169
 Project Name - Jaquez SVE O&M
 Date/Time - 5/31/01
 Breathing Zone (ppm) - 0.0

Project Manager - Lisa Winn
 Technician - Chris Maez

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	56
Eff. SCFM	68
Vent Flow	12

Sparger	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	3
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 5	4

P.D. Effluent	39
---------------	----

READINGS FROM THERMO ANEMOMETER			
	IMPS	IRPM	TEMP (F)
VW	2.5	502	90.3
R-1			
R-4			
INFLUENT	12.3	2451	82.9
EFFLUENT	19.3	3829	130
SPG. 1	1.3	275	93.9
SPG. 4	1.0	242	105
SPG. 5	1.7	345	108.6

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: noticed oil in Discharge Bucket

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.1	H
MP-2D	0.3	H
MP-3S	0.0	H
MP-3D	0.3	H

Note: Record pressure as negative if hose is on "Low" valve
 Record pressure as positive if hose is on "High" valve

	P.D.	Avail. Screen	DO (ppm)	Temp (°f)
R-1				
R-2				
R-3				
R-4				
R-5				
R-6				
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 6-1-01



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 6-7-01 0900

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.0

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	8.5
Flow Gauge - Sparge 1	4.5
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	2.5

PID Effluent	62
--------------	----

READINGS FROM THERMO ANEMOMETER			
	IMPS	FPM	TEMP (F)
VW			
R-1			
R-4			
INFLUENT	10.7	2111	95.3
EFFLUENT	13.3	3605	143.2
SPG. 1	2.7	545	114.2
SPG. 4	2.1	415	120.3
SPG. 5	4.1	802	117.4

WATER LEVEL DATA	
R-1	13.03
R-2	11.82
R-4	11.48

SITE NOTES: Did not notice gurgling sound in R2
Bucket for discharge empty
Did not find filter hole for oil on electric motor

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.09	H
MP-3S	0.1	H
MP-3D	0.0	4

Note: Record pressure as negative if hose is on "Low" valve
Record pressure as positive if hose is on "High" valve

	PID	Avall Screen	DO (ppm)	Temp (°F)
R-1	3.61		6.69	16.5
R-2	2.19		3.35	18.7
R-3	1.21		0.61	12.4
R-4	3.18		7.94	13.3
R-5	0.1		1.13	13.8
R-6	0.0		6.64	11.7
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 6-7-01



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 6-14-01 0800

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.0

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	56
Eff. SCFM	68
Vent Flow	12

Sparge	
Magnehelic Gauge (psi)	8
Flow Gauge - Sparge 1	6
Flow Gauge - Sparge 4	2
Flow Gauge - Sparge 5	7

PID EMU 111-11 379

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.4	480	74.8
R-1			
R-4			
INFLUENT	13.1	2618	79.3
EFFLUENT	16.2	3195	127.5
SPG. 1	2.4	494	90.3
SPG. 4	2.8	163	80.9
SPG. 5	3.3	668	96.2

WATER LEVEL DATA	
R-1	11.64
R-2	13.15
R-4	8.80

SITE NOTES: Ditch Flowing Normal
Level

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.35	H
MP-3S	0.0	H
MP-3D		

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail Screen	DO (ppm)	Temp (°F)
R-1	1070		8.43	16.9
R-2	326		1.22	19.4
R-3	42.9		2.60	13.3
R-4	106		8.67	13.6
R-5	0.0		0.44	13.7
R-6	0.0		6.65	12.3
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 6 - 14-01



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 0845 6-21-01

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.9

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	14

Sparger	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	4.5
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	8

PID HIGH	821
----------	-----

READINGS FROM THERMO-ANEMOMETER			
	MPH	FPM	TEMP (F)
VW	2.8	565	104.3
R-1			
R-4			
INFLUENT	11.5	2285	98.2
EFFLUENT	17.4	3394	148.2
SPG. 1	2.8	580	112
SPG. 4	1.8	367	116.2
SPG. 5	4.4	864	123.2

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Gurgling sounds
coming from R3 & R4

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.0	H
MP-3S	0.0	H
MP-3D	0.05	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (°f)
R-1	815		6.41	17.2
R-2	271		1.07	19.6
R-3	196		4.67	13.9
R-4	21.9		2.86	17.1
R-5	0.1		1.06	13.8
R-6	0.0		6.09	12.4
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time 6-29-01 0930

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.9

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	66
Vent Flow	12

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	3.5
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	7.5

PID Effluent	229
--------------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.02	H
MP-2D	0.57	H
MP-3S	0.01	H
MP-3D	0.05	H

Note: Record pressure as negative if hose is on "Low" valve
Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPH	FPM	TEMP (F)
VW	4.1	428	94.8
R-1			
R-4			
INFLUENT	11.2	2224	97.6
EFFLUENT	8.6	1722	147.9
SPG. 1	2.3	456	111.1
SPG. 4	1.6	332	115.5
SPG. 5	3.7	750	121.4

WATER LEVEL DATA	
R-1	8.99
R-2	8.86
R-4	9.74

SITE NOTES: Changed Tip on
double ACTIVITY Coming from
Bottom of R 3 and R2
gurgling sounds

	PID	AVail. Screen	DO (ppm)	Temp (°F)
R-1	327		6.07	18.2
R-2	155		5.57	23.3
R-3	118		1.09	14.5
R-4	44.6		9.50	14.5
R-5	0.1		0.67	0.7
R-6	0.0		86.5	13.3
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date _____



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - Thursday, July 12, 01 0830

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.9

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	0
Flow Gauge - Sparge 1	4.5
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 5	8.5

PID Effluent	199
--------------	-----

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (°F)
VW	2.7	544	96.2
R-1			
R-4			
INFLUENT	10.4	2048	93
EFFLUENT	18.4	3612	144.4
SPG. 1	2.7	541	105.2
SPG. 4	1.6	320	112.9
SPG. 5	4.2	820	121.8

WATER LEVEL DATA	
R-1	9.29
R-2	8.95
R-4	7.74

SITE NOTES: Gurgling Sound
Coming from R-3 & R-2 After Bailing
Both wells

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	.48	H
MP-3S	0.0	H
MP-3D	0.09	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (°F)
R-1	232		8.55	18.3
R-2	47.4		0.55	21.6
R-3	4.7		4.25	14.6
R-4	24.2		10.44	14.6
R-5	0.8		0.61	14.1
R-6	0.8		6.05	13.9
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 7-20-01 0930

Friday

Breathing Zone (ppm) - 1.1

Project Manager - Lisa Winn

Technician - Chris Maez

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	66
Vent Flow	12

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	3
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 5	7.5

PID Effluent	209
--------------	-----

READINGS FROM THERMOANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.3	464	90.4
R-1			
R-4			
INFLUENT	9.5	1879	88.5
EFFLUENT	19.1	3765	140.5
SPG. 1	2.3	480	92.2
SPG. 4	1.5	309	103.9
SPG. 5	3.3	650	110.8

WATER LEVEL DATA	
R-1	8.56
R-2	8.40
R-4	7.46

SITE NOTES: _____

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.71	H
MP-3S	0.02	H
MP-3D	0.06	H

Note: Record pressure as negative if hose is on "Low" valve
Record pressure as possitive if hose is on "High" valve

	PID	Avail Screen	DO (ppm)	Temp (°C)
R-1	15.8			
R-2	42.4			
R-3	70.1			
R-4	13.8			
R-5	1.2			
R-6	1.1			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - Thursday July 26, 2001

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.6

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	68
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	4.5
Flow Gauge - Sparge 4	3
Flow Gauge - Sparge 5	8.5

PID Effluent	167
--------------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.32	H
MP-3S	0.0	H
MP-3D	0.02	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO-ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.7	532	98.1
R-1			
R-4			
INFLUENT	10.3	1971	92
EFFLUENT	18.5	3210	130.5
SPG. 1	2.5	532	102.3
SPG. 4	1.6	324	112.4
SPG. 5	4.1	790	120.3

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	31.5		9.21	17.7
R-2	32.5		1.19	18.7
R-3	15.1		3.69	19.6
R-4	22.6		9.25	14.2
R-5	0.5		0.42	14.6
R-6	0.6		6.02	17.2
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WATER LEVEL DATA	
R-1	8.32
R-2	8.28
R-4	7.01

SITE NOTES: unusual product
odor coming from meter



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 8-2-01 / 0950

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.9

Vent System	
Mag. Influent (H2O")	24
Mag. Effluent (H2O")	24
Inf. SCFM	54
Eff. SCFM	66
Vent Flow	12

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	6.5
Flow Gauge - Sparge 4	2.5
Flow Gauge - Sparge 5	8

PID Effluent	165
--------------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.05	H
MP-2D	0.27	H
MP-3S	0.03	H
MP-3D	0.01	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.1	428	85.6
R-1			
R-4			
INFLUENT	10.3	2037	90.1
FFLUENT	18	3544	141.7
SPG. 1	2.8	555	88.3
SPG. 4	1.7	337	94.6
SPG. 5	3.4	660	104.8

WATER LEVEL DATA	
R-1	7.97
R-2	7.98
R-4	6.82

SITE NOTES: _____

	RID	Avail. Screen	DO (ppm)	Temp (°f)
R-1	303			
R-2	24.2			
R-3	5.0			
R-4	29.5			
R-5	0.7			
R-6	0.7			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WELL OBSERVATION DATA



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 1000 8-9-01

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 2.8

Vent System	
Mag. Influent (H ₂ O")	24
Mag. Effluent (H ₂ O")	24
Inf. SCFM	50
Eff. SCFM	60
Vent Flow	10

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	5
Flow Gauge - Sparge 4	3.5
Flow Gauge - Sparge 5	5

PID Effluent	93
--------------	----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.7	5.45	95.1
R-1			
R-4			
INFLUENT	10.6	2097	100.5
EFFLUENT	18.2	3594	146.6
SPG. 1	2.4	483	104.7
SPG. 4	2.0	412	110.6
SPG. 5	2.4	485	114.4

WATER LEVEL DATA	
R-1	8.91
R-2	8.72
R-4	7.83

SITE NOTES: Humidity High
Ditch Running Less Than
Half

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.09	H
MP-2D	0.11	H
MP-3S	0.02	H
MP-3D	0.29	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (°f)
R-1	243		8.48	19.5
R-2	70.2		0.24	23.2
R-3	40.8		2.24	15.1
R-4	23.1		10.42	16.1
R-5	2.8		0.63	14.6
R-6	2.9		3.80	16.1
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 8-9-01



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 0900 8-16-01

Thursday

Breathing Zone (ppm) - 0.7

02 20.8

Project Manager - Lisa Winn

Technician - Chris Maez

Vent System	
Mag. Influent (H2O")	34
Mag. Effluent (H2O")	34
Inf. SCFM	45
Eff. SCFM	55
Vent Flow	10

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	7
Flow Gauge - Sparge 4	2
Flow Gauge - Sparge 5	4.5

PID Effluent	100
--------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.3	456	93.3
R-1			
R-4			
INFLUENT	12.3	2429	85.2
EFFLUENT	18.9	3736	137.4
SPG. 1	2.3	455	98.4
SPG. 4	1.0	206	100.9
SPG. 5	3.6	709	113.3

WATER LEVEL DATA	
R-1	12.46
R-2	11.26
R-4	11.67

SITE NOTES: Sparge system OFF
Hit Breaker started system
Back up adjusted flow
gauges.

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.08	H
MP-2D	0.04	H
MP-3S	0.0	H
MP-3D	0.28	L

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	A O ₂ een	DO (ppm)	Temp (°f)
R-1	13.7	20.5		
R-2	33.3	20.3		
R-3	4.8	20.6		
R-4	17.3	19.3		
R-5	0.8	20.3		
R-6	0.7	20.4		
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 8-16-2001



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 0900 Aug 20, 2001

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.7

Vent System	
Mag. Influent (H2O")	28
Mag. Effluent (H2O")	28
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	9
Flow Gauge - Sparge 1	5.5
Flow Gauge - Sparge 4	2
Flow Gauge - Sparge 5	5.5

PID Effluent	115
--------------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.04	H
MP-2D	0.21	H
MP-3S	0.0	H
MP-3D	0.19	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO-ANEMOMETER			
	MPS	FPM	TEMP (F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 4			
SPG. 5			

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: _____

	PID	Avail Screen	DO (ppm)	Temp (°f)
R-1				
R-2				
R-3				
R-4				
R-5				
R-6				
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 8-21-01



EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number - 6169

Project Name - Jaquez SVE O&M

Date/Time - 8-22-01 Wednesday

Project Manager - Lisa Winn

Technician - Chris Maez

Breathing Zone (ppm) - 0.0

Vent System	
Mag. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	141

Sparge	
Magnehelic Gauge (psi)	
Flow Gauge - Sparge 1	
Flow Gauge - Sparge 4	
Flow Gauge - Sparge 5	

PID Effluent	1.2
--------------	-----

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.4	484	85
R-1			
R-4			
INFLUENT	17.6	3356	80.4
EFFLUENT	17.7	3498	130.2
SPG. 1			
SPG. 4			
SPG. 5			

WATER LEVEL DATA	
R-1	13.75
R-2	12.50
R-4	12.77

SITE NOTES: Sparge System
NOT Running

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.02	H
MP-2D	0.0	H
MP-3S	0.0	H
MP-3D	0.02	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	Avail. Screen	DO (ppm)	Temp (°f)
R-1				
R-2				
R-3				
R-4				
R-5				
R-6				
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

CHAIN OF CUSTODY

DATE: 8-22-61 PAGE: 1 OF 1

PLI Accession #:

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: C169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 1400		Signature: Time:	
PROJ. NAME: EPRC RUSH		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Chas A. Mc2 8-22-01			
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		Company:		Company:	
SAMPLE RECEIPT				See reverse side (Force Majeure)			
NO. CONTAINERS:		JAG 002 SUE		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
CUSTODY SEALS: Y/N/NA		Mc2 (20995)		Signature: Time:		Signature: Time:	
RECEIVED INTACT:				Printed Name: Date:		Printed Name: Date:	
BLUE ICE/ICE:				Company:		Pinnacle Laboratories Inc.	



Jaquez Remediation System Data Sheet and Field Notes

Project Number - **6169**

Project Name - **Jaquez SVE O&M**

Date **8-30-01**

Time **1230**

Breathing Zone (ppm) **0.0**

Project Manager - **Lisa Winn**

Client Company **EPFS**

Technician - **Chris Maez**

Vent System	
g. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	
Flow Gauge - Sparge 2	
Flow Gauge - Sparge 3	
Flow Gauge - Sparge 1	

PID Effluent **1.2**

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW	2.8	55.5	92.5
R-1			
R-4			
INFLUENT	11.5	2288	90.3
EFFLUENT	20.7	4083	144.4
SPG. 1			
SPG. 2			
SPG. 3			

WATER LEVEL DATA	
R-1	13.43
R-2	12.24
R-4	12.57

SITE NOTES: Sparge System
NOT Running Did NOT
DO Dissolved Oxy.

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.02	H
MP-2D	0.0	H
MP-3S	0.0	H
MP-3D	0.13	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

	PID	O2	DO (ppm)	Temp (°f)
R-1	0.0	20.2		
R-2	0.0	20.3		
R-3	0.0	20.6		
R-4	0.0	20		
R-5	0.0	20.7		
R-6	0.0	20.6		
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Date 8-30-01

EPFS Jaquez Remediation System Data Sheet and Field Notes



Project Number -

Project Name - Jaquez SVE O&M

Date/Time - 11/20/01 11:40

Project Manager - Lisa Winn

Technician - Lisa Winn/Jacee McLurtain

Breathing Zone (ppm) -

Vent System	
Mag. Influent (H2O")	29.5
Mag. Effluent (H2O")	29.5
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	
Flow Gauge - Sparge 1	
Flow Gauge - Sparge 4	
Flow Gauge - Sparge 5	
P2.9	

INCHES OF WATER		VALVE
P10		HIGH/LOW
MP-1	0.005	H
MP-2S	0.05	H
MP-2D	0.07	H
MP-3S	0.0	H
MP-3D	0.0	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPG	PPH	TEMP (F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 4			
SPG. 5			

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Sunny
11° Wind-SSE

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	8.4		0.16	18.5°C
R-2	28.1			
R-3	0.0			
R-4	0.43		0.15	16.6°C
R-5	0.0			
R-6	0.0			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

EPFS Jaquez Remediation System Data Sheet and Field Notes



Project Number - 1517000121-3

Project Name - Jaquez SVE O&M

Date/Time - 11/28/01

Project Manager - Lisa Winn

Technician - LISA WINN / ROBERT THOMPSON

Breathing Zone (ppm) - 0 ppm

Vent System	
Mag. Influent (H2O")	30
Mag. Effluent (H2O")	30
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	13
Flow Gauge - Sparge 1	6 SCFM
Flow Gauge - Sparge 4	6 SCFM
Flow Gauge - Sparge 5	6 SCFM

>	Pressure	NA
---	----------	----

INCHES OF WATER		VALVE	
		FOR FLOW	
MP-1			
MP-2S			
MP-2D			
MP-3S			
MP-3D			

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO-ANEMOMETER			
	WPS	FPM	TEMP (°F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 4			
SPG. 5			

	PID	Air. Spg.	DO (ppm)	Temp (°F)
R-1			0.06	18.4
R-2			0.15	20.6
R-3			0.50	15.1
R-4			0.31	16.8
R-5			1.55	15.6
R-6			5.03	14.6
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Installed motor on AS Unit. Restarted SVE after holiday. SVE motor loud-monitor.

EPFS Jaquez Remediation System Data Sheet and Field Notes



Project Number - 1517000129

Project Name - Jaquez SVE O&M

Date/Time - 12/7/01

Project Manager - Lisa Winn

Technician - WINN

Breathing Zone (ppm) - 0

Vent System	
Mag. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

Sparge	
Magnehelic Gauge (psi)	9.5
Flow Gauge - Sparge 1	7
Flow Gauge - Sparge 4	4
Flow Gauge - Sparge 5	7

Pressure	133
----------	-----

INCHES OF WATER		VALVE
		High or Low
MP-1	0	H
MP-2S	0	H
MP-2D	0.14	H
MP-3S	0.03	H
MP-3D	0.05	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPS	FPM	TEMP (F)
VW			
R-1			
R-4			
INFLUENT			
EFFLUENT			
SPG. 1			
SPG. 4			
SPG. 5			

WATER LEVEL DATA	
R-1	
R-2	
R-4	

SITE NOTES: Fence down

	PID	Avail. Screen	DO (ppm)	Temp (F)
R-1	714			10.05
R-2	29.1			10.18
R-3	14.1			11.37
R-4	78.0			9.87
R-5				15.06
R-6				15.26
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

Depth to H₂O

EPFS Jaquez Remediation System Data Sheet and Field Notes



Project Number -

Project Name - Jaquez SVE O&M

Date/Time - 12-14-01 1030

Project Manager - Lisa Winn

Technician - C. Maez

Breathing Zone (ppm) - 0.0

Vent System	
Mag. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	56
Eff. SCFM	70
Vent Flow	14

DSI Spurge	
Magnehelic Gauge (psi)	9
Flow Gauge - Spurge 1	7
Flow Gauge - Spurge 4	3
Flow Gauge - Spurge 5	7
Flow Gauge - Spurge 6	178

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	L
MP-2D	0.97	H
MP-3S	0.0	H
MP-3D	0.03	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as positive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPS	PPM	TEMP (°F)
VW	1.6	329	60
R-1			
R-4			
INFLUENT	9.1	1627	63.1
EFFLUENT	17.7	3544	111.4
SPG. 1	2.5	504	61.1
SPG. 4	0.9	192	65.1
SPG. 5	1.4	285	62.4

WATER LEVEL DATA	
R-1	9.65
R-2	9.78
R-4	9.15

SITE NOTES:

	PD	Avail. Screen	DO (ppm)	Temp (°F)
R-1	3.29		7.95	20.1
R-2	20.2		0.92	22.3
R-3	8.3		4.19	15.6
R-4	1.03		8.99	16.9
R-5	0.02		0.72	16
R-6	0.01		5.82	14.4
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

amec

Project No.: 15/70.00/21

Task: _____

Date: 12-14-01

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Signature: Carl H. [illegible] Date: 12-14-01

Date: 12-14-01

EPFS Jaquez Remediation System Data Sheet and Field Notes

Project Number -

Project Name - Jaquez SVE O&M

Date/Time - 12-2001 0745

Project Manager - Lisa Winn

Technician - C Macz

Breathing Zone (ppm) - 0.0

Vent System	
Mag. Influent (H2O")	29
Mag. Effluent (H2O")	29
Inf. SCFM	60
Eff. SCFM	72
Vent Flow	12

Spargers	
Magnehelic Gauge (psi)	10.5
Flow Gauge - Sparge 1	5
Flow Gauge - Sparge 4	3.5
Flow Gauge - Sparge 5	7
Flow Gauge - Sparge 2	3.3

INCHES OF WATER		VALVE
		High or Low
MP-1	0.0	H
MP-2S	0.0	H
MP-2D	0.0	H
MP-3S	0.0	H
MP-3D	0.0	H

Note: Record pressure as negative if hose is on "Low" valve

Record pressure as possitive if hose is on "High" valve

READINGS FROM THERMO ANEMOMETER			
	MPS	PPH	TEMP (F)
VW	2.0	403	35
R-1			
R-4			
INFLUENT	8.9	1750	45.8
EFFLUENT	18.1	3583	95.1
SPG. 1	2.2	440	33
SPG. 4	0.9	195	35
SPG. 5	1.3	266	42.2

	FID	Avail. Sulfur	DO (ppm)	Temp (°C)
R-1	633			
R-2	31.8			
R-3	18.6			
R-4	12.5			
R-5	0.0			
R-6	0.0			
VE				
M-1				
M-2				
M-3				
M-4				
M-5				
M-6				

WATER LEVEL DATA	
R-1	11.09
R-2	11.0
R-4	8.88

SITE NOTES: Sampled C.D-U G
& DG. AIR Sample Taken
System off for Holidays



amec

Project No.: 1512000121

Task:

Date: 12-20-01

Date: 12-20-01

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Signature: Chris A. [Signature] Date: 12-20-01

Signature: Chris A. [Signature] Date: 12-20-01

APPENDIX D
2001 FIELD SAMPLING SHEETS

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number mw1

Page 1 of 1

Project Name EPFS Remediation Project

Project Manager Winn

Project No. 1517000121-3

Client Company EPFS

Site Name JAQUE (10995)

Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.36
Initial Depth to Water (feet) 4.46
Height of Water Column in Well (feet) 10.9
Diameter (inches): Well _____ Gravel Pack _____

Instruments

Serial No. (If applicable)

- ☒ pH Meter VSI 63
☐ DO Monitor
☒ Conductivity Meter VSI 63
☒ Temperature Meter VSI 63
☐ Other Heron Interface

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>10.9</u>	<u>7.11</u>	<u>7.11 x 3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>21.33</u>

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
<u>1/28/01</u>	<u>3:58</u>		☒				<u>0</u>	<u>0</u>			<u>10.0</u>	<u>7.45</u>	<u>214</u>		<u>Clear</u>
	<u>4:02</u>		☒				<u>5</u>	<u>5</u>			<u>10.2</u>	<u>7.44</u>	<u>217</u>		<u>"</u>
	<u>4:05</u>		☒				<u>25</u>	<u>7.5</u>			<u>10.1</u>	<u>7.54</u>	<u>218</u>		<u>Brown</u>

Comments Sampled for BTEX at 4:42

Developer's Signature(s) Robert Thompson

Date 11/28/01

Reviewer Winn

Date 12/7/01

☐ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 2

Page 1 of 1

Project Name EPFS Remediation Project Project Manager Winn

Project No. 1517000121-3

Client Company EPFS

Site Name Jaquez (70995)

Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.09
Initial Depth to Water (feet) 4.08
Height of Water Column in Well (feet) 11.01
Diameter (inches): Well _____ Gravel Pack _____

Instruments

Serial No. (If applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☒ Other Heron Interface

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>11.01</u>	<u>7.19</u>	<u>7.19 x 3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>21.57</u>

Water Disposal

Rutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
<u>11/28/01</u>	<u>4:07</u>		☒				<u>0</u>	<u>0</u>			<u>9.8</u>	<u>7.24</u>	<u>325</u>		
	<u>4:11</u>		☒				<u>5</u>	<u>5</u>			<u>9.7</u>	<u>7.16</u>	<u>331</u>		
	<u>4:14</u>		☒				<u>5</u>	<u>10</u>			<u>9.8</u>	<u>7.22</u>	<u>321</u>		
	<u>4:17</u>		☒				<u>5</u>	<u>15</u>			<u>9.5</u>	<u>7.20</u>	<u>317</u>		
	<u>4:22</u>		☒				<u>5</u>	<u>20</u>			<u>10.2</u>	<u>7.20</u>	<u>315</u>		
	<u>4:25</u>		☒				<u>2</u>	<u>22</u>			<u>9.5</u>	<u>7.27</u>	<u>314</u>		

Comments

After bailing approximately 22 gallons

Sampled ground water for BTEX at 4:36

Developer's Signature(s) Robert Thompson

Date 11/28/01

Reviewer Winn

Date 12/7/01

☐ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW6

Page 1 of 1

Project Name EPFS Remediation Project Project Manager Winn

Project No. 1517000121-3

Client Company EPFS

Site Name JAGUZZ (70995)

Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 17.89
Initial Depth to Water (feet) 7.62
Height of Water Column in Well (feet) 10.27
Diameter (inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>10.27</u>	<u>6.70</u>	<u>6.70 x 3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>20.1</u>

Instruments

Serial No. (If applicable)

- ☒ pH Meter VSI 63
☐ DO Monitor VSI 63
☐ Conductivity Meter VSI 63
☐ Temperature Meter VSI 63
☐ Other Heron Interface

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
<u>11/28/01</u>	<u>3:22</u>		☒				<u>5</u>	<u>5</u>			<u>13.0</u>	<u>6.93</u>	<u>535</u>		<u>Cloudy</u>
	<u>3:28</u>		☒				<u>5</u>	<u>10</u>			<u>12.9</u>	<u>7.03</u>	<u>746</u>		<u>Cloudy</u>
	<u>3:36</u>						<u>5</u>	<u>15</u>			<u>12.3</u>	<u>7.30</u>	<u>556</u>		<u>"</u>
	<u>3:41</u>						<u>5</u>	<u>20</u>			<u>12.1</u>	<u>7.41</u>	<u>511</u>		<u>"</u>
							<u>5</u>				<u>11.6</u>	<u>7.52</u>	<u>475</u>		<u>"</u>

Comments

After bailing approximately 20 gallons of groundwater
Samples were collected for BTEX at 4:30

Developer's Signature(s)

Robert Thompson

Date 11/28/01

Reviewer

Winn Date 12/7/01



☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW-03

Page 1 of 1

Project Name EPFS GW PROJECT

Project Manager LISA WINN

Project No. 1517000121

Client Company EL PASO FIELD SERVICES

Site Name JAQUEZ

Site Address BLANCO, NM

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other _____

Methods of Development

Pump

Bailer

☐ Centrifugal

☒ Bottom Valve

☐ Submersible

☐ Double Check Valve

☐ Peristaltic

☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.13' TOR

Initial Depth to Water (feet) 4.17' TOR

Height of Water Column in Well (feet) 10.96'

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	10.96	7.15	7.15 X 3
Gravel Pack			
Drilling Fluids			
Total			21.45

Instruments

Serial No. (if applicable)

☒ pH Meter

YSI 63

☐ DO Monitor

☒ Conductivity Meter

YSI 63

☒ Temperature Meter

YSI 63

☐ Other _____

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11-29-01	1539		X				0	0			9.0	7.84	297	—	LIGHT BROWN
11-29-01	1544		X				5	5			9.8	7.56	286	—	LIGHT BROWN
11-29-01	1550		X				5	10			9.8	7.60	270	—	LIGHT BROWN
11-29-01	1555		X				5	15			9.9	7.61	257	—	LIGHT BROWN
11-29-01	1559		X				5	20			10.0	7.63	251	—	LIGHT BROWN
11-29-01	1605		X				2	22			10.3	7.60	257	—	LIGHT BROWN

Comments SAMPLED FOR BTEX AND NITRATES AT 1610.

Developer's Signature(s) Paul Thompson

Date 11-29-01

Reviewed J Winn

Date 12/7/01

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW-04

Page 1 of 1

Project Name EPFS GW PROJECT

Project Manager LISA WINN

Project No. 1517000121

Client Company EL PASO FIELD SERVICES

Site Name JAGUEZ

Site Address BLANCO, NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.37' TOR
Initial Depth to Water (feet) 2.88' TOR
Height of Water Column in Well (feet) 12.49
Diameter (inches): Well 4 Gravel Pack

Instruments

Serial No. (If applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor _____
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☐ Other _____

Methods of Development

- Pump Bailer
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>12.49</u>	<u>8.15</u>	<u>8.15 x 3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>24.45</u>

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11-29-01	1458		X				0	0			10.2	9.88	540	—	CLEAR
11-29-01	1503		X				5	5			11.5	9.89	554	—	LIGHT YELLOW
11-29-01	1507		X				5	10			12.2	9.72	344	—	LIGHT YELLOW
11-29-01			X				2	12			12.3	9.42	663	—	LIGHT BROWN

Comments WELL BAILED DRY AT 12 GAL. LET RE-CHARGE AND SAMPLED. SAMPLED FOR BTEX AND NITRATES AT 1525.

Developer's Signature(s) Robert Champion

Date 11-29-01

Reviewed [Signature] Date 12/7/01

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number mw5

Page 1 of 1

Project Name EPFS Remediation Project

Project Manager Winn

Project No. 1517000121-3

Client Company EPFS

Site Name Jaques (70995)

Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.06' TOR
Initial Depth to Water (feet) 4.08' TOR
Height of Water Column in Well (feet) 10.98
Diameter (inches): Well 4 Gravel Pack _____

Instruments

Serial No. (If applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor _____
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>10.98</u>	<u>7.17</u>	<u>7.17 x 3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>21.51</u>

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11-29-01	1414		X				0	0			11.5	6.96	399	—	REDDISH - BROWN
11-29-01	1421		X				5	5			11.2	6.89	427	—	REDDISH - BROWN
11-29-01	1428		X				5	10			11.2	6.99	402	—	REDDISH - BROWN
11-29-01	1434		X				5	15			11.5	7.13	368	—	REDDISH - BROWN
11-29-01	1439		X				5	20			11.5	7.16	372	—	LIGHT BROWN
11-29-01	1442		X				2	22			11.4	7.18	367	—	LIGHT BROWN

Comments SAMPLED FOR BTEX AT 1446.

Developer's Signature(s) Robert Thompson

Date 11-29-01

Reviewer J. Winn

Date 12/7/01

CHAIN OF CUSTODY

DATE: 12-10-01 PAGE: 1 OF 1

PLI Accession #:

SHADE AREAS ARE FOR ABUSE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		CERTIFICATION REQUIREMENTS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY		RELINQUISHED BY	
PROJ. NO: 1517000121		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 0815		Signature: [Signature] Time:	
PROJ. NAME: EPRC GW PROJECT		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: [Signature] Date: 12-10-01		Printed Name: [Signature] Date:	
P.O. NO:		METHANOL PRESERVATION ☐		ROBERT THOMSON		Company:	
SHIPPED VIA: GREY HOUND		COMMENTS: FIXED FEE ☐		Company: AMEC		Company:	
SAMPLE RECEIPT				See reverse side (Force Majeure)			
CONTAINERS:				RECEIVED BY		RECEIVED BY (LAB)	
CUSTODY SEALS:				Signature: [Signature] Time:		Signature: [Signature] Time:	
RECEIVED BY:				Printed Name: [Signature] Date:		Printed Name: [Signature] Date:	
BLUE LABEL:				Company:		Principal Laboratories, Inc.	

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R1 Page 1 of 1
Project Name EPFS Remediation Project Project Manager Winn Project No. 1517000121
Client Company EPFS
Site Name Jaquez (70995) Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump Bailer
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.09
Initial Depth to Water (feet) 14.41
Height of Water Column in Well (feet) 7.48
Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.48	4.88	4.88 x 3
Gravel Pack			
Drilling Fluids			
Total			14.64

Instruments

Serial NO. (If applicable)

- ☒ pH Meter YSI 62
☐ DO Monitor
☒ Conductivity Meter YSI 62
☒ Temperature Meter YSI 62
☒ Other Heron Interface

Water Disposal

Kitz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11/28/01	1:05		X				0	0			19.0	6.97	1670		Clear, grey, Sept water
	1:14		X				4	4			17.4	7.2	1741		" "
	1:17		X				1	5			17.0	7.4	1781		" "

Comments SAMPLED FOR BTEX AT 1405.

Developer's Signature(s) Paul Thompson

Date 11-28-01

Reviewer Winn

Date 12/7/01

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R 2 Page 1 of 1
Project Name EPFS Remediation Project Project Manager Winn Project No. 517000121-2
Client Company EPFS
Site Name Jaquez (70995) Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.12
Initial Depth to Water (feet) 13.23
Height of Water Column in Well (feet) 8.89
Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.89	5.80	5.80 x 3
Gravel Pack			
Drilling Fluids			
Total			17.4

Instruments

Serial No. (if applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor _____
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☐ Other Heron Interface

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11/28/01	12:51		X				0	0			20.4	7.29	788		Black, cloudy
	12:58		X				4	4			20.0	7.14	978		" Sheen
	1:02		X				3	7			18.9	7.36	887		"

Comments SAMPLED FOR BTEX AT 1357.

Developer's Signature(s)

Pat Thompson

Date 11-28-01

Reviewer

Winn Date 12/7/01

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R3 Page 1 of 1
Project Name EPFS Remediation Project Project Manager Winn Project No. 1517000121-3
Client Company EPFS
Site Name Jaquez (70995) Site Address Blanco Nm

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump Bailer
☐ Centrifugal ☐ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.20
Initial Depth to Water (feet) 14.17
Height of Water Column in Well (feet) 8.03
Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.03	5.24	524 X3
Gravel Pack			
Drilling Fluids			
Total			15.72

Instruments

Serial No. (If applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☒ Other Neron Interface

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11/28/01	12:00		X				0	0			15.2	6.95	760		Clear-black tint
	12:01		X				4	4			15.2	6.99	842		" "
	12:16		X				4	8			14.2	7.19	662		" "
	12:25		X				4	12			14.0	7.22	555		" "
	12:32		X				4	16			14.2	7.29	519		" "

Comments SAMPLED FOR BTEX AT 1339

Developer's Signature(s)

Paul Thompson

Date 11-28-01

Reviewed

Winn

Date 12/7/01

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R4 Page 1 of 1
Project Name EPFS Remediation Project Project Manager Winn Project No. 1517000121-3
Client Company EPFS
Site Name Taquez (20995) Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.22
Initial Depth to Water (feet) 13.63
Height of Water Column in Well (feet) 8.59
Diameter (inches): Well 4 " Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.59	5.61	5.61 x 3
Gravel Pack			
Drilling Fluids			
Total			16.83

Instruments

Serial No. (If applicable)

☒ pH Meter V5163
☐ DO Monitor _____
☒ Conductivity Meter V5163
☒ Temperature Meter V5163
☐ Other Heron Interface

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11/28/01	12:37		X				0	0			16.4	7.08	575		Clear
	12:41		X				4	4			15.9	7.16	654		Cloudy, grey, specks
	12:46		X				3	7			15.7	7.30	657		black

Comments SAMPLED FOR BTEX AT 1347.

Developer's Signature(s)

Paul Champion

Date 11-28-01

Reviewer

Winn

Date 12/7/01

- ☐ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R5

Page 1 of 1

Project Name EPFS Remediation Project Project Manager WINN

Project No. 1517000/21-3

Client Company EPFS

Site Name Jaquez 90995

Site Address Blanco NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

- | | |
|--------------------------------------|---|
| Pump | Bailer |
| ☐ Centrifugal | ☒ Bottom Valve |
| ☐ Submersible | ☐ Double Check Valve |
| ☐ Peristaltic | ☐ Stainless-steel Kemmerer |
| ☐ Other | |

Water Volume Calculation

Initial Depth of Well (feet) 24.48
Initial Depth to Water (feet) 16.44
Height of Water Column in Well (feet) 8.04
Diameter (inches): Well Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.04	5.25	5.25×3
Gravel Pack			
Drilling Fluids			
Total			15.75

Instruments

Serial No. (If applicable)

- | | |
|--|-----------------------------|
| ☒ pH Meter | <u>YSL 63</u> |
| ☐ DO Monitor | <u> </u> |
| ☒ Conductivity Meter | <u>YSL 63</u> |
| ☒ Temperature Meter | <u>YSL 63</u> |
| ☒ Other <u>Heron Interface</u> | |

Water Disposal

Kutz Separator

Water Removal Data

[illegible]

Comments

Bailed approximately 8 gallons - allowed well to recover
Sampled for BTEX at 1:36

Developer's Signature(s)

Date 11-28-01

Reviewer

Date 12/7/0

☐ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number R6 Page 1 of 1
Project Name EPFS Remediation Project Project Manager Winn Project No. 157000121-3
Client Company EPFS
Site Name Jaquez (70995) Site Address Blanco, NM

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump Bailer
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 21.94
Initial Depth to Water (feet) 14.79
Height of Water Column in Well (feet) 7.15
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.15	4.67	4.67 x 3
Gravel Pack			
Drilling Fluids			
Total			14.01

Instruments

Serial No. (if applicable)

- ☒ pH Meter YSI 63
☐ DO Monitor
☒ Conductivity Meter YSI 63
☒ Temperature Meter YSI 63
☒ Other Heron Interface

Water Disposal

Kutz Separator

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
11/28/01	10:30		X				0	0			14.6	7.34	295.6		cloudy, brown
			X				4	4			14.2	7.46	270.8		cloudy, brown
			X				3	7			14.3	7.49	271.6		silty

Comments Bailed approximately 70 gallons - allowed well to recover. Sampled for BTEX at 1:28 pm

Developer's Signature(s)

Pat Thompson

Date 11-28-01

Reviewer

J. Winn Date 12/7/01

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA WINN				ANALYSIS REQUEST																							
COMPANY: AMEC EARTH & ENVIRONMENTAL																											
ADDRESS: 2060 AFTON PLACE																											
FARMINGTON, NM 87401																											
PHONE: (505) 327-7928																											
FAX: (505) 326-5721																											
BILL TO: SCOTT RUPE																											
COMPANY: EL PASO FIELD SERVICE																											
ADDRESS: 614 REILLY AVE.																											
FARMINGTON, NM 87401																											
SAMPLE ID	DATE	TIME	ANALYST	Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject	(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:	NUMBER OF CONTAINERS
JAQ-0111-R1	11-28-01	1405	H2O				X																				2
JAQ-0111-R2	11-28-01	1357	H2O				X																				2
JAQ-0111-R3	11-28-01	1339	H2O				X																				2
JAQ-0111-R4	11-28-01	1347	H2O				X																				2
JAQ-0111-R5	11-28-01	1336	H2O				X																				2
JAQ-0111-R6	11-28-01	1327	H2O				X																				2

PROJECT INFORMATION		PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECT		RELINQUISHED BY		RELINQUISHED BY	
PROJ. NO: 1517000121	(RUSH) ☐ 24hr. ☐ 48hr. ☐ 72hr. ☐ 1 WEEK (NORMAL) ☒			Signature: [Signature]	Time: 0315	Signature:	Time:
PROJ. NAME: EPFS GW PROJECT	CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ OTHER			Printed Name: ROBERT THOMPSON	Date: 12-10-01	Printed Name:	Date:
P.O. NO:	METHANOL PRESERVATION ☐			Company: AMEC		Company:	
SHIPPED VIA: GREYHOUND	COMMENTS: FIXED FEE ☐			See reverse side (Force Majeure)			
SAMPLE RECEIPT				RECEIVED BY: 1		RECEIVED BY: LAB 2	
NO CONTAINERS				Signature:	Time:	Signature:	Time:
CUSTODY SPILLS				Printed Name:	Date:	Printed Name:	Date:
RECEIVED IN A/C				Company:		Company:	
IT'S THE WAY WE DO IT				Pinnacle Laboratories Inc.			

amec

Project No.: 1517000121

Task: N/A

Date: 11-29-01

[illegible]

Comments: _____

Pet Thompson

Date: 11-29-01.

Date 8/28/0

Date 8/28/01



Well Development and Purging Data

Project No. G169
 Task No. _____
 Well No. R 3

Development ☐
 Purging ☒ (70995)
 Site Name/Identification Jagatz GC # C1 Site Address Blanco N.M.

Page 1 of 1

Client/Project Name El Paso Field Services GPFS Remediation Project Project Manager Lisa Winn

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.20
 Initial Depth to Water (feet) 13.37
 Height of Water Column in Well (feet) 8.83
 Diameter (inches): Well 4" Gravel Pack _____

Instruments

☒ PH Meter Serial No. (if applicable) Hydrec
☐ DO Monitor _____
☒ Conductivity Meter Hydrec
☒ Temperature Meter Hydrec
☐ Other _____

Methods of Development

- Pump Bailer
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>8.83</u>	<u>5.743</u>	<u>17.28</u>
Gravel Pack			
Drilling Fluids			
Total			<u>17.28</u>

Water Disposal

Leak Separator Blumfield AFFF

☐ Other _____

Sampling Activities

Type of Container 10A No. of Containers 2
 Parameters Sampled For BTEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
<u>7-23-01</u>	<u>1046</u>		<u>X</u>				<u>3.5</u>	<u>3.5</u>			<u>18.3</u>	<u>7.00</u>	<u>8620</u>		<u>Cloudy, mild Septe</u>
	<u>1049</u>		<u>X</u>			<u>20.48</u>	<u>3.5</u>	<u>7</u>			<u>17.2</u>	<u>6.95</u>	<u>8340</u>		<u>Odor</u>
	<u>1055</u>		<u>X</u>			<u>20.48</u>	<u>3.5</u>	<u>10.5</u>			<u>16.5</u>	<u>7.06</u>	<u>7110</u>	<u>0.78</u>	<u>110 change</u>

Circle the date and time that the development criteria are met.

Comments After Bailing approximately 10.5 gal Bailed well Dry Lot Recover Sampled for BTEX
1100

Developer's Signature (s) [Signature] Date 7-23-01 Reviewer [Signature] Date 8/28/01



Well Development and Purging Data

Project No. 6169
Task No. _____
Well No. R 4

Development ☐
Purging ☒

(70995)

Page 1 of 1

Site Name/Identification Jaquez GC #C1

Site Address Blanco N.M.

Client/Project Name Eh Paso Field Services EPFS Remediation project

Project Manager List Winn

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.22
Initial Depth to Water (feet) 12.77
Height of Water Column in Well (feet) 9.45
Diameter (inches): Well 6" Gravel Pack _____

Instruments

- ☒ PH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other _____

Serial No. (if applicable)

Hydarc
Hydarc
Hydarc

Methods of Development

- Pump ☐ Centrifugal ☐ Submersible ☐ Peristaltic
Bailer ☒ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	9.45	6.16X3	18.48
Gravel Pack			
Drilling Fluids			
Total			18.48

Water Disposal

Leitz Separator Brownfield N.M.

Sampling Activities

Type of Container 10A No. of Containers 2
Parameters Sampled For 3TEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
8-23-01	0941		X				3.75	3.75			17.5	6.87	6160		Close to sync odor
						21.18	3.75	7.5			17.1	6.84	8216	0-85	no change

Circle the date and time that the development criteria are met.

Comments After Bailing Approximately 7.5 gal Bailed well Dry Let Recover Sampled for 3TEX 1000

Developer's Signature (s) Chad May

Date 8-23-01

Reviewer List Winn

Date 8/28/01



Well Development and Purging Data

Project No. 6169

Development ☐

Task No. _____

Purging ☒

Well No. R5

Site Name/Identification (00995) Jaquez GC #C1

Site Address Blanco NM.

Page 1 of 1

Client/Project Name EPFS Remediation project

Project Manager List Winn

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 24.48

Initial Depth to Water (feet) 15.92

Height of Water Column in Well (feet) 8.56

Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.56	558X3	16.74
Gravel Pack			
Drilling Fluids			
Total			16.74

Instruments

☒ PH Meter

☐ DO Monitor

☒ Conductivity Meter

☒ Temperature Meter

☐ Other _____

Serial No. (if applicable)

Hydrec

Hydrec

Hydrec

Methods of Development

Pump

Bailer

☐ Centrifugal

☒ Bottom Valve

☐ Submersible

☐ Double Check Valve

☐ Peristaltic

☐ Stainless-steel Kemmerer

☐ Other _____

Water Disposal

Leak Separator Brownfield NM.

Sampling Activities

Type of Container WA No. of Containers 2

Parameters Sampled For BTEX ROL

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
8-23-01	1012		X				3.5	3.5			17.1	7.55	780		Cloudy/no odor
	1015		X				3.5	7			16.7	7.25	7930		"
	1019		X			22.69	3.5	10.5			16.2	7.25	8616	1.11	no change

Circle the date and time that the development criteria are met.

Comments Bailed approximately 10.5 gal Bailed w/ 4" Leaky Recover Sampled for BTEX 1030

Developer's Signature (s) Christa M...

Date 8-23-01

Reviewer Winn

Date 8/28/01

Well Development and Purging Data

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 669		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 1000		Signature: Time:	
PROJ. NAME: EPRS Remediation Project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date: 8-2-01		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Company: See reverse side (Force Majeure)		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
SAMPLE RECEIPT		Jagwicz GC. # C1 meter # 20995		Signature: Time:		Signature: Time:	
NO. CONTAINERS				Printed Name: Date:		Printed Name: Date:	
CUSTODY SEALS Y/N/NA				Company:		Pinnacle Laboratories Inc.	
RECEIVED INTACT							
BLUE ICE/CE							

8280

Date 8/28/0

Date 8/28/0

Date 8/28/0

Date 8/28/0

Date 8/28/0

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 14:00		Signature: Time:	
PROJ. NAME: EPFS Remediation Project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		7-5-1 [Signature] 8-22-01		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)		Company:	
SAMPLE RECEIPT		JAG # GC # C1 meter # 70995		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
NO. CONTAINERS				Signature: Time:		Signature: Time:	
CUSTODY SEALS Y/N/NA				Printed Name: Date:		Printed Name: Date:	
RECEIVED INTACT				Company:		Pinnacle Laboratories Inc.	
BLUE ICE/ICE							

Date 7-26-07

CHAIN OF CUSTODY

DATE: 2-30-01

PAGE: 1 OF 1

PLI Accession #:

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PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO. 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: Time: 1100		Signature: Time:	
PROJ. NAME: EHS Remediation project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date: 7/30/01		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Company:		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)			
SAMPLE RECEIPT		JAG-02		RECEIVED BY: 1		RECEIVED BY: (LAB) 2	
NO CONTAINERS				Signature: Time:		Signature: Time:	
CUSTODY SEALS Y/N/NA				Printed Name: Date:		Printed Name: Date:	
RECEIVED INTACT				Company:		Pinnacle Laboratories Inc.	
BLUE ICE/CE							

Date 7-20-01

MP 30 4.8

Developer's Signature (s) Ch. A. May Date 7-5-01 Reviewer W. W. W. Date 7/12/01



Well Development and Purging Data

Project No. 6169
Task No. _____
Well No. R 2

Development ☐
Purging ☒

Page 1 of 1

Site Name/Identification JAQUEZ GC # C1 (109955) Site Address Blanco N.M.

Client/Project Name EL PASO Field Services EPES Remediation project Project Manager Lisa Winn

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other: _____

Water Volume Calculation

Initial Depth of Well (feet) 22.12
Initial Depth to Water (feet) 12.51
Height of Water Column in Well (feet) 9.61
Diameter (inches): Well 4" Gravel Pack _____

Instruments

☒ PH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other _____

Serial No. (if applicable)

Hydac
Hydac
Hydac

Methods of Development

- Pump ☐ Centrifugal ☐ Submersible ☐ Peristaltic
Bailer ☒ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer

☐ Other: _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	9.61	627x3	18.81
Gravel Pack			
Drilling Fluids			
Total			18.81

Water Disposal

1-1/2 Separator Bloomfield N.M.

Sampling Activities

Type of Container VOA No. of Containers 2
Parameters Sampled For BTEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
7-5-01	1132		X				4	4			27.5	6.88	0600		Cloudy, 1 Sheen
	1136		X				4	8			24.5	6.86	0570		Faint Odor
	1140					21.31	2	10							Faint Sulfur Odor
															NO Change

Circle the date and time that the development criteria are met

Comments AFTER Bailing Approximately 10 gal Bailed well Dry Let Recover Sampled for BTEX 1200

Developer's Signature (s) Chris A. May

Date 7-5-01 Reviewer Lisa Winn Date 7/12/01



Well Development and Purging Data

Project No. 6169

Development ☐

Task No. _____

Purging ☒

Page 1 of 1

Well No. R3

Site

Name/Identification JANES GC #C1 (20995)

Address Blanco N.M.

Client/Project Name EL PASO Field Services EpFS Remediation Project

Project Manager LISA Wynn

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

Stabilization of Indicator Parameters

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.20

Initial Depth to Water (feet) 13.44

Height of Water Column in Well (feet) 8.76

Diameter (inches): Well 4" Gravel Pack _____

Instruments

☒ PH Meter

☐ DO Monitor

☒ Conductivity Meter

☒ Temperature Meter

☐ Other _____

Serial No. (if applicable)

Hydenc

Hydenc

Hydenc

Methods of Development

Pump

Bailer

☐ Centrifugal

☒ Bottom Valve

☐ Submersible

☐ Double Check Valve

☐ Peristaltic

☐ Stainless-steel Kemmerer

☐ Other _____

Water Disposal

LNTZ Separator Bloomfield N.M.

Sampling Activities

Type of Container LOA No. of Containers 2

Parameters Sampled For BTEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
7-5-01	1048		X				3.5	3.5			22.1	6.80	0810		Cl ₂ 8.5, Fair 5-12.1
	1052		X				3.5	7			18.9	6.71	0260		" "
	1055		X				3.5	10.5			17.1	6.82	0640		" "
	1100		X			20.32	3.5	14			16.3	6.96	0560		no change

Circle the date and time that the development criteria are met.

Comments AFTER Bailing approximately 14 gal Bailed well Dry Let Recover Sampled for BTEX
1130

Developer's Signature (s) Chris A. May

Date 7-5-01

Reviewer L Wynn

Date 7/12/01



Well Development and Purging Data

Project No. C169

Development ☐

Task No. _____

Purging ☒

Page 1 of 1

Well No. R4

Site

Name/Identification TAquez (70995) Site Address Blanco N.M.

Client/Project Name El Paso Field Services EPCS Remediation project

Project Manager Lisa Winn

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

☐ Stabilization of Indicator Parameters

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.22

Initial Depth to Water (feet) 12.40

Height of Water Column in Well (feet) 9.82

Diameter (inches): Well 4" Gravel Pack _____

Instruments

☒ PH Meter

☐ DO Monitor

☒ Conductivity Meter

☒ Temperature Meter

☐ Other _____

Serial No. (if applicable)

Hydarc

Hydarc

Hydarc

Methods of Development

Pump

Bailer

☐ Centrifugal

☒ Bottom Valve

☐ Submersible

☐ Double Check Valve

☐ Peristaltic

☐ Stainless-steel Kemmerer

☐ Other _____

Water Disposal

K-12 Separator Bloomfield N.M.

Sampling Activities

Type of Container VOA No. of Containers 2

Parameters Sampled For BTEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
7-5-01	0935		X				4	4			21.3	6.80	0450		Cloudy milky water
	0941		X			21.20	4	8			18.6	6.85	0600		Cloudy light grey milky water

Circle the date and time that the development criteria are met.

Comments AFTER Bailing approximately 8 gal Bailed well Dry LET Recover Sampled for BTEX/1000

Developer's Signature (s) Chris A. May

Date 7-5-01

Reviewer L. Winn

Date 7/12/01

Date 7/12/01

Date 7/12/07

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[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 0800		Signature: Time:	
PROJ. NAME: EPFS. Remd. H. - project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		[Signature] 7-6-01		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)		Company:	
SAMPLE RECEIPT		JAGU-2 GC #C1 meter # 70995		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
NO. CONTAINERS:				Signature: Time:		Signature: Time:	
CUSTODY SEALS Y/N/NA				Printed Name: Date:		Printed Name: Date:	
RECEIVED INTACT				Company:		Pinnacle Laboratories Inc.	
BLUE ICE/ICE							

6/22/0



Well Development and Purging Data

Project No. 6169

Development ☐

Task No. 2

Purging ☒

Page 1 of 1

Well No. R 2

Site

Name/Identification

Jaquez (70995)

Site Address

Blanco N.M.

Client/Project Name Eh pasu Field Services

Project Manager Lisa Winn

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.12
Initial Depth to Water (feet) 12.54
Height of Water Column in Well (feet) 9.58
Diameter (inches): Well 4" Gravel Pack _____

Instruments

- ☒ PH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other _____

Serial No. (if applicable)

Hydac

Hydac

Hydac

Methods of Development

- Pump ☐ Centrifugal
☐ Submersible
☐ Peristaltic
Bailer ☒ Bottom Valve
☐ Double Check Valve
☐ Stainless-steel Kemmerer

☐ Other _____

Water Disposal

Lutz Separator Bloomfield N.M.

Sampling Activities

Type of Container VOA No. of Containers 2

Parameters Sampled For BRX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
6-1-01	1055		X				3.75	3.75			20.7	6.62	0550		cloudy, strong product odor, no change
	1059		X			21.03	3.75	7.5			20.1	6.71	0550		

Circle the date and time that the development criteria are met.

Comments After Bailing Approximately 7.5 gal Bailed well Dry Let Recover Sampled for BTEX III5

Developer's Signature (s) Chris A. May

Date 6-1-01

Reviewer L. Winn

Date 6/22/01

Date 6/7/0



Well Development and Purging Data

Project No. 6169 Development ☐
Task No. 2 Purging ☐
Well No. 24 Site Name/Identification Aquez (20995) Site Address Blanco N.M.
Client/Project Name EL paso Field Services Project Manager Lisa Winn

Page 1 of 1

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.22
Initial Depth to Water (feet) 12.67
Height of Water Column in Well (feet) 9.55
Diameter (inches): Well 4" Gravel Pack _____

Instruments

- ☒ PH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other _____

Serial No. (if applicable)

Hydac
Hydac
Hydac

Methods of Development

- Pump ☐ Centrifugal ☐ Submersible ☐ Peristaltic
Bailer ☒ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer

☐ Other _____

Water Disposal

Lutz Separator Bloomfield N.M.

Sampling Activities

Type of Container LOA No. of Containers 2
Parameters Sampled For BTEX

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
6-1-01	1157		X				3.75	3.75			17.3	7.8	0560		Cloudy, Black specs product odor, slight
	1202		X				3.75	7.5			16.3	7.9	0610		
	1204		X			21.25	1	8.5							NO Change

Record the date and time that the development criteria are met.

Comments AFTER Bailing Approximately 8.5 gal Bailed well Dry Let Recover Sampled for BTEX 1215

Developer's Signature (s) Elis A. May

Date 6-1-01

Reviewer LWinn

Date 6/21/01

6/7/5

Date 6/7/01

CHAIN OF CUSTODY

DATE: 6-21-01 PAGE: 1 OF 1

PLI Accession #:

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PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO.: 669 669		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: Time:		Signature: Time:	
PROJ. NAME: CPFS Reinstatement Project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Chris + MacL 6-2-01			
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		Company:		Company:	
SAMPLE RECEIPT		JAGUAC SUE		See reverse side (Force Majeure)			
NO. CONTAINERS				RECEIVED BY: 1		RECEIVED BY: 2	
CUSTODY SEALS		Y/N/NA		Signature: Time:		Signature: Time:	
RECEIVED INTACT				Printed Name: Date:		Printed Name: Date:	
BLUE ICE/CE				Company:		Pinnacle Laboratories Inc.	

Date 6/5/0

Date 6/20

Well Development and Logging Data

Project No. 6169

Development ☐

Task No. 2

Purging ☒

Page 1 of 1

Well No. MS

Site
Name/Identification Taqwe2

Site Address Blanco NM

Client/Project Name EL PASO Field Services

Project Manager LISA WINN

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 15.06

Initial Depth to Water (feet) 4.13

Height of Water Column in Well (feet) 10.93

Diameter (inches): Well 4" Gravel Pack

Instruments

- ☒ PH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter

Serial No. (if applicable)

Hydroc.

Hydraz

Hvde

☐ Other

Methods of Development

Pump

Bailer

- ☐ Centrifugal
☐ Submersible
☐ Peristaltic

☐ Other

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	10.93	7.13 x 3	21.39
Gravel Pack			
Drilling Fluids			
Total			21.39

Water Disposal

knTZ Separator Bloomfield N.M.

Sampling Activities

Type of Container VOA No. of Containers 2Parameters Sampled For BTEX

Water Removal Data

[illegible]

Circle the date and time that the development criteria are met.

Comments AFTER Bailing Approximately 19 gal Bailed well Dry Let Recover Sampled for Brex 1345

Developer's Signature (s) Ch. A. Mar

Date 5-31-01

Reviewer

Date _____

6	7	0
---	---	---

Developer's Signature (s) Chris A. May Date 5-31-01 Reviewer J. Wimmer Date 6-7-01

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[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 1500		Signature: Time:	
PROJ. NAME: EPTS Remediation project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Chris maez 6-6-01			
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		Company:		Company:	
SAMPLE RECEIPT				See reverse side (Force Majeure)			
NO. CONTAINERS				RECEIVED BY: 1.		RECEIVED BY (LAB): 2.	
CUSTODY SEALS Y/N/NA				Signature: Time:		Signature: Time:	
RECEIVED INTACT				Printed Name: Date:		Printed Name: Date:	
BLUE ICE/ICE				Company:		Pinnacle Laboratories Inc.	

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[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO.: 0169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒	Signature: [Signature]	Time: 1600	Signature:	Time:
PROJ. NAME: EPTS Quarterly		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Chris A. Mac	Date: 5/31/01	Printed Name:	Date:
P.O. NO.: 1		METHANOL PRESERVATION ☐		Company:		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		RECEIVED BY: [Signature]		RECEIVED BY (LAB): [Signature]	
SAMPLE RECEIPT		Fax results to Lisa Winn		Signature:		Signature:	
NO. CONTAINERS				Time:		Time:	
CUSTODY SEALS	Y/N/NA			Printed Name:		Printed Name:	
RECEIVED INTACT				Date:		Date:	
BLUE ICE/ICE				Company:		Pinnacle Laboratories Inc.	

CHAIN OF CUSTODY

DATE: 5-31-01 PAGE: 1 OF 1

PLI Accession #

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[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: R. L. May Time: 1600		Signature: Time:	
PROJ. NAME: EPTS Remediation		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date:		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Christ M-25-31-01			
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		Company:		Company:	
SAMPLE RECEIPT		Fax Results to Lisa Winn		See reverse side (Force Majeure)			
NO. CONTAINERS				RECEIVED BY: 1		RECEIVED BY: (LAB) 2	
CUSTODY SEALS Y/N/NA				Signature: Time:		Signature: Time:	
RECEIVED INTACT				Printed Name: Date:		Printed Name: Date:	
BLUE ICE/CE				Company:		Pinnacle Laboratories Inc.	

Well Number R 3

☐ Develop
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name EpFS Quarterly Sampling

Project Manager R Thompson

Project No. 62800102

Client Company El Paso Field Services

Phase/Task No. 0301

Site Name Jaquez G.C. # C1 (70995)

Site Address Blanco N.M.

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 22.20

Initial Depth to Water (feet) 14.50

Height of Water Column in Well (feet) 7.7

Diameter (inches) Well 4" Grain of Pack

Instruments

Serial No. (if applicable)

☒ pH Meter

Hydac

☐ DO Monitor

☒ Conductivity Meter

Hydac

☒ Temperature Meter

Hydac

☐ Other

Methods of Development

Pump

Boiler

☐ Centrifugal

☒ Bottom Valve

☐ Submersible

☐ Double Check Valve

☐ Peristaltic

☐ Stainless-steel Kemmerer

☐ Other

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Volume	<u>7.7</u>	<u>5.02X3</u>	<u>15.06</u>
Gravel Pack			
Boiler Volume			
Total			<u>15.06</u>

Water Disposal

KUTZ Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Production Volume (gallons)	Temperature (°F)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/l)	Comments
		Pump	Boiler				Intake	Ending						
02-15-01	1150		X				3.25	3.25		14.2	5.89	1030		Clear/faint odor
	1153		X				3.25	6.50		15.8	5.69	1040		" "
	1159		X				3.25	9.75		15.7	5.66	0990		" "
	1203		X				3.25	13		15.7	5.63	0920		" "
	1207		X				3.25	16.25		15.4	5.65	0960		No Change

Circle the date and time that the development criteria are met.

Comments Sampled for BTEX 1213

Developer's Signature(s) Chris A. May

Date 02-15-01

Reviewer RT

Date 2/20/01

Well Number R 4

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD- _____

Page 1 of 1

Project Name EPFS quarterly Sampling

Project Manager R Thompson

Project No. 62800107

Client Company El Paso Field Services

Phase/Task No. 0301

Site Name Jaquez GC #C1 (70995)

Site Address Blanco N.M.

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 22.22
Initial Depth to Water (feet) 14.05
Height of Water Column in Well (feet) 8.17
Diameter (inches) Well _____ Casing or Pipe _____

Instruments

Serial No. (if applicable)

- ☒ pH Meter Hydac
☐ DO Monitor _____
☒ Conductivity Meter Hydac
☒ Temperature Meter Hydac
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Item	Water Volume in Well		Gallons to be Removed
	Depth (feet)	Gallons	
Well Volume	8.17	5.33 x 3	15.99
Gravel Port			
Casing Port			
Total			15.99

Water Disposal

K-12 Separator 13166m Field N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Landing Water Depth (feet)	Water Volume Removed (gallons)		Temperature (°F)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/l)	Comments
		Pump	Bailer				Initial	Final					
02-15-01	1421						3.25	3.25	11.9	5.93	718		Cloudy yellowish tint Sheen product odor no change
	1425						3.25	6.50	12.5	5.77	727		

Circle the date and time that the development criteria are met.

Comments AFTER Bailing Approximately 7 gal. Bailed well Dry Let Recover sample for DTex 1437 conductivity in X 100 Range.

Developer's Signature(s) [Signature]

Date 02-15-01

Reviewer RT

Date 2/20/01

Well Number RSSerial No. WOPD-☒ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1Project Name EpFS Quarterly SamplingProject Manager R ThompsonProject No. 62800107Client Company El Paso Field ServicesPhase/Task No. 0301Site Name Jaquez G.S. #C1 (70995)Site Address Blanco N.M.

Development Criteria

- ☒ ① to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 24.48
 Initial Depth to Water (feet) 1.659
 Height of Water Column in Well (feet) 2.89
 Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.89	5.15 X 3	15.45
Gravel Pack			
Drilling Fluids			
Total			15.45

Instruments

Serial No. (if applicable)

- ☒ pH Meter Hydac
☐ DO Monitor _____
☒ Conductivity Meter Hydac
☒ Temperature Meter Hydac
☐ Other _____

Water Disposal

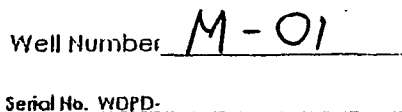
KWTZ Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Temperature (°F)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/l)	Comments
		Pump	Bailer				Initial	Final					
02-15-01	1057		X				3.25	3.25	12.4	5.95	1030		Clear no odor
	1101		X				3.25	6.50	12.4	5.97	1100		" "
	1105		X				3.25	9.75	12.4	5.94	1130		no Change

Circle the date and time that the development criteria are met.

Comments AFTER Bailing Approximately 10 GAL. Bailed well Dry Let Recover Sampled for BTEX 1/25Developer's Signature(s) Chris A. MayDate 02-15-01Reviewer RTDate 2/20/01

Page 1 of 1

Project Manager R Thompson

Project No. 62800107

Phase.Task No. 0301

Site Name JAGUZ

Site Address Blanco N.M.

Water Volume Calculation

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Initial Depth of Well (feet) 15.36
Initial Depth to Water (feet) 4.30
Height of Water Column in Well (feet) 11.06
Diameter (Inches) of Well 4" Gravel Pack

Methods of Development

- | | |
|--------------------------------------|---|
| Pump | Boiler |
| ☐ Centrifugal | ☒ Bottom Valve |
| ☐ Submersible | ☐ Double Check Valve |
| ☐ Peristaltic | ☐ Stainless-steel Kemmerer |
| ☐ Other | |

Item	Water Volume in Well Cubic Feet	Gallons Removed	Gallons to be Removed
Well - 1100	11.00	221 x 3	21.63
Surface Pond			
Drilling Fluids			
Water			

Instruments

- ☒ pH Meter Hydax
- ☐ DO Monitor
- ☒ Conductivity Meter Hydax
- ☒ Temperature Meter Hydax
- ☐ Other

Serial No. (If applicable)

Hydro

Hydrous

Hydant

Water Disposal

KUTZ Separator Bloomfield RM.

Water Removal Data

[illegible]

Circle the date and time that the development criteria are met.

Comments Bailed Approximately 2.5 gal. Bailed well dry. Let Recover Sampled for BTEX 1000 & ST water interface probe. never Been in a contaminated well

Developer's Signature(s)

Date 02-14-01

Reviewer

Date 2/20/01

Well Number M-02Serial No. WOPD-☐ Pumping
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1Project Name EpFS Quarterly SamplingProject Manager R. ThompsonProject No. 62800107Client Company El Paso Field ServicesPhase/Task No. 0301Site Name JaquezSite Address Blanco N.M.

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal☒ Stabilization of Indicator Parameters☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.09Initial Depth to Water (feet) 4.12Height of Water Column in Well (feet) 10.97Diameter Packer, Well 4" Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Initial Feet	Gallons	
Well Water	<u>10.97</u>	<u>2.16X3</u>	<u>21.48</u>
Gravel Pack			
Gravel Bed			

Instruments

Serial No. (if applicable)

☒ pH Meter Hydac☐ DO Monitor _____☒ Conductivity Meter Hydac☒ Temperature Meter Hydac☐ Other _____

Methods of Development

Pump

Bailer

☐ Centrifugal☒ Bottom Valve☐ Submersible☐ Double Check Valve☐ Peristaltic☐ Stainless-steel Kemmerer☐ Other _____

Water Disposal

K-TZ Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Pumped (gallons)		Temperature (F)	pH	Conductivity (micro/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Surf	Bottom					
02-14-01	0936						4.5	4.5	4.2	6.13	026		Clear no odor
	0940						4.5	9	4.9	6.04	027		" "
	0945						4.5	13.5	5.6	6.09	027		" "
	0949						4.5	18	5.2	6.07	027		" "
	0954						4.5	22.5	4.7	6.04	026		no change

Circle the date and time that the development criteria are met.

Comments SAMPLED FOR BTex 1004 used RST probe never been in a contaminated wellDeveloper's Signature(s) Chris A. MayDate 2-14-01Reviewer RT Date 2/20/01

Well Number M-03

Serial No. WDPD- _____

☐ Decontaminate
☐ Purge

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1Project Name EPFS quarterly SamplingProject Manager R ThompsonProject No. 62800107Client Company Enproso Field ServicesPhase/Task No. 0301Site Name JaquezSite Address Blanco N.M.

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Boiler _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 15.13
 Initial Depth to Water (feet) 4.40
 Height of Water Column in Well (feet) 10.73
 Diameter of Casing Well 4" Gravel Pack _____

Item	Water Volume in Well (Cubic Feet)	Gallons	Gallons to be Removed
Water Column	10.73	7 X 3	21
Gravel Pack			
Drilling Fluids			
Total			21

Instruments

Serial No. (if applicable)

- ☒ pH Meter Hydac
☐ DO Monitor _____
☒ Conductivity Meter Hydac
☒ Temperature Meter Hydac
☐ Other _____

Water Disposal

LTZ Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Temperature (°F)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/l)	Comments
		Pump	Boiler				Initial	Final					
02-14-01	1226		X				4.25	4.25	6.7	5.99	0.27		Clear
	1229		X				4.25	8.50	6.4	5.95	0.18		"
	1235		X				4.25	12.75	6.4	5.84	0.16		"
	1239		X				4.25	17	6.5	5.80	0.16		"
	1244		X				4.25	21.25	6.3	5.76	0.16		no change

Circle the date and time that the development criteria are met.

Comments SAMPLED FOR BTEX 1304Developer's Signature(s) Chris A. MayDate 2/14/01Reviewer RT Date 2/20/01

Well Number M 6

Serial No. WOPD- _____

☐ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1Project Name EPTS quarterly SamplingProject Manager R ThompsonProject No. 62800107Client Company El Paso Field ServicesPhase/Task No. 0301Site Name JaquezSite Address Blanco N.M.

Development Criteria

- ☒ 1 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump _____ Bailer _____
☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 17.89
 Initial Depth to Water (feet) 7.40
 Height of Water Column in Well (feet) 10.49
 Diameter (Inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	10.49	6.84 X 3	20.52
Gravel Pack			
Drilled Holes			
Total			20.52

Instruments

Serial No. (if applicable)

- ☒ pH Meter Hydac
☐ DO Monitor _____
☒ Conductivity Meter Hydac
☒ Temperature Meter Hydac
☐ Other _____

Water Disposal

LUTZ Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Temperature (°F)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/l)	Comments
		Pump	Bailer				Beginning	Ending					
02-14-01	1357		X				4.25	4.25	10.9	6.16	053		Cloudy Brown
	1400		X				4.25	8.50	9.5	6.00	054		" "
	1407		X				4.25	12.75	9.7	5.86	050		" "
	1412		X				4.25	17	9.6	5.82	046		" "
	1432		X				4.25	21.25	8.8	5.81	044		NO Change

Circle the date and time that the development criteria are met.

Comments SAMPLED FOR BTEX 1440Developer's Signature(s) [Signature]Date 02-14-01Reviewer RTDate 2/20/01

APPENDIX E
EMISSIONS CALCULATIONS

Mass Removal Air Emissions Calculations

Date	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethylbenzene (mg/m ³)	Total		C		Q (m ³ /hr)	T	tons benzene/month	tons BTEX/month
				Xylenes (mg/m ³)	BTEX (mg/m ³)	Benzene (mg/m ³)	C BTEX (mg/m ³)				
01/18/01	0.31	0.16	<0.05	1	1.47	0.31	1.47	70	360	0.000008551385	0.000040550117
02/15/01	0.39	0.2	0.08	1.3	1.97	0.39	1.97	70	312	0.000009323768	0.000047096983
03/15/01	<0.10	<0.10	<0.10	<0.10	0	<0.10	0	68	372	0.000000000000	0.000000000000
04/26/01	1200	57	2.9	27	1286.9	1200	1286.9	33	360	0.015905172633	0.017056972218
05/31/01	57	35	1.9	2.9	96.8	57	96.8	33	360	0.000755495700	0.001283017259
06/21/01	43	26	2.8	28	99.8	43	99.8	33	348	0.000550937508	0.001278687518
07/30/01	17	5.2	0.8	2.3	25.3	17	25.3	33	348	0.000217812503	0.000324156254
08/22/01	12	4.2	1	2.6	19.8	12	19.8	33	252	0.000111336208	0.000183704744
10/11/01	4.9	0.59	<0.10	<0.10	5.49	4.9	5.49	33	0	0.000000000000	0.000000000000
12/20/01	3.5	1.2	<0.3	0.4	5.1	3.5	5.1	33	252	0.000032473061	0.000047317889

tons/year	0.017591103	0.020261503
average tons/month	0.00175911	0.00202615

APPENDIX F

LABORATORY ANALYTICAL REPORTS – GROUNDWATER



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

Pinnacle Lab ID number 112032
December 27, 2001

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS GW PROJECT
Project Number 1517000121

Jacquez

Attention: LISA WINN/SCOTT POPE

On 12/10/01 Pinnacle Laboratories, 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.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Severn Trent Laboratories, Inc. Pensacola, FL.

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	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 112032
PROJECT #	: 1517000121	DATE RECEIVED	: 12/10/01
PROJECT NAME	: EPFS GW PROJECT	REPORT DATE	: 12/27/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
112032 - 01	JAQ-0111-M1	AQUEOUS	11/28/01
112032 - 02	JAQ-0111-M2	AQUEOUS	11/28/01
112032 - 03	JAQ-0111-MW03	AQUEOUS	11/29/01
112032 - 04	JAQ-0111-MW04	AQUEOUS	11/29/01
112032 - 05	JAQ-0111-M5	AQUEOUS	11/29/01
112032 - 06	JAQ-0111-M6	AQUEOUS	11/28/01



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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D.: 112032

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0111-M1	AQUEOUS	11/28/01	NA	12/11/01	1
02	JAQ-0111-M2	AQUEOUS	11/28/01	NA	12/11/01	1
03	JAQ-0111-MW03	AQUEOUS	11/29/01	NA	12/11/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0111-M1	JAQ-0111-M2	JAQ-0111-MW03
BENZENE	0.5	UG/L	< 0.5	< 0.5	0.7
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

107

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

PINNACLE
LABORATORIES

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D.: 112032

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	JAQ-0111-MW04	AQUEOUS	11/29/01	NA	12/11/01	1
05	JAQ-0111-M5	AQUEOUS	11/29/01	NA	12/11/01	1
06	JAQ-0111-M6	AQUEOUS	11/28/01	NA	12/11/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0111-MW04	JAQ-0111-M5	JAQ-0111-M6
BENZENE	0.5	UG/L	78	5.6	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	11	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	78	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%) 123* 100 106
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

*MW04 had a slightly elevated surrogate. A 5X run on 12/18/01 demonstrated similar values, and surrogate is elevated but within criteria. Original data (in hold-time) is used.

PINNACLE
LABORATORIES

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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 112032
BLANK I. D.	: 121101	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/11/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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 (%) 112
SURROGATE LIMITS: (80 - 120)
TEST NOTES:
N/A

PINNACLE
LABORATORIES

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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 112032
BLANK I. D.	: 121801	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/18/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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 (%) 109
SURROGATE LIMITS: (80 - 120)
CLIENT NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 121101
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D. : 112032
DATE EXTRACTED : N/A
DATE ANALYZED : 12/11/01
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	20.3	102	20.3	102	0	(80 - 120)	20
TOLUENE	<0.5	20.0	20.8	104	20.6	103	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.6	103	20.5	102	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.6	108	64.0	107	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C1-12228

Received: 11 DEC 01

Reported: 20 DEC 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 112032, AMEC-EPFS GW PROJECT

Sampled By: Client

Code: 163511220

Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12228-1	JAQ-0111-MW03-112032-03	11-29-01/16:10
12228-2	JAQ-0111-MW04-112032-04	11-29-01/15:25
PARAMETER	12228-1	12228-2
Nitrate + Nitrite-N (353.2), mg/l	0.23	66
Dilution Factor	1	20
Prep Date	12.12.01	12.12.01
Analysis Date	12.13.01	12.13.01
Batch ID	N3W74B	N3W74B
Prep Method	353.2	353.2
Analyst	CR	CR

STL Pensacola

LOG NO: C1-12228

Received: 11 DEC 01

Reported: 20 DEC 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 112032, AMEC-EPFS GW PROJECT

Sampled By: Client

Code: 163511220

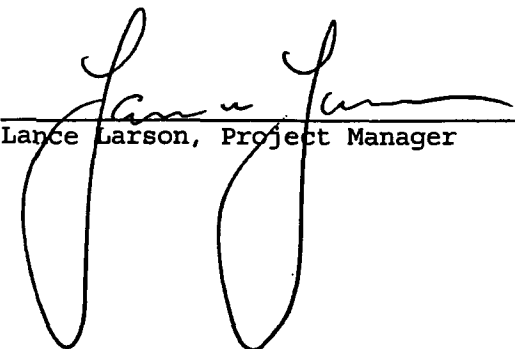
Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
12228-3	Method Blank			
12228-4	Lab Control Standard % Recovery			
12228-5	Matrix Spike % Recovery			
12228-6	Matrix Spike Duplicate % Recovery			
PARAMETER	12228-3	12228-4	12228-5	12228-6
Nitrate + Nitrite-N (353.2), mg/l	<0.10	102 %	97 %	102 %
Dilution Factor	1	---	---	---
Prep Date	12.12.01	---	---	---
Analysis Date	12.13.01	---	---	---
Batch ID	N3W74B	N3W74B	N3W74B	N3W74B
Prep Method	353.2	---	---	---
Analyst	CR	---	---	---

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

See the Project Sample Inspection Form (PSIF) to determine if a sample was received that did not meet EPA requirements for sample collection, preservation, or holding time.


Lance Larson, Project Manager

Final Page Of Report

STL Pensacola

PROJECT SAMPLE INSPECTION FORM

SEVERN

TRENT

SERVICES

Lab Order #: C112228Date Received: 11-Dec-011. 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? ☒ Yes ☐ No* N/A
(Criteria: 2° - 6°C: STL-SOP4. Were all samples properly labeled and identified? ☒ Yes ☐ No*5. Did samples require splitting or compositing*? Yes* ☒ No

Req By: PM Client Other*

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? ☒ Yes ☐ No* N/A
(Check pH of all H₂O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*9. Is there sufficient volume for analysis requested? ☒ Yes ☐ No* N/A
(Can)10. Were samples received within Holding Time? ☒ Yes ☐ No*
(REFER TO STL-SOP 1040)11. Is Headspace visible > ¼" in diameter in VOA vials? If any headspace is evident, comment in out-of-control section. Yes* ☐ No ☒ N/A12. If sent, were matrix spike bottles returned? Yes ☐ No* ☒ N/A13. Was Project Manager notified of problems? (initials: _____) Yes ☐ No* ☒ N/AAirbill Number(s): 12878 168 01 4395 2496Shipped By: UPSCooler Number(s): ClientShipping Charges: N/ACooler Weight(s): 56#Cooler Temp(s) (°C): 4°C

CCK10

(USE THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

NNO₃ analysis would be out of hold time NO₂+NO₃ used for Det.

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 12/11/01Logged By: LJK Date: 11-Dec-01* Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples (pH, Dissolved O₂, Residual Cl) as out of hold time, therefore, these samples will not be documented on this PSIF.

* If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"

* 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, section 2.2.9).

* 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, section 2.2.12).



Pinnacle Laboratories, Inc.

Interlab Chain of Custody

Date: 12/10 Page: 1 of 1

Network Project Manager: Jacinta A. Tenorio					ANALYSIS REQUEST																					
Pinnacle Laboratories, Inc. 2709-D Pan American Freeway, NE Albuquerque, New Mexico 87107 (505) 344-3777 Fax (505) 344-4413 C112228					Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL (23 METALS)		TOX	TOC	Gen Chemistry: <u>Total NO₂/NO₃</u>	Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8082)	Herbicides (615/8151)	PNA (8310)/8270 SIMS	8240 (TCLP 1311) ZHE	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM (ICP-MS)	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
					SAMPLE ID	DATE	TIME	MATRIX	LAB ID																	
JAQ-0111-MW03/112032-03	11/29	1610	AQ								X															
JAQ-0111-MW04/112032-04	11	1525	11								X															

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJECT #: <u>112032</u>	Total Number of Containers		PENSACOLA - STL-FL	Signature: <u>Jacinta Tenorio</u>	Time: <u>1700</u>	Signature:	Time:		
PROJ. NAME: <u>AMEC</u>	Chain of Custody Seals		ESL - OR	Printed Name: <u>Francine Tenorio</u>	Date: <u>12/10/01</u>	Printed Name:	Date:		
QC LEVEL: <u>STD</u> IV	Received Intact?		STL - CT	Pinnacle Laboratories, Inc.					
QC REQUIRED: <u>MS</u> <u>MSD</u> <u>BLANK</u>	Received Good Cond./Cold		ATEL - AZ	RECEIVED BY: 1					
TAT: <u>STANDARD</u> RUSH!!	LAB NUMBER:		ATEL - MARION	RECEIVED BY: 2					
			ATEL - MELMORE						
DUE DATE: <u>12/24</u>	COMMENTS:		BARRINGER	Signature: <u>Linda L. Kitt</u>	Time: <u>0915</u>	Signature:	Time:		
RUSH SURCHARGE: <u>-</u>			ENVIRO TEST LABS	Printed Name: <u>Linda L. Kitt</u>	Date: <u>12/10/01</u>	Printed Name:	Date:		
CLIENT DISCOUNT: <u>-</u>			WCAS	Company <u>STL-71</u>					
SPECIAL CERTIFICATION REQUIRED: YES <u>(NO)</u>			WOHL						

NO REPRODUCING OR REUSE OF ANY CONTENTS

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA WINN

COMPANY: AMEC EARTH & ENVIRONMENTAL

ADDRESS: 2060 AFTON PLACE
FARMINGTON, NM 87401

PHONE: (505) 327-7928

FAX: (505) 326-5721

BILL TO: ~~3~~ SCOTT POPE

COMPANY: EL PASO FIELD SERVICE

ADDRESS: 614 REILLY AVE.
FARMINGTON, NM 87401

SAMPLE ID		DATE	TIME	LAB/ID
JAQ-0111-M1	11-28-01	1631	H2O	01
JAQ-0111-M2	11-28-01	1636	H2O	02
JAQ-0111-MW03	11-29-01	1610	H2O	03
JAQ-0111-MW04	11-29-01	1525	H2O	04
JAQ-0111-MS	11-29-01	1446	H2O	05
JAQ-0111-M6	11-28-01	1555	H2O	06

[illegible]

PROTECT INFORMATION		PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS	RELINQUISHED BY:	RELINQUISHED BY:
PROJ. NO.: 1517000121	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	Signature: [Signature] Time: 0815	Signature: [Signature] Time: [Blank]	
PROJ. NAME: EPFS GW PROJECT	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER	Printed Name: ROBERT THOMPSON Date: 12-10-01	Printed Name: [Blank] Date: [Blank]	
P.O. NO.:	METHANOL PRESERVATION ☐	Company: AMEC See reverse side (Force Majeure)	Company: [Blank]	
SHIPPED VIA: GREY HOUND	COMMENTS: FIXED FEE ☐ On Ice	RECEIVED BY:	RECEIVED BY: (LAB)	
		Signature: [Blank] Time: [Blank]	Signature: [Signature] Time: 1530	
		Printed Name: [Blank] Date: [Blank]	Printed Name: [Signature] Date: 12/10/01	
		Company: [Blank]	Company: [Signature] Timberline Laboratories Inc.	



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **112031**
December 27, 2001

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS GW PROJECT
Project Number 1517000121

Jacquez

Attention: LISA WINN/SCOTT POPE

On 12/10/01 Pinnacle Laboratories, 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

PINNACLE
LABORATORIES

CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT
PINNACLE ID : 112031
DATE RECEIVED : 12/10/01
REPORT DATE : 12/27/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
112031 - 01	JAQ-0111-R1	AQUEOUS	11/28/01
112031 - 02	JAQ-0111-R2	AQUEOUS	11/28/01
112031 - 03	JAQ-0111-R3	AQUEOUS	11/28/01
112031 - 04	JAQ-0111-R4	AQUEOUS	11/28/01
112031 - 05	JAQ-0111-R5	AQUEOUS	11/28/01
112031 - 06	JAQ-0111-R6	AQUEOUS	11/28/01

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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D.: 112031

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0111-R1	AQUEOUS	11/28/01	NA	12/10/01	1
02	JAQ-0111-R2	AQUEOUS	11/28/01	NA	12/11/01	10
03	JAQ-0111-R3	AQUEOUS	11/28/01	NA	12/10/01	1
PARAMETER		DET. LIMIT	UNITS	JAQ-0111-R1	JAQ-0111-R2	JAQ-0111-R3
BENZENE		0.5	UG/L	100	26	< 0.5
TOLUENE		0.5	UG/L	17	5.8	< 0.5
ETHYLBENZENE		0.5	UG/L	3.9	< 5.0	< 0.5
TOTAL XYLENES		0.5	UG/L	24	85	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

113

109

112

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

TEST : EPA 8021 MODIFIED
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D.: 112031

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0111-R4	AQUEOUS	11/28/01	NA	12/10/01	1
05	JAQ-0111-R5	AQUEOUS	11/28/01	NA	12/10/01	1
06	JAQ-0111-R6	AQUEOUS	11/28/01	NA	12/11/01	1
PARAMETER		DET. LIMIT	UNITS	JAQ-0111-R4	JAQ-0111-R5	JAQ-0111-R6
BENZENE		0.5	UG/L	79	< 0.5	< 0.5
TOLUENE		0.5	UG/L	0.5	< 0.5	< 0.5
ETHYLBENZENE		0.5	UG/L	1.5	< 0.5	< 0.5
TOTAL XYLENES		0.5	UG/L	13	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

108

112

107

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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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.	: 112031
BLANK I. D.	: 121001	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/10/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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)
CHECKLIST 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.	: 112031
BLANK I. D.	: 121101	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/11/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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 (%) 112
SURROGATE LIMITS: (80 - 120)
CHECK 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

EST : EPA 8021 MODIFIED
MSMSD # : 112031-06
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D. : 112031
DATE EXTRACTED : N/A
DATE ANALYZED : 12/11/01
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	20.8	104	20.3	101	2	(80 - 120)	20
TOLUENE	<0.5	20.0	20.7	103	20.6	103	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.5	103	20.1	100	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.2	107	63.0	105	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 Inc.

CHAIN OF CUSTODY

DATE: 12-10-01 PAGE: 1 OF 1

Accession # 112051

SAMPLED/REASSEMBLED FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA WINN

COMPANY: AMEC EARTH & ENVIRONMENTAL
 ADDRESS: 2060 AFTON PLACE
 FARMINGTON, NM 87401
 PHONE: (505) 327-7928
 FAX: (505) 326-5721

BILL TO: SCOTT POPE
 COMPANY: EL PASO FIELD SERVICE
 ADDRESS: 614 REILLY AVE.
 FARMINGTON, NM 87401

ANALYSIS REQUEST				NUM OF CONTAINERS	
Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject					
(M8015) Gas/Purge & Trap					
8021 (BTX)/8015 (Gasoline) MTBE					
8021 (BTX) ☐ 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:					

SAMPLE ID	DATE	TIME	TEMP	LAB
JAQ-0111-R1	11-28-01	1405	H2O	01
JAQ-0111-R2	11-28-01	1357	H2O	02
JAQ-0111-R3	11-28-01	1339	H2O	03
JAQ-0111-R4	11-28-01	1347	H2O	04
JAQ-0111-R5	11-28-01	1336	H2O	05
JAQ-0111-R6	11-28-01	1327	H2O	06

PROJECT INFORMATION	ANALYSIS AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	RELINQUISHED BY:	RELINQUISHED BY:
PROJ. NO.: 1517000121	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	Signature: [Signature] Time: 0815	Signature: [Signature] Time:
PROJ. NAME: EPPS GW PROJECT	CERTIFICATION REQUIRED: ☐ NM ☐ SOWA ☐ OTHER	Printed Name: ROBERT THOMPSON Date: 12-10-01	Printed Name: Date:
P.O. NO.:	METHANOL PRESERVATION ☐	Company: AMEC See reverse side (Force Majeure)	Company:
SHIPPED VIA: GREY HOUND	COMMENTS: FIXED FEE ☐	Signature: [Signature] Time:	Signature: [Signature] Time: 1530
		Printed Name: Date:	Printed Name: Date: 12/10/01
		Company:	Company: Pinnacle Laboratories Inc.





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

Pinnacle Lab ID number **108108**
September 12, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

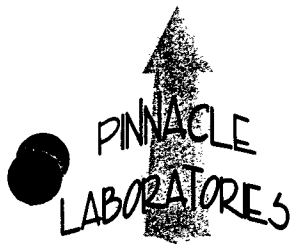
On 08/25/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

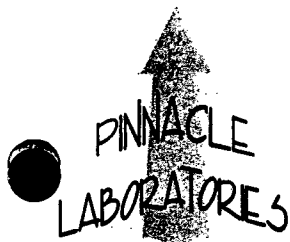
Enclosure



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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 108108
PROJECT #	: 6169	DATE RECEIVED	: 08/25/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 09/12/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
108108 - 01	JAQ-0108-R1	AQUEOUS	08/23/01
108108 - 02	JAQ-0108-R2	AQUEOUS	08/23/01
108108 - 03	JAQ-0108-R3	AQUEOUS	08/23/01
108108 - 04	JAQ-0108-R4	AQUEOUS	08/23/01
108108 - 05	JAQ-0108-R5	AQUEOUS	08/23/01
108108 - 06	JAQ-0108-R6	AQUEOUS	08/23/01
108108 - 07	TRIP BLANK	AQUEOUS	08/21/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

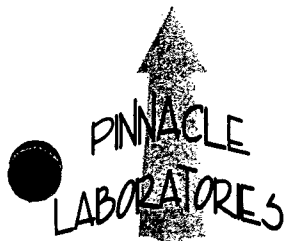
PINNACLE I.D.: 108108

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0108-R1	AQUEOUS	08/23/01	NA	08/28/01	1
02	JAQ-0108-R2	AQUEOUS	08/23/01	NA	08/31/01	5
03	JAQ-0108-R3	AQUEOUS	08/23/01	NA	08/28/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0108-R1	JAQ-0108-R2	JAQ-0108-R3
BENZENE	0.5	UG/L	22	< 2.5	1.3
TOLUENE	0.5	UG/L	1.2	22	< 0.5
ETHYLBENZENE	0.5	UG/L	1.0	22	< 0.5
TOTAL XYLENES	0.5	UG/L	4.2	310	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 92 97 85
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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

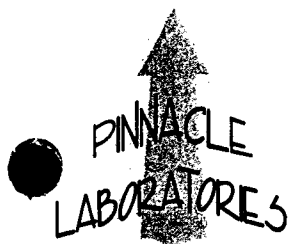
PINNACLE I.D.: 108108

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	JAQ-0108-R4	AQUEOUS	08/23/01	NA	08/28/01	5
05	JAQ-0108-R5	AQUEOUS	08/23/01	NA	08/30/01	1
06	JAQ-0108-R6	AQUEOUS	08/23/01	NA	08/28/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0108-R4	JAQ-0108-R5	JAQ-0108-R6
BENZENE	0.5	UG/L	86	< 0.5	< 0.5
TOLUENE	0.5	UG/L	20	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 2.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	12	< 0.5	< 0.5

PROGATE:
BROMOFLUOROBENZENE (%) 118 89 85
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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 108108

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	TRIP BLANK	AQUEOUS	08/21/01	NA	08/28/01	1

PARAMETER	DET. LIMIT	UNITS	TRIP BLANK
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 (%)

91

PROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



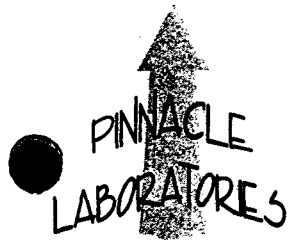
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108108
BLANK I. D.	: 082801	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/28/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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 (%) 90
SURROGATE LIMITS: (80 - 120)
CHECK 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.	: 108108
BLANK I. D.	: 083001	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/30/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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 (%) 89
SURROGATE LIMITS: (80 - 120)
CHECK NOTES:
N/A



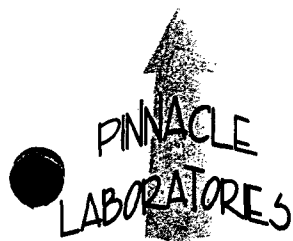
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108108
BLANK I. D.	: 083101	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/31/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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)
TEST 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 # : 108120-01
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 108108
DATE EXTRACTED : NA
DATE ANALYZED : 08/30/01
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	17.1	86	17.3	87	1	(80 - 120)	20
TOLUENE	<0.5	20.0	20.2	101	20.1	101	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.9	105	20.8	104	0	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	62.7	105	62.5	104	0	(80 - 120)	20

CHART 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: 8-23-01 PAGE: 1 OF 1

PLI Accession # 108108

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Winn

COMPANY: GEM

ADDRESS: 906 San Juan Blvd. Suite D
Farmington N.M. 87401

PHONE: (505) 566-9116

FAX: (505) 566-9120

BILL TO: SCOTT POPE

COMPANY: El Paso Field Services

ADDRESS: 604 Reilly Ave
Farmington NM 87401

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
JAG-0109-R1	8-23-01	1236	H ₂ O	
JAG-0109-R2	8-23-01	1155	H ₂ O	
JAG-0109-R3	8-23-01	1100	H ₂ O	
JAG-0109-R4	8-23-01	1000	H ₂ O	
JAG-0109-R5	8-23-01	1030	H ₂ O	
JAG-0109-R6	8-23-01	0930	H ₂ O	
TRIP Blank	8-21-01	1415	H ₂ O	

ANALYSIS REQUEST															NUMBER OF CONTAINERS
Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(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:	

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJ. NO.: 669		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒	Signature: [Signature]	Time: 1000	Signature:	Time:
PROJ. NAME: EPC Remediation Project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Chris A. Meez	Date: 8-24-01	Printed Name:	Date:
P.O. NO.:		METHANOL PRESERVATION ☐		Company:		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)			
SAMPLE REQUEST		Jaquez G.C. #C1 meter # 70995		RECEIVED BY: (LAB)		2	
NO. OF CONTAINERS				Signature:	Time:	Signature:	Time:
CUSTODY SEALS				Printed Name:	Date:	Printed Name:	Date:
RECEIVED BY: (CLIENT)				Company:		Company:	
DATE				Pinnacle Laboratories Inc.			



Pinnacle Lab ID number **108100**
March 26, 2002
September 10, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

On 08/23/01 Pinnacle Laboratories, 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.

This report is being reissued at the request of the client. The original report was dated September 10, 2001.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Severn Trent Laboratories, Inc. Pensacola, FL.

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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 108100
PROJECT #	: 6169	DATE RECEIVED	: 08/23/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 03/26/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
08100 - 01	JAQ-0801-M1	AQUEOUS	08/21/01
08100 - 02	JAQ-0801-M2	AQUEOUS	08/21/01
08100 - 03	JAQ-0801-M3	AQUEOUS	08/21/01
08100 - 04	JAQ-0801-M4	AQUEOUS	08/21/01
08100 - 05	JAQ-0801-M5	AQUEOUS	08/21/01
08100 - 06	JAQ-0801-M6	AQUEOUS	08/21/01
08100 - 07	TRIP BLANK	AQUEOUS	08/01/01

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED

CLIENT : GOLDEN ENVIRONMENTAL MNGT.

PINNACLE I.D.: 108100

PROJECT # : 6169

PROJECT NAME : EPFS REMEDIATION PROJECT

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0801-M1	AQUEOUS	08/21/01	NA	08/23/01	1
02	JAQ-0801-M2	AQUEOUS	08/21/01	NA	08/23/01	1
03	JAQ-0801-M3	AQUEOUS	08/21/01	NA	08/23/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0801-M1	JAQ-0801-M2	JAQ-0801-M3
BENZENE	0.5	UG/L	< 0.5	< 0.5	1.6
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	1.2
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	4.5

SURROGATE:

BROMOFLUOROBENZENE (%)

91

88

93

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED

CLIENT : GOLDEN ENVIRONMENTAL MNGT.

PINNACLE I.D.: 108100

PROJECT # : 6169

PROJECT NAME : EPFS REMEDIATION PROJECT

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0801-M4	AQUEOUS	08/21/01	NA	08/23/01	1
05	JAQ-0801-M5	AQUEOUS	08/21/01	NA	08/23/01	1
06	JAQ-0801-M6	AQUEOUS	08/21/01	NA	08/23/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0801-M4	JAQ-0801-M5	JAQ-0801-M6
BENZENE	0.5	UG/L	30	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	1.4	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	7.8	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

91

90

91

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED

CLIENT : GOLDEN ENVIRONMENTAL MNGT.

PINNACLE I.D.: 108100

PROJECT # : 6169

PROJECT NAME : EPFS REMEDIATION PROJECT

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
07	TRIP BLANK	AQUEOUS	08/01/01	NA	08/23/01	1
PARAMETER		DET. LIMIT	UNITS	TRIP BLANK		
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 (%)

93

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108100
LAB I.D.	: 082301	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/23/01
PROJECT #	: 8169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
OTHER XYLENES	UG/L	<0.5

URROGATE:
ROB FLUOROBENZENE (%) 90
URROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
I/A

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

EST : EPA 8021 MODIFIED
ISMSD # : 108100-01
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 108100
DATE EXTRACTED : N/A
DATE ANALYZED : 08/23/01
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	18.4	92	16.8	84	9	(80 - 120)	20
TOLUENE	<0.5	20.0	20.8	104	19.6	98	6	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.3	107	20.2	101	5	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.3	107	60.5	101	6	(80 - 120)	20

CHEMIST NOTES:
N/A

(Spike Sample Result - Sample Result)

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

(Sample Result - Duplicate Result)

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

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C1-08616

Received: 24 AUG 01

Reported: 05 SEP 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 108100, GEM/EPFS REMEDIATION PROJECT

Sampled By: Client

Code: 12111095

Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08616-1	JAQ-0801-M3/108100-03	08-21-01/11:30
08616-2	JAQ-0801-M4/108100-04	08-21-01/13:00
PARAMETER	08616-1	08616-2
Nitrate-Nitrite, Nitrogen (353.2/354.1/4500-NO3)		
Nitrate + Nitrite-N, mg/l	0.15	5.0
Nitrate-N, mg/l	0.15R4	5.0R4
Nitrite-N, mg/l	<0.10R4	<0.10R4
Dilution Factor	1	2
Prep Date	08.24.01	08.24.01
Analysis Date	08.27.01	08.27.01
Batch ID	N3W53B	N3W53B
Prep Method	4500-NO2B	4500-NO2B
Analyst	CR	CR

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C1-08616

Received: 24 AUG 01

Reported: 05 SEP 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 108100, GEM/EPFS REMEDIATION PROJECT

Sampled By: Client

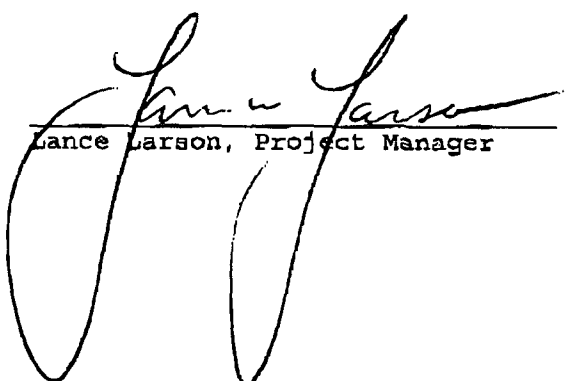
Code: 12111095

Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
08616-3	Method Blank			
08616-4	Lab Control Standard % Recovery			
08616-5	Matrix Spike % Recovery			
08616-6	Matrix Spike Duplicate % Recovery			
PARAMETER	08616-3	08616-4	08616-5	08616-6
Nitrate-Nitrite, Nitrogen (353.2/354.1/4500-NO3)				
Nitrate + Nitrite-N, mg/l	<0.10	110 %	70 %	70 %
Nitrite-N, mg/l	<0.10	100 %	90 %	90 %
Dilution Factor	1	---	---	---
Prep Date	08.24.01	---	---	---
Analysis Date	08.27.01	---	---	---
Batch ID	N3W53B	N3W53B	N3W53B	N3W53B
Prep Method	4500-NO2B	---	---	---
Analyst	CR	---	---	---

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.


Lance Larson, Project Manager

Final Page Of Report

SEVERN

TRENT

SERVICES

STL Pensacola

Data Qualifiers for Final Report

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL Pensacola RL and $\geq$ the STL Pensacola MDL; therefore, the quantitation is estimation.
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$); non-reportable for NPDES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL); results may be biased high
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL); results may be biased low
M1	A matrix effect was present (¹ sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, ² sample and/or MS/MSD chromatogram(s) had interfering peaks, ³ sample result was > 4 X spike added, ⁴ metals serial dilution was performed, or ⁵ metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The quantitation may be an estimation.
R3	(For nondetects) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$); non-reportable for NPDES compliance monitoring
R4	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NPDES compliance monitoring
R5	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R6	Holding time exceeded, non-reportable for NPDES compliance monitoring.
R7	Sample collection requirements not met, see case narrative.
R8	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R9	Internal standard area outside -50% to +100% of calibration verification standard.
R10	Initial calibration or any calibration verification exceeds acceptance criteria.
R11	Not filtered and preserved at time of collection.
R12	Headspace > 1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
S1	Samples were filtered and preserved within 4 hours of collection.
S2	Analysis performed outside the 12-hour tune or not within tune criteria.
S3 (Flashpoint)	The Method of Standard Additions (MSA) has been performed on this sample.
T	Incorrect sample amount was submitted to the laboratory for analysis
TIC	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
U	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
W	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
@	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value.
#	Value for result will never be below the MDL)
1 pt	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
*(Metals & Wet Chem)	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
	Elevated reporting limit due to insufficient sample size
	The compound has been quantitated against a one point calibration.
	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

STL PENSACOLA
State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02

State of California, Department of Health Services, Laboratory ID No. 01128CA (Hazardous Waste and Wastewater), expires 03/31/02

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01

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

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02

Florida DEP/DOH CompQAP # 980156

Florida, Radioactive Materials License No. C0733-1, no expiration date assigned

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01

Indiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental), expires 6/30/02

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02

State of Michigan, Bureau of E&OccH, Laboratory ID No. 9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02

New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02

State of New Jersey, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01

New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01

North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/01

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01

West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04

THIS FORM IS TO BE USED FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Winn

COMPANY: GEM

ADDRESS: 906 SAN JAVIER BLVD S-ITE D

Farmington N.M. 87401

PHONE: (505) 566-9116

FAX: (505) 566-9120

BILL TO: SCOTT POPE

COMPANY: EL PASO Field Services

ADDRESS: 604 Reilly AVE

Farmington N.M. 87401

JAG-0901-M1	8-21-01	1025	H ₂ O
JAG-0901-M2	8-21-01	1015	H ₂ O
JAG-0901-M3	8-21-01	1130	H ₂ O
JAG-0901-M4	8-21-01	1300	H ₂ O
JAG-0901-M5	8-21-01	1310	H ₂ O
JAG-0901-M6	8-21-01	1430	H ₂ O
Imp Blank	8/21/01	1430	AQ

Petroleum Hydrocarbons (418.1) TRPH

(MOD.8015) Diesel/Direct Inject

NITRATES

(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 (615/6151)

Base/Neutral/Acid Compounds GC/MS (825/8270)

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:

PROJECT INFORMATION	DESIGN AUTHORITY/DATE OF CHANGE FOR ALL PROJECTS
PROJ. NO.: 6169	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒
PROJ. NAME: EFS Remediation Project	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐
SAMPLE RECEIPT	
NO. CONTAINERS	
QUANTITY	
RECEIVED BY	

Jaquez GC #C1
meter # 70995

Signature: [Signature] Time: 1400

Printed Name: Chris A. Muel Date: 8-22-01

Company:

See reverse side (Force Majeure)

Signature: [Signature] Time:

Printed Name: [Signature] Date:

Company:

Signature: [Signature] Time:

Printed Name: [Signature] Date:

Company:

See reverse side (Force Majeure)

Signature: [Signature] Time:

Printed Name: [Signature] Date:

Company:



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **107029**
July 12, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

On 07/06/01 Pinnacle Laboratories, 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

PINNACLE
LABORATORIES

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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 107029
PROJECT #	: 6169	DATE RECEIVED	: 07/06/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 07/12/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
107029 - 01	JAQ-0107-R1	AQUEOUS	07/05/01
107029 - 02	JAQ-0107-R2	AQUEOUS	07/05/01
107029 - 03	JAQ-0107-R3	AQUEOUS	07/05/01
107029 - 04	JAQ-0107-R4	AQUEOUS	07/05/01
107029 - 05	JAQ-0107-R5	AQUEOUS	07/05/01
107029 - 06	JAQ-0107-R6	AQUEOUS	07/05/01



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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 107029

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0107-R1	AQUEOUS	07/05/01	NA	07/09/01	1
02	JAQ-0107-R2	AQUEOUS	07/05/01	NA	07/10/01	5
03	JAQ-0107-R3	AQUEOUS	07/05/01	NA	07/10/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0107-R1	JAQ-0107-R2	JAQ-0107-R3
BENZENE	0.5	UG/L	17	39	< 0.5
TOLUENE	0.5	UG/L	1.8	31	< 0.5
ETHYLBENZENE	0.5	UG/L	1.2	18	< 0.5
TOTAL XYLENES	0.5	UG/L	18	220	1.8

SURROGATE:

BROMOFLUOROBENZENE (%)

101

92

95

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 107029

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	JAQ-0107-R4	AQUEOUS	07/05/01	NA	07/10/01	5
05	JAQ-0107-R5	AQUEOUS	07/05/01	NA	07/10/01	1
06	JAQ-0107-R6	AQUEOUS	07/05/01	NA	07/09/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0107-R4	JAQ-0107-R5	JAQ-0107-R6
BENZENE	0.5	UG/L	370.0	< 0.5	< 0.5
TOLUENE	0.5	UG/L	85.0	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 2.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	14.0	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

92

93

95

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 107029
BLANK I. D.	: 070901	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 07/09/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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 (%) 94
SURROGATE LIMITS: (80 - 120)
REMARKS: N/A



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 107029
BLANK I. D.	: 071001	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 07/10/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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 (%)	94
------------------------	----

SURROGATE LIMITS: (80 - 120)

REMARKS:

N/A

PINNACLE
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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	PINNACLE I.D.	: 107029
MSMSD #	: 107026-01	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 07/09/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT	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	19.7	99	19.9	100	1	(80 - 120)	20
TOLUENE	<0.5	20.0	20.1	101	20.5	103	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.5	103	20.8	104	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	61.6	103	62.5	104	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

UNSHADED AREAS ARE FOR LAB USE ONLY:

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: Time: 0806		Signature: Time:	
PROJ. NAME: EPFS Remediation project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Date: 7-6-01		Printed Name: Date:	
P.O. NO.:		METHANOL PRESERVATION ☐		Company: See reverse side (Force Majeure)		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
SAMPLE RECEIPT		JAGUEZ GC #C1		Signature: Time:		Signature: Time: 1730	
NO. CONTAINERS: 12		meter # 70995		Printed Name: Date:		Printed Name: Date: 7/6/01	
CUSTODY SEALS: 6				Company:		Pinnacle Laboratories Inc.	
RECEIVED INTACT: YES							
BLUE ICE: 23							



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number 106005
June 19, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 6169

Attention: LISA WINN/SCOTT POPE

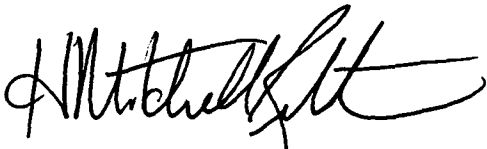
JAEZ Quantity
M-1-L 5/31/01

On 06/01/01 Pinnacle Laboratories, 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.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Severn Trent Laboratories, Inc. Pensacola, FL.

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 : GOLDEN ENVIRONMENTAL MNGT. PINNACLE ID : 106005
PROJECT # : 6169 DATE RECEIVED : 06/01/01
PROJECT NAME : EPFS QUARTERLY SAMPLING REPORT DATE : 06/19/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
106005 - 01	JAQ-0105-MW1	AQUEOUS	05/31/01
106005 - 02	JAQ-0105-MW2	AQUEOUS	05/31/01
106005 - 03	JAQ-0105-MW3	AQUEOUS	05/31/01
106005 - 04	JAQ-0105-MW4	AQUEOUS	05/31/01
106005 - 05	JAQ-0105-MW5	AQUEOUS	05/31/01
106005 - 06	JAQ-0105-MW6	AQUEOUS	05/31/01



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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 106005

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0105-MW1	AQUEOUS	05/31/01	NA	06/01/01	1
02	JAQ-0105-MW2	AQUEOUS	05/31/01	NA	06/01/01	1
03	JAQ-0105-MW3	AQUEOUS	05/31/01	NA	06/01/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0105-MW1	JAQ-0105-MW2	JAQ-0105-MW3
BENZENE	0.5	UG/L	1.0	< 0.5	1.2
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	0.6	< 0.5	1.7

SURROGATE:

BROMOFLUOROBENZENE (%)	108	106	110
SURROGATE LIMITS (80 - 120)			

CHEMIST NOTES:

N/A



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 106005

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0105-MW4	AQUEOUS	05/31/01	NA	06/01/01	1
05	JAQ-0105-MW5	AQUEOUS	05/31/01	NA	06/04/01	1
06	JAQ-0105-MW6	AQUEOUS	05/31/01	NA	06/01/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0105-MW4	JAQ-0105-MW5	JAQ-0105-MW6
BENZENE	0.5	UG/L	78	0.6	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)	108	90	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 RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106005
BLANK I. D.	: 060101	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/01/01
PROJECT #	: 6169	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 (%)

99

SURROGATE LIMITS: (80 - 120)

CHEMIST NOTES:

N/A



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Phone (505) 344-3777
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106005
BLANK I. D.	: 060401	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/04/01
PROJECT #	: 6169	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:

3-BROMOFLUOROBENZENE (%)

114

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 # : 060101
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 106005
DATE EXTRACTED : N/A
DATE ANALYZED : 06/01/01
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	18.0	90	18.6	93	3	(80 - 120)	20
TOLUENE	<0.5	20.0	18.6	93	19.2	96	3	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.5	97	20.2	101	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	58.0	97	60.1	100	4	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C1-06043

Received: 02 JUN 01

Reported: 12 JUN 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 106005, GEM-EPFS QRTLY SAMPLING

Sampled By: Client

Code: 143710612

Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
06043-1	JAQ-0105-M3/106005-03	05-31-01/12:35
06043-2	JAQ-0105-M4/106005-04	05-31-01/13:15
PARAMETER	06043-1	06043-2
Nitrate-Nitrite, Nitrogen (353.2/354.1/4500-NO3)		
Nitrate + Nitrite-N, mg/l	0.18	9.4
Nitrate-N, mg/l	0.18	9.3
Nitrite-N, mg/l	<0.1	0.12
Dilution Factor	1	2
Prep Date	06.02.01	06.02.01
Analysis Date	06.02.01	06.02.01
Batch ID	N3W31C	N3W31C
Analyst	CR	CR

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C1-06043

Received: 02 JUN 01

Reported: 12 JUN 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 106005, GEM-EPFS QRTLY SAMPLING

Sampled By: Client

Code: 143710612

Page 2

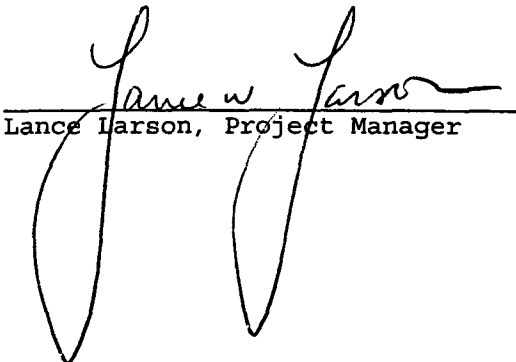
REPORT OF RESULTS

DATE/

TIME SAMPLED

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES			
06043-3	Method Blank			
06043-4	Lab Control Standard % Recovery			
06043-5	Matrix Spike % Recovery			
06043-6	Matrix Spike Duplicate % Recovery			
PARAMETER	06043-3	06043-4	06043-5	06043-6
Nitrate-Nitrite, Nitrogen (353.2/354.1/4500-NO3)				
Nitrate + Nitrite-N, mg/l	<0.1	104 %	97 %	96 %
Nitrite-N, mg/l	<0.1	100 %	110 %	110 %
Dilution Factor	1	---	---	---
Prep Date	06.02.01	---	---	---
Analysis Date	06.02.01	---	---	---
Batch ID	N3W31C	N3W31C	N3W31C	N3W31C
Analyst	CR	---	---	---

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.


Lance Larson, Project Manager

Final Page Of Report

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (The STL-PN RL is at or above lowest calibration standard in the initial calibration curve).
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$), non-reportable for NPDES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J7	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this qualifier should only be used when the STL-PN RL is below the lowest calibration standard in the initial calibration).
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present (1 sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, 2 sample and/or MS/MSD chromatogram(s) had interfering peaks, 3 sample result was > 4 X spike added, 4 metals serial dilution was performed, or 5 metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R1	(For nondetects) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$); non-reportable for NPDES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NPDES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NPDES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
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 calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The reported value is $\leq$ Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
*(Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

Revised: 12/20/00

STL PENSACOLA
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. 01128CA (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. E81010 (Drinking Water, 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. LA000017 (Drinking Water)

Louisiana Department of Environmental Quality, Environmental Laboratory Accreditation Program, Agency Interest ID 30748 (Environmental - Accreditation Pending)

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 ELAP, Laboratory ID No. 250599A (Wastewater)

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

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

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

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Drinking Water, Wastewater and Hazardous Waste 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)

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

\\word\certlist\condcert.lst revised 04/10/01

PROJECT SAMPLE INSPECTION FORM

SEVERN

TRENT

SERVICES

Lab Order #: C106043 Date Received: 6-2-01

- | | |
|--|---|
| <p>1. Was there a Chain of Custody? <u>Yes</u> No*</p> <p>2. Was Chain of Custody properly filled out and relinquished? <u>Yes</u> No*</p> <p>3. Were samples received cold? (Criteria: 2° - 6°C: STL-SOP) <u>Yes</u> No* N/A</p> <p>4. Were all samples properly labeled and identified? <u>Yes</u> No*</p> <p>5. Did samples require splitting or compositing*? Yes* <u>No</u>
Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? <u>Yes</u> No*</p> <p>7. Were all sample containers received intact? <u>Yes</u> No*</p> | <p>8. Were samples checked for preservative? (Check pH of all H₂O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)* Yes No* N/A</p> <p>9. Is there sufficient volume for analysis requested? <u>Yes</u> No* N/A (Can)</p> <p>10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) <u>Yes</u> No*</p> <p>11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No <u>N/A</u></p> <p>12. If sent, were matrix spike bottles returned? Yes No* <u>N/A</u></p> <p>13. Was Project Manager notified of problems? (initials: _____) Yes No* <u>N/A</u></p> |
|--|---|

Airbill Number(s): 1287816844 4379 9564Shipped By: UPSCooler Number(s): CLIENTShipping Charges: N/ACooler Weight(s): 15#Cooler Temp(s) (°C): 2°C(CCK1)

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

MULTIPLE PROJECT SHIPMENT

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: AL Date: 6-2-01 Logged By: AL Date: 6-2-01

- * Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples (pH, Dissolved O₂, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.
- * If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"
- 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, section 2.2.9).
- * 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, section 2.2.12).



Pinnacle Laboratories, Inc.

Inter Chain of Custody

Date: 6/1 Page: 1

Network Project Manager: Jacinta A. Tenorio					ANALYSIS REQUEST																								
Pinnacle Laboratories, Inc. 2709-D Pan American Freeway, NE Albuquerque, New Mexico 87107 (505) 344-3777 Fax (505) 344-4413 WATCH HOLD TIMES! C106043					Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL (23 METALS)		TOX	TOC	Gen Chemistry: <u>1 NNO3</u>		Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8082)	Herbicides (615/8151)	PNA (8310)/8270 SIMS	8240 (TCLP 1311) ZHE		Base/Neutral Acid Compounds GC/MS (825/8270)	URANIUM (ICP-MS)	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS	
					SAMPLE ID	DATE	TIME	MATRIX	LAB ID																				
JAQ-0105-M3/106005-03	5/31	1235	AG								X																		
JAQ-0105-M4/106005-04	"	1315	"								X																		

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY: 1		RELINQUISHED BY: 2	
PROJECT #:	106005	Total Number of Containers		PENSACOLA - STL-FL	X	Signature:	Time: 1700	Signature:	Time:
PROJ. NAME:	GEM	Chain of Custody Seals		ESL - OR		Printed Name:	Date: 6/1/01	Printed Name:	Date:
QC LEVEL:	STD, IV	Received Intact?		STL - CT		Pinnacle Laboratories, Inc.		Company	
QC REQUIRED:	MS MSD BLANK	Received Good Cond./Cold		ATEL - AZ		RECEIVED BY: 1		RECEIVED BY: 2	
TAT:	STANDARD RUSH!!	LAB NUMBER:		ATEL - MARION		Signature:	Time: 0950	Signature:	Time:
DUE DATE: 6/15 RUSH SURCHARGE: — CLIENT DISCOUNT: — SPECIAL CERTIFICATION REQUIRED: YES (NO)				BARRINGER		Printed Name:	Date: 6-2-01	Printed Name:	Date:
				ENVIRO TEST LABS		Company: SP-PNS		Company:	
				WCAS					
				WOHL					

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 069		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		Signature: [Signature] Time: 1600		Signature: [Signature] Time: [Blank]	
PROJ. NAME: EPTS Quarterly Sampling		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Printed Name: Chris L. Macz Date: 5/3/01		Printed Name: [Blank] Date: [Blank]	
P.O. NO.: [Blank]		METHANOL PRESERVATION ☐		Company: [Blank]		Company: [Blank]	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)		RECEIVED BY: 1.	
SAMPLE RECEIPT		Fax results TO LISA Winn		RECEIVED BY: 2.		RECEIVED BY: (LAB)	
NO. CONTAINERS: 16				Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: 0900	
CUSTODY SEALS: Y/N/NA				Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: 06/1/01	
RECEIVED INTACT: [Blank]				Company: [Blank]		Pinnacle Laboratories Inc.	
BLUE ICE: [Blank]							



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **106034**
June 13, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIATION PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

Jaquez Quarterly
R-1-6 *6/11/01*

On 06/07/01 Pinnacle Laboratories, 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	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 106034
PROJECT #	: 6169	DATE RECEIVED	: 06/07/01
PROJECT NAME	: EPFS REMEDIATION PROJECT	REPORT DATE	: 06/13/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
106034 - 01	JAQ-0106-R1	AQUEOUS	06/01/01
106034 - 02	JAQ-0106-R2	AQUEOUS	06/01/01
106034 - 03	JAQ-0106-R3	AQUEOUS	06/01/01
106034 - 04	JAQ-0106-R4	AQUEOUS	06/01/01
106034 - 05	JAQ-0106-R5	AQUEOUS	06/01/01
106034 - 06	JAQ-0106-R6	AQUEOUS	06/01/01



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 : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 106034

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0106-R1	AQUEOUS	06/01/01	NA	06/12/01	5
02	JAQ-0106-R2	AQUEOUS	06/01/01	NA	06/12/01	1
03	JAQ-0106-R3	AQUEOUS	06/01/01	NA	06/12/01	1
PARAMETER		DET. LIMIT	UNITS	JAQ-0106-R1	JAQ-0106-R2	JAQ-0106-R3
BENZENE		0.5	UG/L	17	120	< 0.5
TOLUENE		0.5	UG/L	< 2.5	12	< 0.5
ETHYLBENZENE		0.5	UG/L	< 2.5	15	< 0.5
TOTAL XYLENES		0.5	UG/L	19	70	< 0.5
SURROGATE:						
BROMOFLUOROBENZENE (%)				109	92	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

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D.: 106034

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0106-R4	AQUEOUS	06/01/01	NA	06/12/01	1
05	JAQ-0106-R5	AQUEOUS	06/01/01	NA	06/12/01	1
06	JAQ-0106-R6	AQUEOUS	06/01/01	NA	06/12/01	1
PARAMETER		DET. LIMIT	UNITS	JAQ-0106-R4	JAQ-0106-R5	JAQ-0106-R6
BENZENE		0.5	UG/L	3.4	< 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	2.2	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

103

103

103

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106034
BLANK I. D.	: 061201	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/12/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION PROJECT		

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 (%)

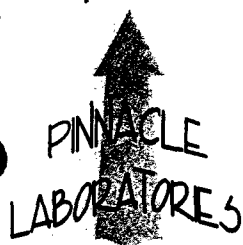
105

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 # : 106034-04
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIATION PROJECT

PINNACLE I.D. : 106034
DATE EXTRACTED : NA
DATE ANALYZED : 06/12/01
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	3.4	20.0	21.2	89	20.4	85	4	(80 - 120)	20
TOLUENE	0.5	20.0	19.4	95	19.1	93	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.9	100	19.7	99	1	(80 - 120)	20
TOTAL XYLENES	2.2	60.0	61.2	98	60.5	97	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA Winn					ANALYSIS REQUEST																	NUMBER OF CONTAINERS							
SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTX) 8015 (Gasoline) MTBE	8021 (BTX) ☐ 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:	
JA9-0106-R1	6-1-01	1145	H ₂ O	101			X																						2
JA9-0106-R2	6-1-01	1115	H ₂ O	102			X																						2
JA9-0106-R3	6-1-01	1030	H ₂ O	103			X																						2
JA9-0106-R4	6-1-01	1215	H ₂ O	104			X																						2
JA9-0106-R5	6-1-01	0925	H ₂ O	105			X																						2
JA9-0106-R6	6-1-01	0945	H ₂ O	106			X																						2

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJ. NO.: 6169		(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒	Signature: Chris T. May	Time: 1500	Signature:	Time:
PROJ. NAME: EPTS Remediation project		CERTIFICATION REQUIRED: ☐ NM ☐ SOWA ☐ OTHER		Printed Name: Chris May	Date: 6-6-01	Printed Name:	Date:
P.O. NO.:		METHANOL PRESERVATION ☐		Company:		Company:	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐		See reverse side (Force Majeure)			
SAMPLE RECEIPT				RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.	
NO. CONTAINERS	12			Signature:	Time:	Signature:	Time:
CUSTODY SEALS	YIN (A)			Printed Name:	Date:	Printed Name:	Date:
RECEIVED INTACT	YIS			Company:		Company:	
BLUE ICE/ICE				Pinnacle Laboratories Inc.			



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **102072**
March 12, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 02/16/01 Pinnacle Laboratories, 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.

This report is being reissued in-part to correct sample description. We apologize for the inconvenience this may have caused. Original report was issued on March 6, 2001.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Environmental Services Laboratory, Inc. Portland, OR.

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 : 102072
PROJECT # : 62800107 DATE RECEIVED : 02/16/01
PROJECT NAME : EPFS QUARTERLY SAMPLING REPORT DATE : 03/12/01

PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
102072 - 01	JAQ-0201-M1	AQUEOUS	02/14/01
102072 - 02	JAQ-0201-M2	AQUEOUS	02/14/01
102072 - 03	JAQ-0201-M3	AQUEOUS	02/14/01
102072 - 04	JAQ-0201-M4	AQUEOUS	02/14/01
102072 - 05	JAQ-0201-M5	AQUEOUS	02/14/01
102072 - 06	EB-M05	AQUEOUS	02/14/01
102072 - 07	JAQ-0201-M6	AQUEOUS	02/14/01

Environmental Services Laboratory, Inc.



17400 SW Upper Boones Ferry Road, Suite 270 • Portland, OR 97224 • (503) 670-8520
February 28, 2001

Jacinta A. Tenorio
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107
TEL: 505-344-3777
FAX (505) 344-4413

RE: 102072/PHIL

Order No.: 0102110

Dear Jacinta A. Tenorio,

Environmental Services Laboratory received 2 samples on 2/20/01 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Nitrate (EPA 353.3)

Nitrite in DW (EPA 353.3)

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. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety, without the written approval from the Laboratory.

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

Sincerely,

Nichole Karl

Nichole Karl
Project Manager

Keith Hunter

Technical Review

Case Narrative

ESL Job: 0102110

February 21, 2001

The calculated MS and MSD recoveries for sample 0102110-01 are outside of the control limits. A low concentration of nitrite, below our reporting limit, was detected in the original sample. Once the sample had been spiked with standard the concentration of nitrite was above our reporting limit. The calculations for percent recovery do not consider any concentrations below the reporting limit and assume the original sample had zero nitrite. This causes the MS and MSD recoveries to be artificially high.

The calculated MS and MSD recoveries for sample 0102110-02 are outside of the control limits. The original concentration of nitrate in this particular sample was more than 10x our set spike value. Because the concentration was already high, the spike values were insignificant to the post spike concentrations, resulting in poor recoveries.

Please do not hesitate to call if there are any questions, or if we can be of further assistance in this project. Thank you.

Ginny Vanscoy, General Chemist

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
Lab Order: 0102110
Project: 102072/PHIL
Lab ID: 0102110-01A

Client Sample ID: JAQ-0201-M3/102072-03
Tag Number:
Collection Date: 2/14/01
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		EPA 353.3				Analyst: gvs
Nitrogen, Nitrate	ND	0.0500		mg/L	1	2/28/01
NITRITE IN DW		EPA 353.3				Analyst: gvs
Nitrogen, Nitrite	ND	0.0500		mg/L	1	2/20/01

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
Lab Order: 0102110
Project: 102072/PHIL
Lab ID: 0102110-02A

Client Sample ID: JAQ-0201-MW4/102072-04
Tag Number:
Collection Date: 2/14/01
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITRATE		EPA 353.3				Analyst: gvs
Nitrogen, Nitrate	3.37	0.500		mg/L	10	2/28/01
NITRITE IN DW		EPA 353.3				Analyst: gvs
Nitrogen, Nitrite	4.47	0.0500		mg/L	25	2/20/01

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
Work Order: 0102110
Project: 102072/PHIL

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank	Batch ID: 01 NITRATE-	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/28/01					Prep Date:		
Client ID:	0102110	Run ID:	HIT MAN_010228A					SeqNo:	69506		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate	ND	0.05									

Sample ID: MBlank	Batch ID: 01 NITRITE-2/	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/20/01					Prep Date:		
Client ID:	0102110	Run ID:	HIT MAN_010220A					SeqNo:	68293		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
Work Order: 0102110
Project: 102072/PHIL

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 0102110-02A DUP		Batch ID: 01 NITRATE-	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/28/01				Prep Date:		
Client ID: JAQ-0201-M3/102		0102110	Run ID: HIT MAN_010228A		SeqNo: 69510						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate	3.32	0.5	0	0	0.0%	0	0	3.37	1.5%	20	
Sample ID: 0102110-01A DUP		Batch ID: 01 NITRITE-2/	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/20/01				Prep Date:		
Client ID: JAQ-0201-M3/102		0102110	Run ID: HIT MAN_010220A		SeqNo: 68296						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.05	0	0	0.0%	80	120	0	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
 Work Order: 0102110
 Project: 102072/PHIL

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0102110-02A MS	Batch ID: 01 NITRATE-	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/28/01	Prep Date:						
Client ID: JAQ-0201-M3/102	0102110	Run ID: HIT MAN_010228A		SeqNo: 69511							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate	3.5	0.5	0.2	3.37	65.0%	75	125	0			S, N
Sample ID: 0102110-02A MSD	Batch ID: 01 NITRATE-	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/28/01	Prep Date:						
Client ID: JAQ-0201-M3/102	0102110	Run ID: HIT MAN_010228A		SeqNo: 69512							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate	3.5	0.5	0.2	3.37	65.0%	75	125	3.5	0.0%	20	S, N
Sample ID: 0102110-01A MS	Batch ID: 01 NITRITE-2/	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/20/01	Prep Date:						
Client ID: JAQ-0201-M3/102	0102110	Run ID: HIT MAN_010220A		SeqNo: 68297							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	.132	0.05	0.1	0	132.0%	75	125	0			N
Sample ID: 0102110-01A MSD	Batch ID: 01 NITRITE-2/	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/20/01	Prep Date:						
Client ID: JAQ-0201-M3/102	0102110	Run ID: HIT MAN_010220A		SeqNo: 68298							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	.129	0.05	0.1	0	129.0%	75	125	0.132	2.3%	20	N

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Environmental Services Laboratory

Date: 28-Feb-01

CLIENT: Pinnacle Laboratories
Work Order: 0102110
Project: 102072/PHIL

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: 01 NITRATE-	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/28/01	Prep Date:						
Client ID:	0102110	Run ID: HIT MAN_010228A		SeqNo: 69507							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate	.308	0.05	0.3	0	102.7%	85	115	0			
Sample ID: LCS	Batch ID: 01 NITRITE-2/	Test Code: EPA 353.3	Units: mg/L	Analysis Date 2/20/01	Prep Date:						
Client ID:	0102110	Run ID: HIT MAN_010220A		SeqNo: 68294							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	.191	0.05	0.2	0	95.5%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY:		RELINQUISHED BY:	
PROJECT #:	102072	Total Number of Containers		PENSACOLA - STL-FL		Signature:	Time:	Signature:	Time:
PROJ. NAME:	PHIL	Chain of Custody Seals		ESL - OR		Francine Tonn 1700			
QC LEVEL:	STD IV	Received Intact?		STL - CT		Printed Name:	Date:	Printed Name:	Date:
QC REQUIRED:	MS MSD BLANK	Received Good Cond./Cold		ATEL - AZ		Francine Tonn 2/19/01			
TAT:	STANDARD RUSHII	LAB NUMBER:	0102010	ATEL - MARION		Pinnacle Laboratories, Inc.		Company	
				ATEL - MELMORE		RECEIVED BY:		RECEIVED BY:	
DUE DATE:	3/2	COMMENTS:		BARRINGER		Signature:	Time:	Signature:	Time:
RUSH SURCHARGE:	-			ENVIRO TEST LABS		Nichole Karl 10:00			
CLIENT DISCOUNT:				WCAS		Printed Name:	Date:	Printed Name:	Date:
SPECIAL CERTIFICATION				WOHL		Nichole Karl 2:00			
REQUIRED: YES NO	NO					Company		Company	



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 2854

102072

Project Name <u>EPFS Quarterly Sampling</u>				Total Number of Bottles	Type of Analysis and Bottle <u>BTEX 8021</u> <u>NITRATES</u>													
Project Number <u>62800107</u> Phase . Task <u>0301</u>																		
Samplers <u>C Macz</u>																		
Laboratory	Name <u>PINNACLE</u>																	
	Location <u>ALBQ N.M.</u>																	
Sample Number (and depth)	Date	Time	Matrix															Comments
JAG-0201-M1	02-14-01	1000	H ₂ O	2	X													JAGUEZ G.C.#C1 70995
JAG-0201-M2	02-14-01	1004	H ₂ O	2	X													" "
JAG-0201-M3	02-14-01	1304	H ₂ O	4	X	X												" "
JAG-0201-M4	02-14-01	1255	H ₂ O	4	X	X												" "
JAG-0201-M5	02-14-01	1133	H ₂ O	2	X													" "
EB-MOS	02-14-01	1127	H ₂ O	2	X													" "
JAG-0201-M6	02-14-01	1440	H ₂ O	2	X													" "

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<u>Chris Macz</u>	02-15-01	1600	<u>Wanda J. [Signature]</u>	02-16-01	18:30

Samples Iced: ☒ Yes ☐ No		Carrier: <u>Greyhound</u>	Airbill No <u>GLI1606919864</u>
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) <u>H₂SO₄</u> ☐ Other (Specify) _____		Shipping and Lab Notes: <u>FRP [Signature]</u> <u>02.19.01</u> <u>4.9°</u>	



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

PINNACLE
LABORATORIES

Pinnacle Lab ID number **102072**
March 06, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

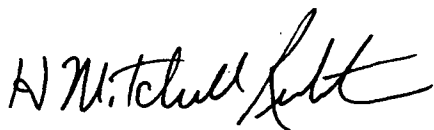
Attention: ROBERT THOMPSON/SCOTT POPE

On 02/16/01 Pinnacle Laboratories, 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.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Environmental Services Laboratory, Inc. Portland, OR.

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	: 102072
PROJECT #	: 62800107	DATE RECEIVED	: 02/16/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 03/06/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
102072 - 01	JAQ-0201-M1	AQUEOUS	02/14/01
102072 - 02	JAQ-0201-M2	AQUEOUS	02/14/01
102072 - 03	JAQ-0201-M3	AQUEOUS	02/14/01
102072 - 04	JAQ-0201-M4	AQUEOUS	02/14/01
102072 - 05	JAQ-0201-M5	AQUEOUS	02/14/01
102072 - 06	EB-M05	AQUEOUS	02/14/01
102072 - 07	JAQ-0201-M6	AQUEOUS	02/14/01



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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.: 102072

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0201-M1	AQUEOUS	02/14/01	NA	02/22/01	1
02	JAQ-0201-M2	AQUEOUS	02/14/01	NA	02/22/01	1
03	JAQ-0201-M3	AQUEOUS	02/14/01	NA	02/22/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0201-M1	JAQ-0201-M2	JAQ-0201-M3
BENZENE	0.5	UG/L	10	< 0.5	0.6
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	0.6

SURROGATE:
BROMOFLUOROBENZENE (%) 102 101 103
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY RESULTS

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

PINNACLE I.D.: 102072

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0201-M4	AQUEOUS	02/14/01	NA	02/22/01	1
05	JAQ-0201-M5	AQUEOUS	02/14/01	NA	02/22/01	1
06	EB-M05	AQUEOUS	02/14/01	NA	02/22/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0201-M4	JAQ-0201-M5	EB-M05
BENZENE	0.5	UG/L	94	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	0.7	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	13	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103 102 99
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

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

PINNACLE I.D.: 102072

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
07	JAQ-0201-M6	AQUEOUS	02/14/01	NA	02/22/01	1
PARAMETER		DET. LIMIT	UNITS		JAQ-0201-M6	
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 (%)

102

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 102072
BLANK I. D.	: 022201	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 02/22/01
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 (%) 101
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 # : 102072-02
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 102072
DATE EXTRACTED : NA
DATE ANALYZED : 02/22/01
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

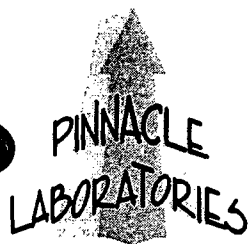
PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	19.4	97	19.1	96	2	(80 - 120)	20
TOLUENE	<0.5	20.0	17.8	89	17.9	90	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.0	95	19.4	97	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	55.9	93	57.2	95	2	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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





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

Pinnacle Lab ID number **102073**
February 28, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 02/16/01 Pinnacle Laboratories, 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.

The scheduled reagent blank associated with this study did not run. However, clean samples validated the instrument in lieu of the reagent blank. The sample data is reported.

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	: 102073
PROJECT #	: 62800107	DATE RECEIVED	: 02/16/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 02/28/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
102073 - 01	JAQ-0201-R1	AQUEOUS	02/15/01
102073 - 02	JAQ-0201-R2	AQUEOUS	02/15/01
102073 - 03	JAQ-0201-R3	AQUEOUS	02/15/01
102073 - 04	JAQ-0201-R4	AQUEOUS	02/15/01
102073 - 05	JAQ-0201-R5	AQUEOUS	02/15/01
102073 - 06	JAQ-0201-R6	AQUEOUS	02/15/01



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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.: 102073

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0201-R1	AQUEOUS	02/15/01	NA	02/22/01	20
02	JAQ-0201-R2	AQUEOUS	02/15/01	NA	02/22/01	20
03	JAQ-0201-R3	AQUEOUS	02/15/01	NA	02/22/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0201-R1	JAQ-0201-R2	JAQ-0201-R3
BENZENE	0.5	UG/L	120	620	2.2
TOLUENE	0.5	UG/L	< 10	400	< 0.5
ETHYLBENZENE	0.5	UG/L	< 10	43	< 0.5
TOTAL XYLENES	0.5	UG/L	190	440	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

128*

104

106

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

* = HIGH SURROGATE DUE TO MATRIX INTERFERENCE.



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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 # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 102073

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JAQ-0201-R4	AQUEOUS	02/15/01	NA	02/22/01	20
05	JAQ-0201-R5	AQUEOUS	02/15/01	NA	02/22/01	1
06	JAQ-0201-R6	AQUEOUS	02/15/01	NA	02/22/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0201-R4	JAQ-0201-R5	JAQ-0201-R6
BENZENE	0.5	UG/L	19	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 10	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 10	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	36	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103 104 103
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.	: 102073
BLANK I. D.	: 022101-B	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 02/21/01
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 (%) 101
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 # : 102067-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 102073
DATE EXTRACTED : NA
DATE ANALYZED : 02/21/01
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	19.1	96	19.3	97	1	(80 - 120)	20
TOLUENE	<0.5	20.0	18.0	90	17.9	90	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.4	97	19.7	99	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	57.5	96	57.5	96	0	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

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

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



APPENDIX G

**TABULATED LABORATORY ANALYTICAL RESULTS –
GROUNDWATER (1993 TO 2000)**

JAQUEZ COM. C#1 & JAQUEZ COM. E#1 SUMMARY OF ANALYTICAL RESULTS

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg /L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M1	N30974	9/8/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	N31062	10/5/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	N31245	11/11/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	N31389	12/16/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	940032	1/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	940239	2/10/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	940497	3/7/94	<0.5	<0.5	<0.5	<0.5	N/A	Yes	ND	NA
M1	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
M1	941009	6/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M1	941262	9/7/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M1	941624	12/15/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M1	950103	2/9/95	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M1	950566	5/8/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M1	950899	8/25/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M1	951183	11/2/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M1	960099	2/5/96	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M1	960483	5/28/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
M1	960690	8/6/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
M1	960906	10/28/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M1	961013	11/20/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M1	970128	2/19/97	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	NA
M1	970505	5/28/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M1	970920	8/21/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M1	971200	11/10/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M1	980168	2/18/98	5.08	<1.0	<1.0	<3.0	N/A	Yes	ND	<1.2
M1	980408	5/19/98	<1.0	<1.0	<1.0	<3.0	<6.0	No	ND	<0.1
M1	990257	5/25/99	0.5	0.5	0.5	1.5	3	Yes	ND	0.05

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M1	JQ0001MO-1-1	1/19/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0005-MW1	5/30/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0006-MW1	6/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0008-M1	8/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0011-M1	11/17/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0201-M1	2/14/01	10	<0.5	<0.5	<0.5	10	No	ND	NA
M1	JAQ-0105-MW1	5/31/01	1	<0.5	<0.5	0.6	1.6	No	ND	NA
M1	JAQ-0801-M1	8/21/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M1	JAQ-0111-M1	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	N30975	9/8/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M2	N31063	10/5/93	2	2	<2.0	<2.0	4	No	ND	NA
M2	N31246	11/11/93	2.3	2	<2.0	<2.0	4.3	No	ND	NA
M2	N31390	12/16/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M2	940033	1/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M2	940240	2/10/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M2	940498	3/7/94	<0.5	<0.5	<0.5	<0.5	N/A	Yes	ND	NA
M2	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
M2	941010	6/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M2	941263	9/7/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M2	941625	12/15/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M2	950104	2/9/95	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M2	950567	5/5/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M2	950900	8/25/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M2	951184	11/2/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M2	960100	2/5/96	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M2	960484	5/28/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
M2	960691	8/6/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
M2	960907	10/28/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M2	961014	11/20/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M2	970129	2/19/97	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	NA
M2	970506	5/28/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M2	970921	8/21/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M2	971201	11/10/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M2	980169	2/18/98	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	<1.2
M2	980409	5/19/98	<1.0	<1.0	<1.0	<3.0	<6	No	ND	<0.1
M2	990258	5/25/99	0.5	0.5	0.5	1.5	3	Yes	ND	0.05
M2	JQ0001MO-2-1	1/19/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0005-MW2	5/30/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0006-MW2	6/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0008-M2	8/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0011-M2	11/20/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0201-M2	2/14/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0105-MW2	5/31/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0801-M2	8/21/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M2	JAQ-0111-M2	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M3	N30976	9/8/93	116	<2.0	3	37.6	157	No	ND	NA
M3	N31064	10/5/93	306	<2.0	4	19	329	No	ND	NA
M3	N31247	11/11/93	8.4	5.3	<2.0	2.6	16	No	ND	NA
M3	N31391	12/16/93	42	<2.0	<2.0	<2.0	42	No	ND	NA
M3	940034	1/13/94	19	2.1	<2.0	<2.0	21	No	ND	NA
M3	940241	2/10/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M3	940499	3/7/94	<0.5	<0.5	<0.5	2.5	3	Yes	ND	NA
M3	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
M3	941011	6/13/94	3.65	<2.0	<2.0	<2.0	4	No	ND	NA
M3	941264	9/7/94	2.87	<2.5	<2.5	2.5	5	No	ND	NA
M3	941626	12/15/94	<2.5	<2.5	<2.5	5.61	6	No	ND	NA
M3	950105	2/9/95	11.4	<2.5	<2.5	<2.5	11	Yes	ND	NA
M3	950568	5/8/95	180	67.2	<2.5	53.9	301	No	ND	NA
M3	950901	8/25/95	11.8	<2.5	<2.5	16.8	29	No	ND	NA
M3	951185	11/2/95	<2.5	<2.5	<2.5	5.03	5	No	ND	NA
M3	960101	2/5/96	236	<2.5	5.77	22.2	264	Yes	ND	NA
M3	960485	5/28/96	88.4	<1.0	5.93	20.3	115	No	ND	NA
M3	960692	8/6/96	96.4	<1.0	2.5	3.27	102	No	ND	NA
M3	960908	10/29/96	17.4	<1.0	1.55	2.23	21	No	ND	NA
M3	961015	11/20/96	70.2	<1.0	1.89	<3	72	No	ND	NA
M3	970130	2/19/97	2.44	<1.0	2.61	7.43	12	Yes	ND	NA
M3	970507	5/28/97	38	6.1	<1	13.5	58	No	ND	20.1

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M3	970922	8/21/97	<1	<1	<1	7.68	8	No	ND	<1.2
M3	971202	11/10/97	<1	<1	<1	7.68	8	No	ND	<1.2
M3	980170	2/18/98	<1	<1	<1	<3	<6	Yes	ND	<1.2
M3	980410	5/19/98	26.7	<1	<1	2.52	29	No	ND	0.32
M3	980589	8/26/98	<1	2.8	<1	<3	3	No	ND	0.3
M3	980786	11/5/98	1.93	3.2	<1	<3	5	No	ND	NA
M3	990047	2/23/99	<1	<1	<1	<3	<6	No	ND	<1
M3	990259	5/25/99	4.2	0.8	0.5	1.5	7	No	ND	0.05
M3	990352	8/5/99	<1	1.8	<1	<3	<6	No	ND	<1
M3	990454	11/12/99	6	2.2	1.7	5.4	15	No	ND	ND
M3	JQ0001MO-3-1	1/19/00	4.1	2.8	1.6	3.7	12.2	No	ND	NA
M3	JAQ-0002MW3	2/24/00	30	21	2.3	9.4	62.7	No	ND	NA
M3	JAQ-0005-MW3	5/30/00	2.1	<0.5	0.9	2.2	5.2	Yes	ND	<0.1
M3	JAQ-0006-MW3	6/22/00	0.6	<0.5	<0.5	<0.5	0.6	No	ND	0.14
M3	JAQ-0007-MW3	7/25/00	<0.5	<0.5	<0.5	1.1	1.1	No	ND	NA
M3	JAQ-0008-MW3	8/22/00	0.6	<0.5	<0.5	2.2	2.8	No	ND	<0.05
M3	JAQ-0011-M3	11/20/00	1.1	<0.5	<0.5	3.4	4.5	No	ND	<0.05
M3	JAQ-0201-M3	2/14/01	0.6	<0.5	<0.5	0.6	1.2	No	ND	<0.05
M3	JAQ-0105-MW3	5/31/01	1.2	<0.5	<0.5	1.7	2.9	No	ND	0.18
M3	JAQ-0801-M3	8/21/01	1.6	<0.5	1.2	4.5	7.3	No	ND	0.15
M3	JAQ-0111-MW03	11/29/01	0.7	<0.5	<0.5	<0.5	0.7	No	ND	0.23
M4	N30977	9/8/93	213	13.3	58	519	803	No	ND	NA
M4	N31065	10/5/93	302	2	55	395	754	No	ND	NA
M4	N31248	11/11/93	234	2	56	383	675	No	ND	NA
M4	N31392	12/16/93	171	<2.0	34.3	244	449	No	ND	NA
M4	940035	1/13/94	175	2.5	38	288	504	No	ND	NA
M4	940242	2/10/94	137	<2.0	29.8	192	359	No	ND	NA
M4	940500	3/7/94	120	<2.5	27	220	367	Yes	ND	NA
M4	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
M4	941012	6/13/94	151	<2.0	28.4	246	425	No	ND	NA
M4	941265	9/7/94	145	<2.5	24.1	231	400	No	ND	NA
M4	941628	12/15/94	184	<2.5	22.3	215	421	No	ND	NA
M4	950106	2/9/95	160	<2.5	19.6	186	366	Yes	ND	NA
M4	950569	5/8/95	108	<2.5	11.7	119	239	No	ND	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M4	950902	8/25/95	29.3	<2.5	13	116	158	No	ND	NA
M4	951187	11/2/95	15.1	<2.5	12.9	136	164	No	ND	NA
M4	960102	2/5/96	33.5	<2.5	19.3	209	262	Yes	ND	NA
M4	960486	5/28/96	17	<1.0	8.93	93.6	120	No	ND	NA
M4	960693	8/6/96	2.77	<1.0	3.5	38.5	45	No	ND	NA
M4	960909	10/29/96	1.03	<1.0	3.66	55.5	60	No	ND	NA
M4	961016	11/22/96	3.28	<1.0	7.77	90.3	101	No	ND	NA
M4	970131	2/19/97	17.7	1.5	8.3	54	82	Yes	ND	NA
M4	970508	5/28/97	53.6	11.6	43.4	366	475	No	ND	225
M4	971203	11/10/97	44.8	<1.0	<1.0	71	116	No	ND	1.31
M4	980171	2/18/98	91	<1.0	1.1	74.9	167	Yes	ND	<1.2
M4	980411	5/19/98	46.6	<1.0	2.81	83.1	133	No	ND	0.21
M4	980590	8/26/98	51	2.6	2.08	45.1	101	No	ND	43.9
M4	980787	11/5/98	69	<1.0	<1.0	33	102	No	ND	NA
M4	990048	2/23/99	133	<1	1.31	59.3	194	No	ND	283
M4	990260	5/25/99	230	1.8	1.2	63	296	Yes	ND	190
M4	990353	8/5/99	100	<2	<2	15.3	115	No	ND	54.9
M4	990455	11/12/99	110	<2.5	<2.5	56	166	No	ND	57
M4	JQ0001MO-4-1	1/19/00	27	<0.5	<0.5	9.7	37.7	No	ND	NA
M4	JAQ-0002-MW4	2/24/00	11	<0.5	5.6	5.5	22.1	No	ND	NA
M4	JAQ-0005-MW4	5/30/00	38	1.1	<0.5	23	62.1	Yes	ND	<0.1
M4	JAQ-0006-MW4	6/22/00	44	1.6	8.9	16	70.5	No	ND	<0.1
M4	JAQ-0007-MW4	7/25/00	51	0.6	<0.5	13	64.6	No	ND	NA
M4	JAQ-0008-MW4	8/22/00	87	0.5	1.2	32	120.7	No	ND	1.66
M4	JAQ-0011-M4	11/17/00	99	<0.5	0.5	5	104.5	No	ND	2.66
M4	JAQ-0201-M4	2/14/01	94	<0.5	0.7	13	107.7	No	ND	3.37
M4	JAQ-0105-MW4	5/31/01	78	<0.5	<0.5	<0.5	78	No	ND	9.4
M4	JAQ-0801-M4	8/21/01	30	<0.5	1.4	7.8	39.2	No	ND	5
M4	JAQ-0111-MW04	11/29/01	78	<0.5	11	78	167	No	ND	66
M4	970923	Aug-97	39.7	3.2	1.51	100	145	No	ND	20.8
M5	N30979	9/8/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	N31066	10/5/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	N31250	11/11/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	N31393	12/16/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M5	940036	1/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	940243	2/10/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	940501	3/7/94	<0.5	<0.5	<0.5	<0.5	N/A	Yes	ND	NA
M5	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
M5	941013	6/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
M5	941267	9/7/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M5	941629	12/15/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M5	950107	2/9/95	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M5	950570	5/8/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M5	950904	8/25/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M5	951188	11/2/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
M5	960103	2/5/96	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
M5	960487	5/28/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
M5	960694	8/6/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M5	960910	10/29/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M5	961017	11/21/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
M5	970132	2/19/97	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	NA
M5	970509	5/28/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M5	970925	8/21/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M5	971204	8/21/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
M5	980172	2/18/98	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	<1.2
M5	980413	5/19/98	<1.0	<1.0	<1.0	<3.0	<6	No	ND	<0.1
M5	990262	5/25/99	0.5	0.5	0.5	1.5	3	Yes	ND	0.05
M5	JQ0001MO-5-1	1/19/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M5	JAQ-0005-MW5	5/30/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M5	JAQ-0006-MW5	6/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M5	JAQ-0008-MW5	8/22/00	43	<0.5	<0.5	<0.5	43	No	ND	NA
M5	JAQ-0011-M5	11/17/00	2.6	<0.5	<0.5	<0.5	2.6	No	ND	NA
M5	JAQ-0201-M5	2/14/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M5	JAQ-0105-MW5	5/31/01	0.6	<0.5	<0.5	<0.5	0.6	No	ND	NA
M5	JAQ-0801-M5	8/21/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M5	JAQ-0111-M5	11/29/01	5.6	<0.5	<0.5	<0.5	5.6	No	ND	NA
M6	JQ0001MO-6-1	1/19/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0006-MW6	6/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0008-MW6	8/22/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
M6	JAQ-0011-M6	11/17/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0201-M6	2/15/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0105-MW6	5/31/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0801-M6	8/21/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0111-M6	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
M6	JAQ-0005-MW6	5/30/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R1	N30969	9/7/93	991	164	113	1111	2379	No	ND	NA
R1	N31056	10/4/93	1280	1328	74	799	3481	No	1"	NA
R1	N31240	11/10/93	242	322	15	93.9	673	No	ND	NA
R1	N31384	12/15/93	328	411	26.6	196	962	No	ND	NA
R1	940026	1/12/94	1830	1965	90.3	1053	4938	No	17"	NA
R1	940233	2/9/94	1255	1504	42.3	730	3531	No	32"	NA
R1	940491	3/7/94	7600	8500	280	2700	19080	Yes	4"	NA
R1	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	10"	NA
R1	941003	6/13/94	1450	1930	70	944	4394	No	11"	NA
R1	N/A	9/7/94	No Test	No Test	No Test	No Test	No Test	No	2"	NA
R1	941619	12/15/94	1890	2130	105	990	5115	No	TR	NA
R1	N/A	8/25/95	No Test	No Test	No Test	No Test	No Test	No	TR	NA
R1	951178	11/2/95	2330	2400	108	946	5784	No	ND	NA
R1	N/A	2/5/96	No Test	No Test	No Test	No Test	No Test	Yes	0.24"	NA
R1	N/A	5/28/96	No Test	No Test	No Test	No Test	No Test	No	4.8"	NA
R1	960684	8/6/96	2970	3080	130	1200	7380	No	TR	NA
R1	960900	10/28/96	1690	1970	60.8	800	4520	No	ND	NA
R1	961007	11/20/96	1240	1540	61.9	600	3450	No	ND	NA
R1	N/A	2/19/97	No Test	No Test	No Test	No Test	No Test	No	29.76"	NA
R1	N/A	2/24/99	No Test	No Test	No Test	No Test	No Test	No	.09'	NA
R1	N/A	5/25/99	No Test	No Test	No Test	No Test	No Test	No	TR	NA
R1	JQ0001R01-1	1/20/00	2500	3800	180	1900	8380	NO	NO	NA
R1	JAQ-0005-R1	5/31/00	2300	1000	120	2000	5420	NO	TR	NA
R1	JAQ-0006-R1	6/26/00	2400	690	150	2000	5420	No	TR	NA
R1	JAQ-0007-R1	7/26/00	4900	2900	150	3100	11050	No	TR	NA
R1	JAQ-0008-R1	8/23/00	2500	1400	180	2200	6280	No	TR	NA
R1	JAQ-0011-R1	11/20/00	3500	2700	210	2900	9310	No	TR	NA
R1	JAQ-0201-R1	2/15/01	120	<10	<10	190	310	No	NO	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
R1	JAQ-0106-R1	6/1/01	17	<2.5	<2.5	19	36	No	ND	NA
R1	JAQ-0107-R1	7/5/01	17	1.8	1.2	18	38	No	ND	NA
R1	JAQ-0108-R1	8/23/01	22	1.2	1	4.2	28.4	No	ND	NA
R1	JAQ-0111-R1	11/28/01	100	17	3.9	24	144.9	No	ND	NA
R2	N30970	9/7/93	278	651	59	538	1526	No	ND	NA
R2	N31057	10/4/93	509	789	73	741	2112	No	ND	NA
R2	N31241	11/10/93	284	470	38	401	1193	No	ND	NA
R2	N31385	12/15/93	529	864	65.3	709	2167	No	1"	NA
R2	940027	1/12/94	1722	2501	150	1702	6075	No	24"	NA
R2	940234	2/9/94	2806	3667	89.5	1520	8083	No	26"	NA
R2	940492	3/7/94	5600	6800	290	2700	15390	Yes	4"	NA
R2	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	7"	NA
R2	941004	6/13/94	3210	3790	139	1670	8809	No	7"	NA
R2	N/A	9/7/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
R2	941620	12/15/94	1140	2200	148	1520	5008	No	0.6"	NA
R2	N/A	8/25/95	No Test	No Test	No Test	No Test	No Test	No	TR	NA
R2	951179	11/2/95	1250	2030	116	1010	4406	No	TR	NA
R2	N/A	2/5/96	No Test	No Test	No Test	No Test	No Test	Yes	2.52	NA
R2	N/A	5/28/96	No Test	No Test	No Test	No Test	No Test	No	2.04"	NA
R2	960685	8/6/96	2610	3960	165	1540	8275	No	0.72"	NA
R2	960901	10/28/96	1100	2300	85.4	1100	4585	No	0.96"	NA
R2	961009	11/20/96	428	1340	87.3	821	2680	No	0.48"	NA
R2	N/A	2/19/97	No Test	No Test	No Test	No Test	No Test	No	NA	NA
R2	N/A	2/24/99	No Test	No Test	No Test	No Test	No Test	No	0.07	NA
R2	N/A	5/25/99	No Test	No Test	No Test	No Test	No Test	No	TR	NA
R2	JQ0001R02-1	1/20/00	1200	2000	<130	1500	4700	No	NO	NA
R2	JAQ-0005-R2	5/31/00	2300	3200	280	3000	8780	No	TR	NA
R2	JAQ-0006-R2	6/26/00	1300	1300	79	1100	3779	No	TR	NA
R2	JAQ-0007-R2	7/26/00	3600	3200	150	2300	9250	No	TR	NA
R2	JAQ-0008-R2	8/23/00	1600	1500	82	1100	4282	No	TR	NA
R2	JAQ-0011-R2	11/20/00	770	1300	170	1500	3740	No	TR	NA
R2	JAQ-0201-R2	2/15/01	620	400	43	440	1503	No	0.03	NA
R2	JAQ-0106-R2	6/1/01	120	12	15	70	217	No	ND	NA
R2	JAQ-0107-R2	7/5/01	39	31	18	220	308	No	ND	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)\	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
R2	JAQ-0108-R2	8/23/01	<2.5	22	22	310	354	No	ND	NA
R2	JAQ-0111-R2	11/28/01	26	5.8	<5.0	85	116.8	No	ND	NA
R3	N30971	9/7/93	<2.0	61.4	22	207	290	No	ND	NA
R3	N31058	10/4/93	21	179	32	310	542	No	ND	NA
R3	N31242	11/10/93	6.19	27.7	10.4	89.2	134	No	ND	NA
R3	N31386	12/15/93	26	88.4	19.4	178	312	No	ND	NA
R3	940028	1/12/94	4.4	2.9	2.7	18	28	No	ND	NA
R3	940235	2/9/94	<2.0	10.9	8.3	59.6	79	No	ND	NA
R3	940493	3/7/94	7.7	43	24	220	295	Yes	ND	NA
R3	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
R3	941005	6/13/94	3.03	41.4	18.4	188	251	No	ND	NA
R3	941259	9/7/94	<2.5	18	6.9	67.9	93	No	ND	NA
R3	941621	12/15/94	11.7	12.2	12.4	114	150	No	ND	NA
R3	950099	2/9/95	7.36	2.7	2.68	20.8	34	Yes	ND	NA
R3	950562	5/8/95	16.6	11.7	13.9	126	168	No	ND	NA
R3	950896	8/25/95	<2.5	15.2	13.6	101	130	No	ND	NA
R3	951180	11/2/95	<2.5	14	9.3	82	105	No	ND	NA
R3	960095	2/5/96	5.34	14	12.8	108	140	Yes	ND	NA
R3	960479	5/28/96	1.05	18.7	22.9	203	246	No	ND	NA
R3	960686	8/6/96	1.24	24.7	25.9	236	288	No	ND	NA
R3	960902	10/28/96	<1.0	10.7	12.6	109	132	No	ND	NA
R3	961010	11/20/96	<1.0	12.5	12.4	114	139	No	ND	NA
R3	970124	2/19/97	2.12	1.9	2.29	12.6	19	Yes	ND	NA
R3	970501	5/28/97	<1.0	15.3	13.5	130	159	No	ND	<1.2
R3	970917	8/21/97	<1.0	20.8	18.6	176	215	No	ND	<1.2
R3	971196	11/10/97	<1.0	13.6	17.2	149	180	No	ND	<1.2
R3	980164	2/18/98	<1.0	<1.0	<1.0	<3	<6	Yes	ND	<1.2
R3	980405	5/19/98	<1.0	11.9	12.5	125	150	No	ND	NA
R3	990254	5/25/99	0.5	3.3	6.3	26	36	Yes	ND	NA
R3	JQ0001R03-1	1/20/00	<0.5	<0.5	0.5	5.2	5.7	No	ND	NA
R3	JAQ-0005-R3	5/31/00	1	1.4	0.5	5.4	8.3	No	ND	NA
R3	JAQ-0007-R3	7/26/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R3	JAQ-0008-R3	8/23/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R3	JAQ-0011-R3	11/20/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA

Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
R3	JAQ-0201-R3	2/15/01	2.2	<0.5	<0.5	<0.5	2.2	No	ND	NA
R3	JAQ-0106-R3	6/1/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R3	JAQ-0107-R3	7/5/01	<0.5	<0.5	<0.5	1.8	1.8	No	ND	NA
R3	JAQ-0108-R3	8/23/01	1.3	<0.5	<0.5	<0.5	1.3	No	ND	NA
R3	JAQ-0111-R3	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R3	JAQ-0006-R3	6/26/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R4	N30972	9/7/93	104	267	39.9	370	781	No	ND	NA
R4	N31060	10/4/93	118	266	41	364	789	No	ND	NA
R4	N31243	11/10/93	93.6	132	40.4	347	613	No	ND	NA
R4	N31387	12/15/93	102	161	48.4	418	729	No	ND	NA
R4	940030	1/12/94	124	101	38.5	353	617	No	ND	NA
R4	940237	2/9/94	120	51.4	20.8	150	342	No	ND	NA
R4	940494	3/7/94	150	63	20	190	423	Yes	ND	NA
R4	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
R4	941007	6/13/94	179	60.6	17.2	176	433	No	ND	NA
R4	941260	9/7/94	238	102	26	218	584	No	ND	NA
R4	941622	12/15/94	222	63.3	26.9	213	525	No	ND	NA
R4	950100	2/9/95	273	61	20.4	165	519	Yes	ND	NA
R4	950564	5/8/95	278	251	23.1	220	772	No	ND	NA
R4	950897	8/25/95	646	278	50.8	544	1519	No	ND	NA
R4	951181	11/2/95	343	60.4	35.1	284	723	No	ND	NA
R4	960097	2/5/96	218	43.3	23.1	200	484	Yes	ND	NA
R4	960481	5/28/96	716	199	36.6	394	1346	No	ND	NA
R4	960687	8/6/96	384	156	24	275	839	No	ND	NA
R4	960904	10/28/96	320	53.4	20.1	237	631	No	ND	NA
R4	9601011	11/20/96	289	31.2	19.3	220	560	No	ND	NA
R4	970125	2/19/97	162	65.9	34.4	337	599	Yes	ND	NA
R4	970503	5/28/97	189	92.5	13.3	144	439	No	ND	<1.2
R4	970918	8/21/97	343	377	45.5	408	1174	No	ND	<1.2
R4	971197	11/10/97	542	129	31.1	267	969	No	ND	<1.2
R4	980166	2/18/98	98	15.9	10	79.3	203	Yes	ND	<1.2
R4	980406	5/19/98	916	244	38.1	304	1502	No	ND	NA
R4	990255	5/25/99	110	63	15	144	332	Yes	ND	NA
R4	JQ0001R04-1	1/20/00	280	89	60	690	1,119	No	ND	NA

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R4	JAQ-0005-R4	5/31/00	960	980	29	1900	3869	No	ND	NA
R4	JAQ-0006-R4	6/26/00	950	1000	43	2500	4493	No	ND	NA
R4	JAQ-0007-R4	7/26/00	520	400	50	1600	2570	No	ND	NA
R4	JAQ-0008-R4	8/23/00	1500	1800	110	1800	5210	No	ND	NA
R4	JAQ-0011-R4	11/20/00	590	580	110	1800	3080	No	ND	NA
R4	JAQ-0201-R4	2/15/01	19	<10	<10	36	55	No	ND	NA
R4	JAQ-0106-R4	6/1/01	3.4	0.5	<0.5	2.2	6.1	No	ND	NA
R4	JAQ-0107-R4	7/5/01	370	85	<2.5	14	469	No	ND	NA
R4	JAQ-0108-R4	8/23/01	86	20	<2.5	12	118	No	ND	NA
R4	JAQ-0111-R4	11/28/01	79	0.5	1.5	13	94	No	ND	NA
R5	N30973	9/7/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	N31061	10/4/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	N31244	11/10/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	N31388	12/15/93	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	940031	1/12/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	940238	2/9/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	940496	3/7/94	<0.5	<0.5	<0.5	<0.5	N/A	Yes	ND	NA
R5	N/A	5/17/94	No Test	No Test	No Test	No Test	No Test	No	ND	NA
R5	941008	6/13/94	<2.0	<2.0	<2.0	<2.0	N/A	No	ND	NA
R5	941261	9/7/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
R5	941623	12/15/94	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
R5	950102	2/9/95	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
R5	950565	5/8/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
R5	950898	8/25/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
R5	951182	11/2/95	<2.5	<2.5	<2.5	<2.5	N/A	No	ND	NA
R5	960098	2/5/96	<2.5	<2.5	<2.5	<2.5	N/A	Yes	ND	NA
R5	960482	5/28/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
R5	960689	8/6/96	<1.0	<1.0	<1.0	<1.0	N/A	No	ND	NA
R5	960905	10/28/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
R5	961012	11/20/96	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	NA
R5	970127	2/19/97	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	NA
R5	970504	5/28/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
R5	970919	8/21/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2
R5	971199	11/10/97	<1.0	<1.0	<1.0	<3.0	N/A	No	ND	<1.2

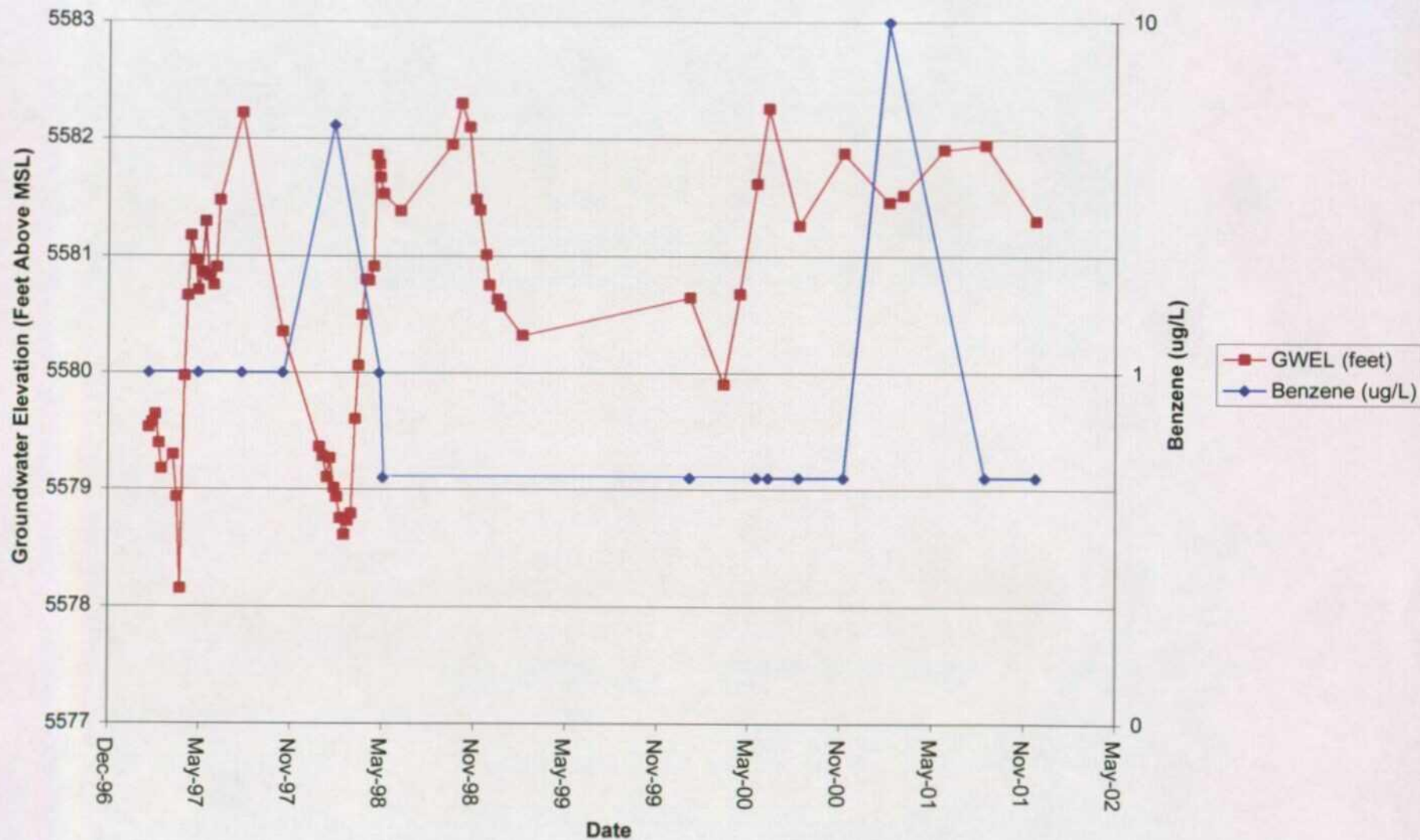
Well Number	Sample Number	Date of Sample	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	PAH Analysis Performed	Floating Product (Inches)	Nitrates (mg/L)
R5	980167	2/18/98	<1.0	<1.0	<1.0	<3.0	N/A	Yes	ND	<1.2
R5	980407	5/19/98	<1.0	<1.0	<1.0	<3.0	<6	No	ND	NA
R5	990256	5/25/99	0.5	0.5	0.5	1.5	3	Yes	ND	NA
R5	JQ0001R05-1	1/20/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0005-R5	5/31/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0006-R5	6/26/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0008-R5	8/23/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0011-R5	11/20/00	<0.5	<0.5	<0.5	0.9	0.9	No	ND	NA
R5	JAQ-0201-R5	2/15/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0106-R5	6/1/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0107-R5	7/5/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0108-R5	8/23/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R5	JAQ-0111-R5	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R-6	JQ0001R06-1	1/20/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R-6	JAQ-0005-R6	5/31/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R-6	JAQ-0006-R6	6/26/00	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R-6	JAQ-0008-R6	8/23/00	<0.5	<0.5	2.6	13	15.6	No	ND	NA
R-6	JAQ-0011-R6	11/20/00	<0.5	<0.5	<0.5	0.5	0.5	No	ND	NA
R-6	JAQ-0201-R6	2/15/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R6	JAQ-0106-R6	6/1/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R6	JAQ-0107-R6	7/5/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R6	JAQ-0108-R6	8/23/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA
R6	JAQ-0111-R6	11/28/01	<0.5	<0.5	<0.5	<0.5	ND	No	ND	NA

mg/L = milligrams per liter
 µg/L = micrograms per liter
 NA = not analyzed
 ND = not detected
 NE = not established

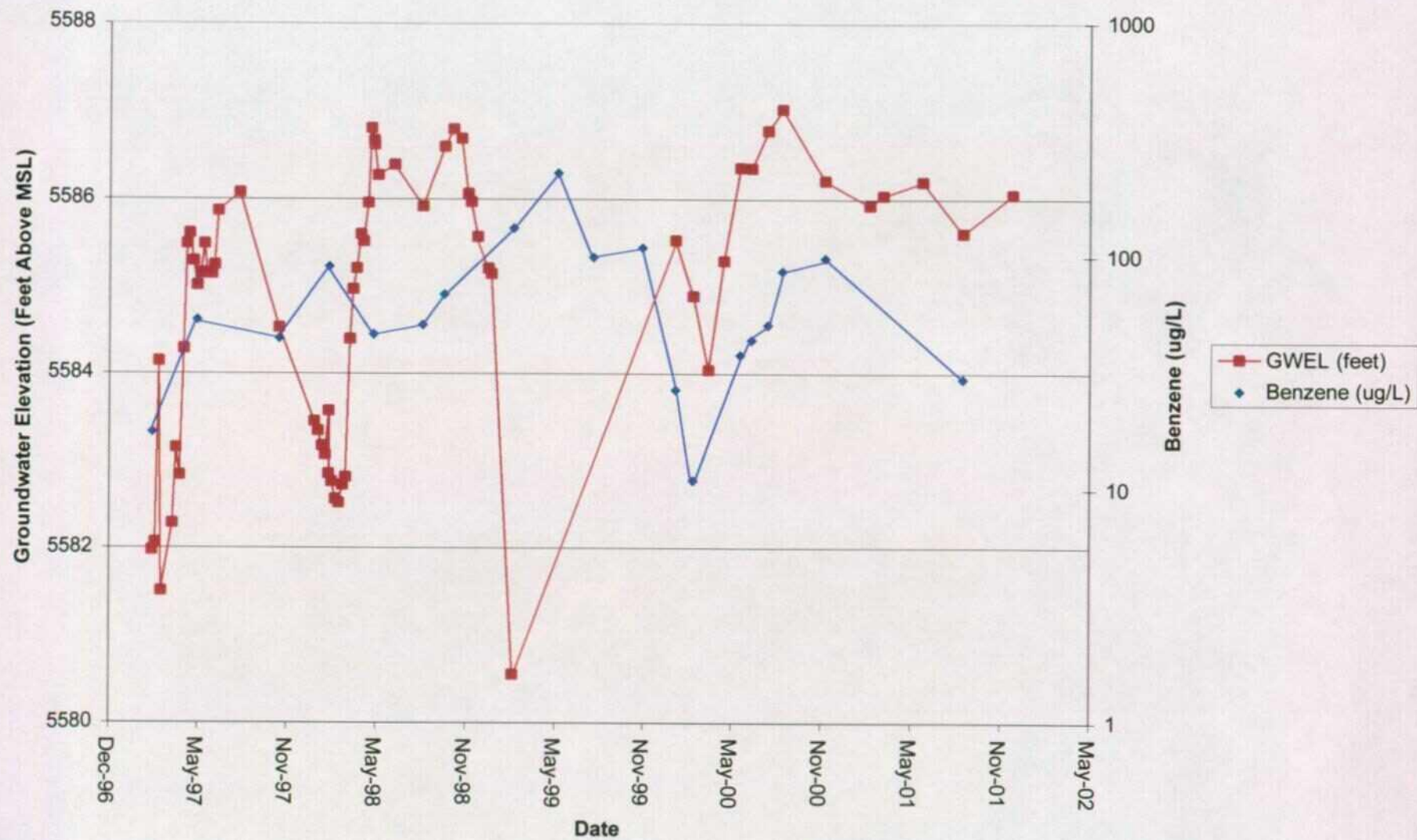
APPENDIX H

**COMPARISON OF BENZENE CONCENTRATIONS AND
GROUNDWATER LEVELS**

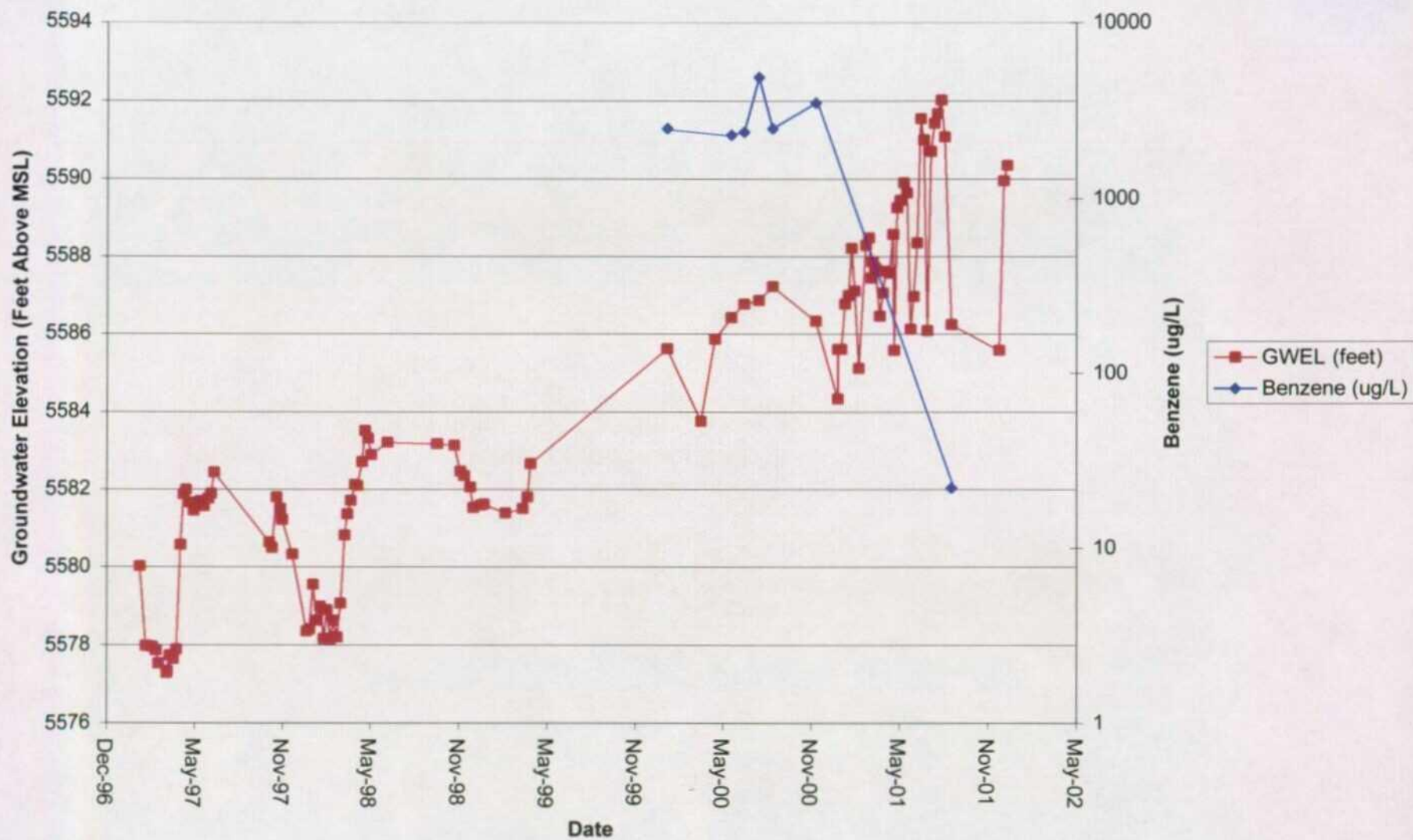
Benzene Concentrations and Groundwater Elevations in Monitoring Well M1



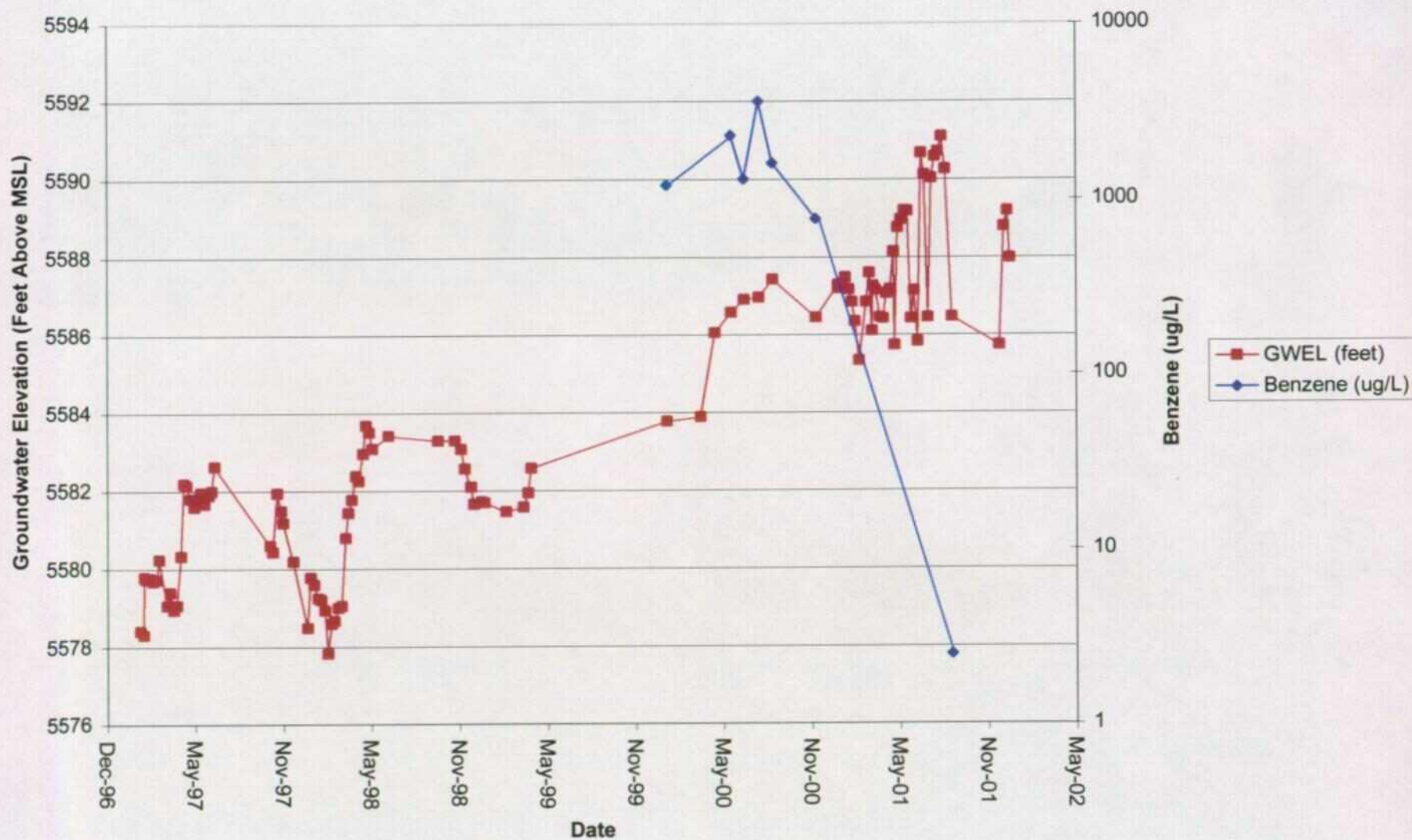
Benzene Concentrations and Groundwater Elevations in Monitoring Well M4



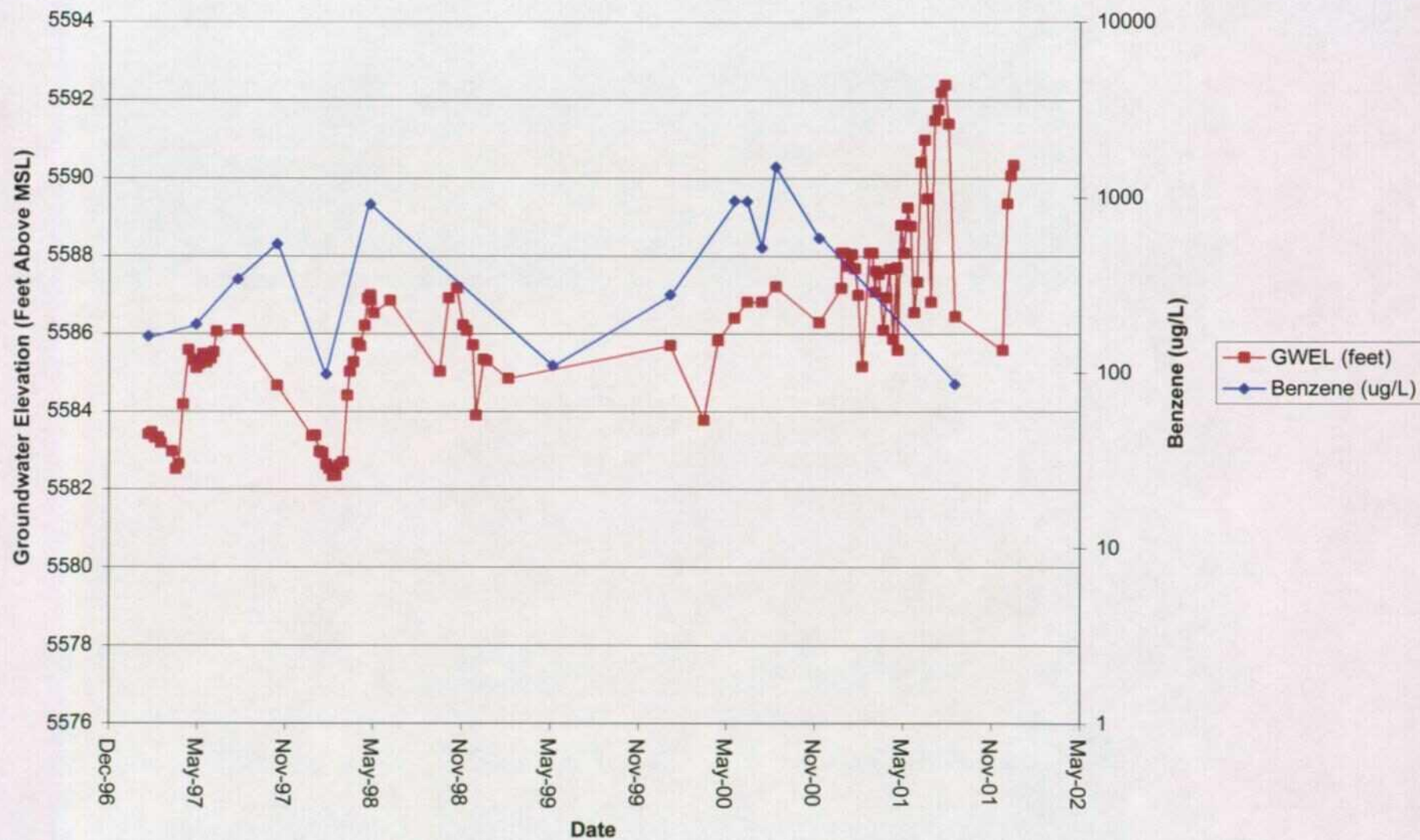
Benzene Concentrations and Groundwater Elevations in Monitoring Well R1



Benzene Concentrations and Groundwater Elevations in Monitoring Well R2



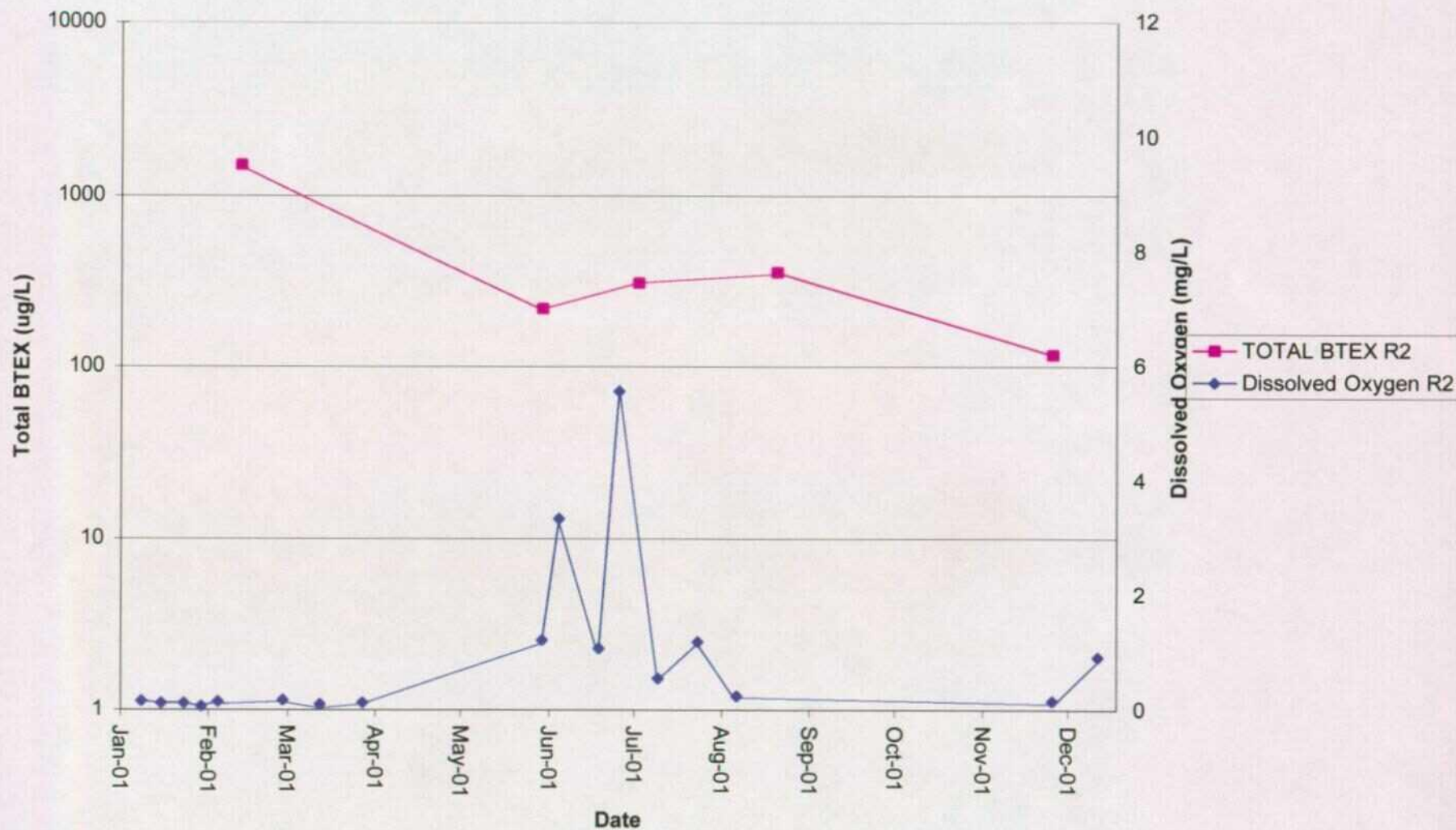
Benzene Concentrations and Groundwater Elevations in Monitoring Well R4



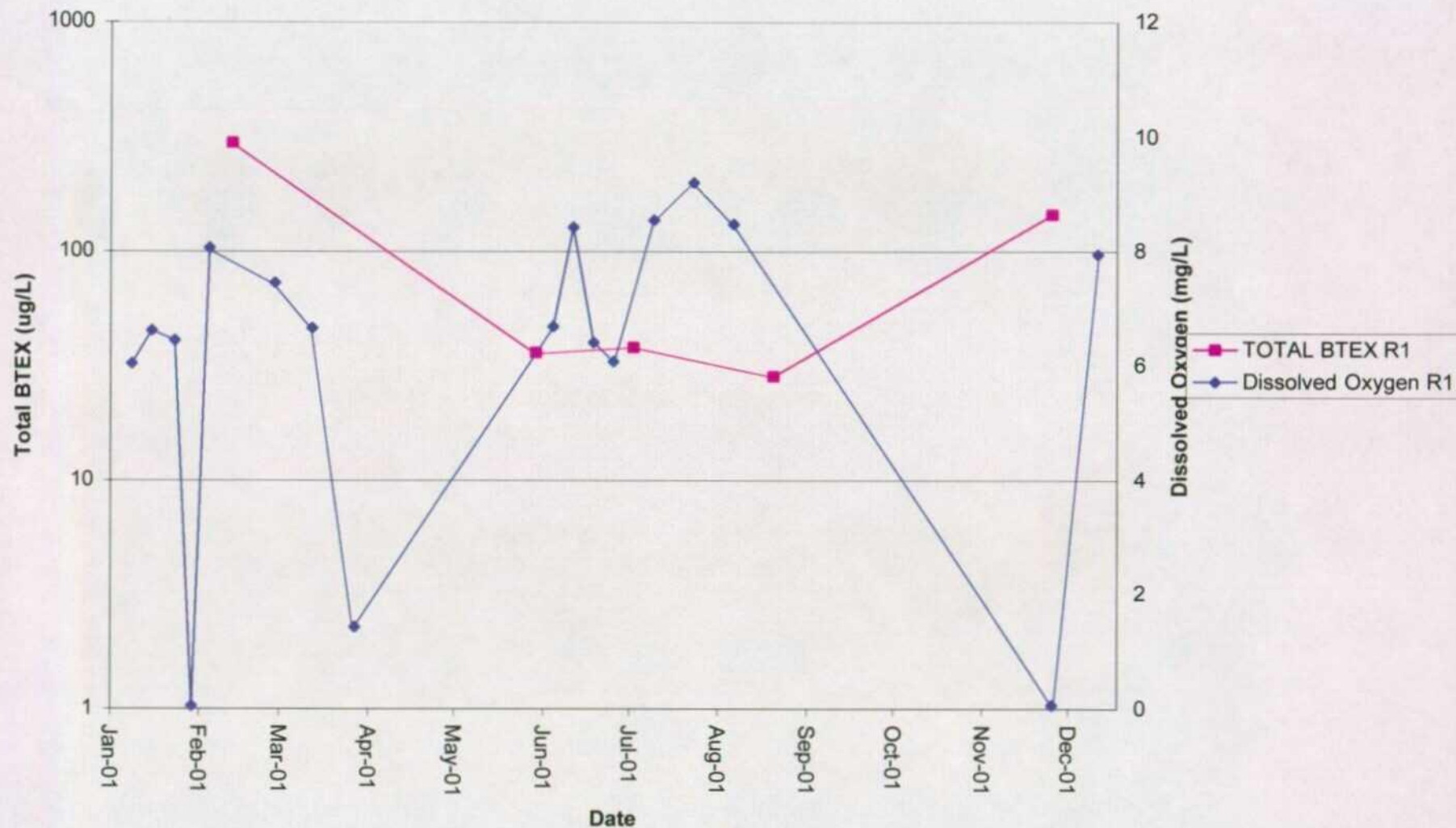
APPENDIX I

**COMPARISON OF BENZENE AND DISSOLVED OXYGEN
CONCENTRATIONS IN THE RECOVERY WELLS**

Total BTEX and Dissolved Oxygen Concentrations Monitoring Well R2



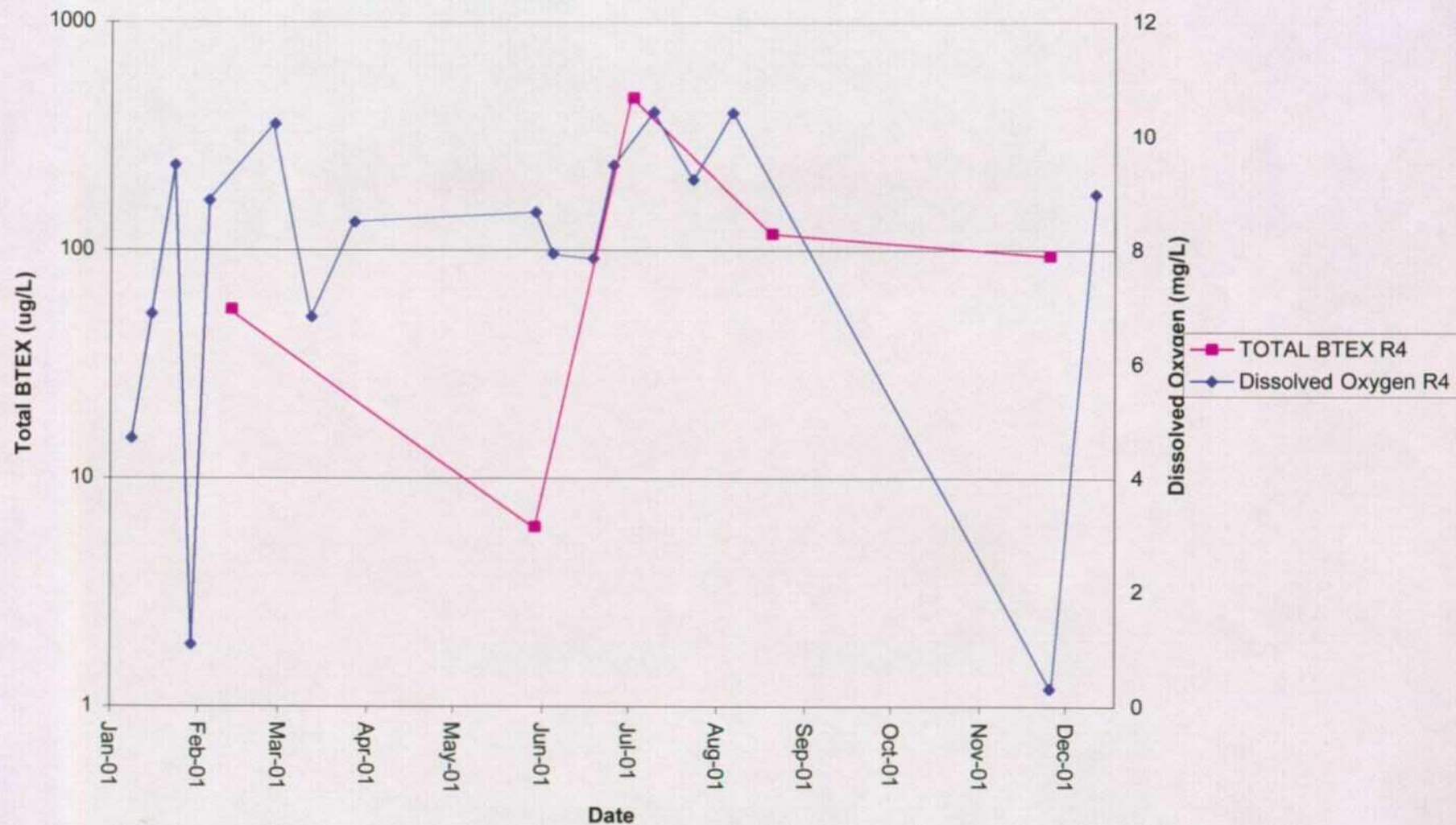
Total BTEX and Dissolved Oxygen Concentrations
Monitoring Well R1



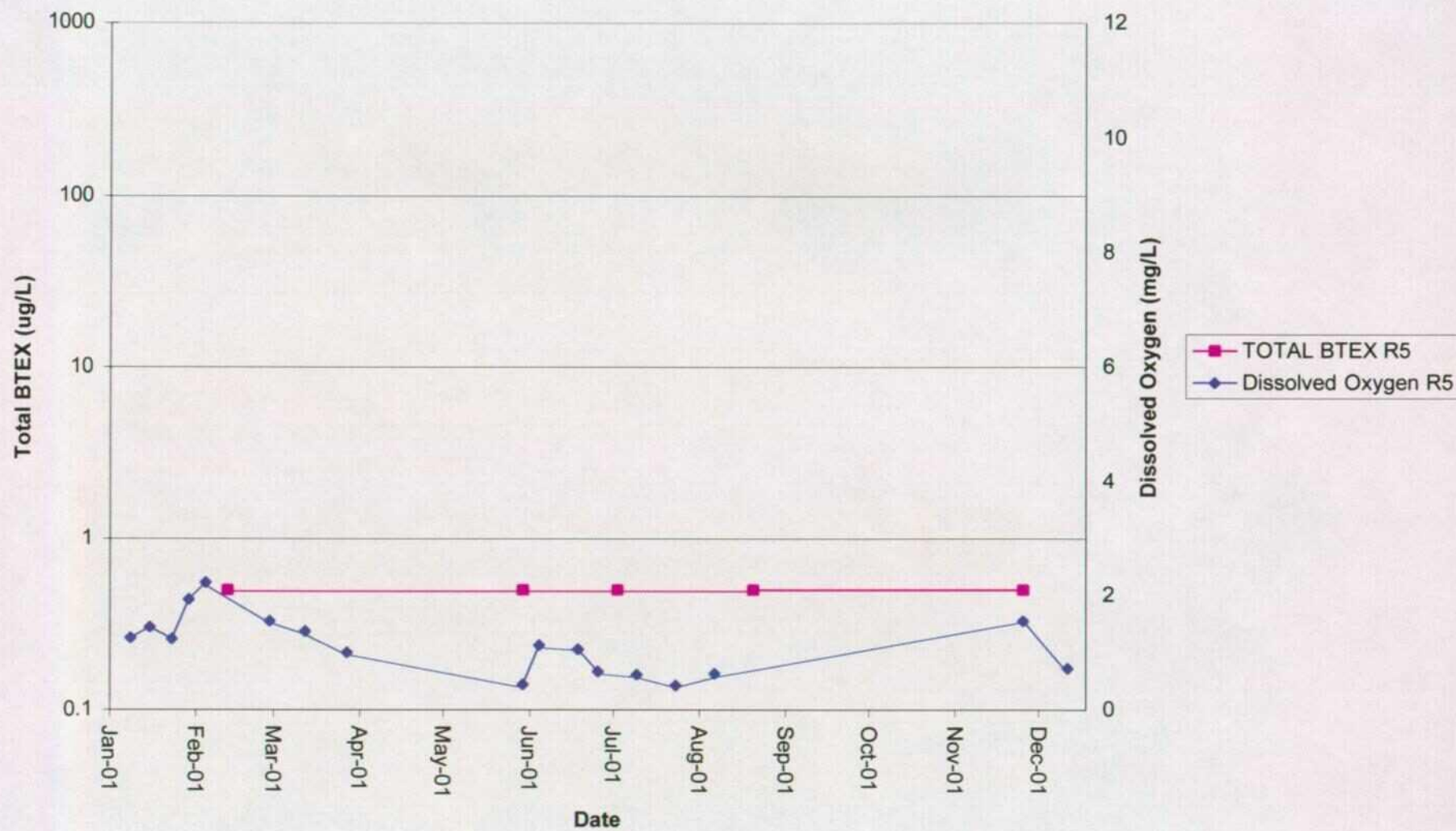
Total BTEX and Dissolved Oxygen Concentrations
Monitoring Well R3



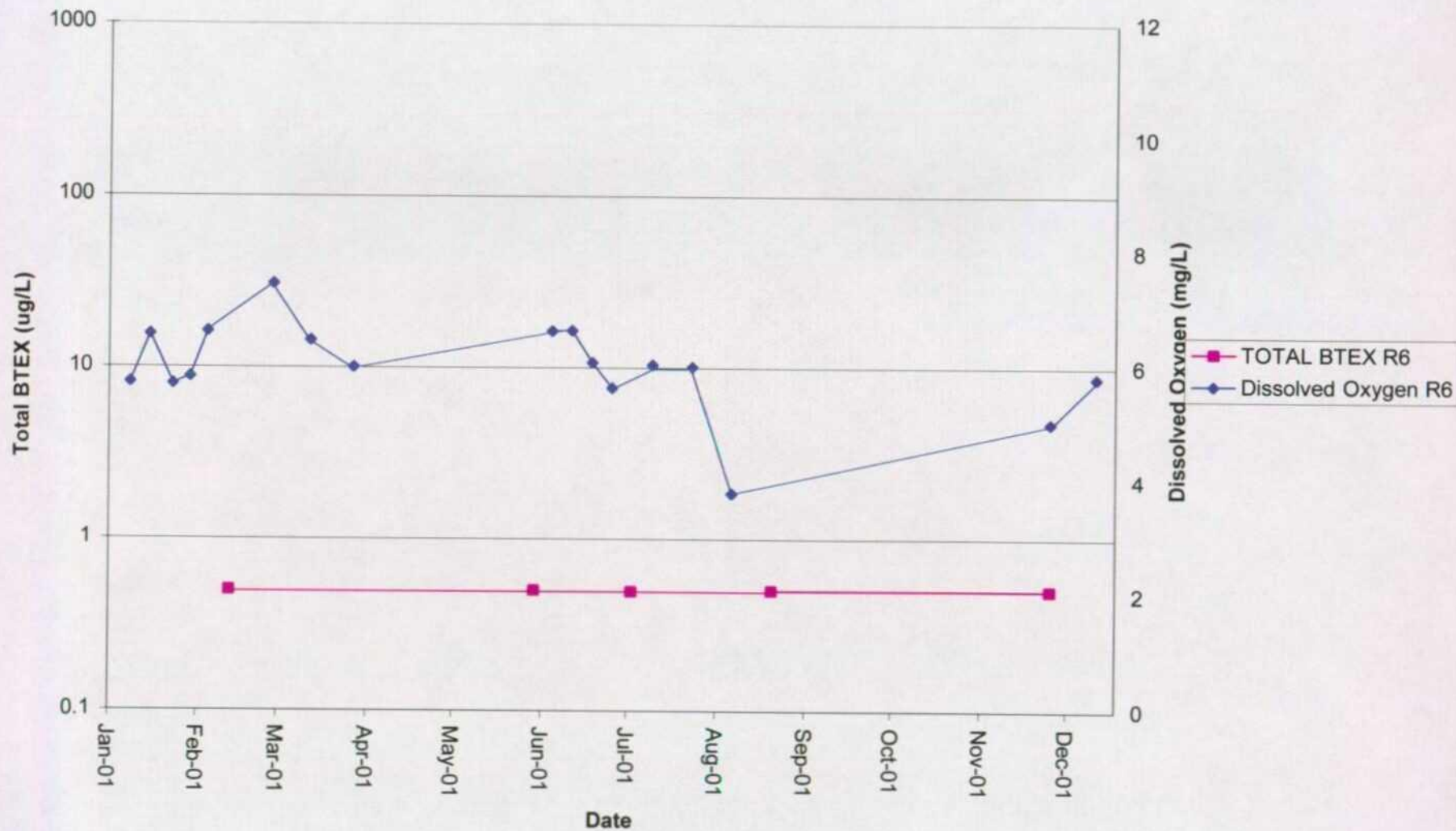
Total BTEX and Dissolved Oxygen Concentrations
Monitoring Well R4



Total BTEX and Dissolved Oxygen Concentrations
Monitoring Well R5



Total BTEX and Dissolved Oxygen Concentrations Monitoring Well R6



APPENDIX J

LABORATORY ANALYTICAL REPORTS – SURFACE WATER

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

PINNACLE
LABORATORIES

Pinnacle Lab ID number 105014
June 07, 2001

PHILIP SERVICE CORPORATION
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 05/02/01 Pinnacle Laboratories, 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.

At the request of the client the sample was reanalyzed (six days past hold time). Examination of the reanalysis did not confirm the presence of the aromatics. Low levels of hydrocarbons were observed. While Pinnacle is not able to refute the original results, we will make the new results available in this revised report. Pinnacle also recommends that they be notified at the time of the next round of quarterly samples. If Toluene (or any aromatic compound) is found, we will immediately confirm the presence by EPA 8260 (at our cost).

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

PINNACLE
LABORATORIES

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

CLIENT	: PHILIP SERVICE CORPORATION	PINNACLE ID	: 105014
PROJECT #	: 62800107	DATE RECEIVED	: 05/02/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/07/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
105014 - 01	JAQ-0501-CDUG	AQUEOUS	05/01/01
105014 - 02	JAQ-0501-CDDG	AQUEOUS	05/01/01



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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 SERVICE CORPORATION
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 105014

SAMPLE	DATE	DATE	DATE	DIL.		
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0501-CDUG	AQUEOUS	05/01/01	NA	05/21/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0501-CDUG
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
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5

SURROGATE:

BROMOFLUOROBENZENE (%)

102

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

Sample analyzed out of hold time.



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Albuquerque, New Mexico 87107
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 105014
BLANK I. D.	: 052101	DATE EXTRACTED	: NA
CLIENT	: PHILIP SERVICE CORPORATION	DATE ANALYZED	: 05/21/01
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 (%) 100
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 052101
CLIENT : PHILIP SERVICE CORPORATION
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 105014
DATE EXTRACTED : NA
DATE ANALYZED : 05/21/01
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	17.8	89	4	(80 - 120)	20
TOLUENE	<0.5	20.0	18.7	94	18.2	91	3	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.4	97	19.2	96	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	57.7	96	57.1	95	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



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

COC Serial No. C3201

105014

Relinquished by:

Received By:

Samples Iced: ☒ Yes ☐ No

Carrier: GREY HOUND LINES

Airbill No. GLI 160 691 9590

Preservatives (ONLY for Water Samples)**Shipping and Lab Notes:**

BILL SCOTT POPE W/ EPFS DIRECTLY. SEND LAB RESULTS
TO SCOTT POPE W/ EPFS AND ROBERT THOMPSON W/ PSC.

☐ Cyanide Sodium hydroxide (NaOH)☐ Volatile Organic Analysis Hydrochloric acid (HCl)☐ Metals Nitric acid (HNO_3)

☐ **TRH (418.1)** Sulfuric acid (H_2SO_4)

☒ Other (Specify) HgCl₂

☒ Other (Specify) High 2

Rec'd @ 4.2%



PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **105014**
May 04, 2001

PHILIP SERVICE CORPORATION
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 05/02/01 Pinnacle Laboratories, 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

PINNACLE
LABORATORIES

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

CLIENT	: PHILIP SERVICE CORPORATION	PINNACLE ID	: 105014
PROJECT #	: 62800107	DATE RECEIVED	: 05/02/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 05/04/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
105014 - 01	JAQ-0501-CDUG	AQUEOUS	05/01/01
105014 - 02	JAQ-0501-CDDG	AQUEOUS	05/01/01



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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 SERVICE CORPORATION
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 105014

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	JAQ-0501-CDUG	AQUEOUS	05/01/01	NA	05/03/01	1
02	JAQ-0501-CDDG	AQUEOUS	05/01/01	NA	05/03/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0501-CDUG	JAQ-0501-CDDG
BENZENE	0.5	UG/L	< 0.5	< 0.5
TOLUENE	0.5	UG/L	1.2	< 0.5
ETHYLBENZENE	0.5	UG/L	0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	1.1	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

96

98

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 105014
BLANK I. D.	: 050301	DATE EXTRACTED	: NA
CLIENT	: PHILIP SERVICE CORPORATION	DATE ANALYZED	: 05/03/01
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 (%)

98

SURROGATE LIMITS:

(80 - 120)

COMMIT 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 # : 050301
CLIENT : PHILIP SERVICE CORPORATION
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 105014
DATE EXTRACTED : NA
DATE ANALYZED : 05/03/01
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	19.5	98	17.8	89	9	(80 - 120)	20
TOLUENE	<0.5	20.0	20.0	100	18.3	92	9	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.8	104	19.0	95	9	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	61.8	103	56.8	95	8	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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





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

Pinnacle Lab ID number **101069**
January 23, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JAQUEZ SVE
Project Number 62800165

Attention: ROBERT THOMPSON/SCOTT POPE

On 01/23/01 Pinnacle Laboratories, 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
PROJECT # : 62800165
PROJECT NAME : JAQUEZ SVE

PINNACLE ID : 101069
DATE RECEIVED : 01/23/01
REPORT DATE : 01/23/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
101069 - 01	JAQ-0101-CDUG	AQUEOUS	01/19/01
101069 - 02	JAQ-0101-CDDG	AQUEOUS	01/19/01
101069 - 03	TRIP BLANK	AQUEOUS	01/22/01



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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 # : 62800165
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D.: 101069

PROJECT NAME		PROJECT CODE		ANALYSIS		
SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JAQ-0101-CDUG	AQUEOUS	01/19/01	NA	01/23/01	1
02	JAQ-0101-CDDG	AQUEOUS	01/19/01	NA	01/23/01	1
03	TRIP BLANK	AQUEOUS	01/22/01	NA	01/23/01	1

PARAMETER	DET. LIMIT	UNITS	JAQ-0101- CDUG	JAQ-0101- CDDG	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 (%)	101	100	101
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.	: 101069
BLANK I. D.	: 012301	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 01/23/01
PROJECT #	: 62800165	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: JAQUEZ SVE		

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 (%) 101
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 # : 101069-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800165
PROJECT NAME : JAQUEZ SVE

PINNACLE I.D. : 101069
DATE EXTRACTED : NA
DATE ANALYZED : 01/23/01
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	19.9	100	18.7	94	6	(80 - 120)	20
TOLUENE	<0.5	20.0	19.0	95	17.6	88	8	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.6	103	19.3	97	7	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	60.0	100	56.1	94	7	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

PLI ID# 101069

COC Serial No. C 2808

Project Name <u>Jaquez S.V.E.</u>				Total Number of Bottles	Type of Analysis and Bottle <u>ISTEX 8021</u> <u>Lab ID #</u>													
Project Number <u>62800165</u> Phase . Task <u>SS</u>																		
Samplers <u>C maez</u>																		
Laboratory	Name <u>PINNACLE</u>																	
	Location <u>ALBQ NM.</u>																	
Sample Number (and depth)	Date	Time	Matrix															Comments
<u>JAG-0101-CDUG</u>	<u>01-19-01</u>	<u>1709</u>	<u>H₂O</u>	<u>2</u>	<u>X</u>					<u>01</u>								<u>Citizens Ditch</u> <u>Jaquez</u>
<u>JAG-0101-CDUG</u>	<u>01-19-01</u>	<u>1717</u>	<u>H₂O</u>	<u>2</u>	<u>X</u>					<u>02</u>								<u>Citizens Ditch</u> <u>Jaquez</u>
<u>Trip Blank</u>	<u>01-22-01</u>	<u>1530</u>	<u>H₂O</u>	<u>1</u>	<u>X</u>					<u>03</u>								

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<u>Chris A May</u>	<u>01-22-01</u>	<u>0800</u>	<u>Humene Juimo</u>	<u>1/23/01</u>	<u>0450</u>

Samples Iced: ☒ Yes ☐ No		Carrier: <u>Greyhound</u>	Airbill No. <u>GLI/606919963</u>
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) <u>HgCL₂</u> ☐ Other (Specify) _____		Shipping and Lab Notes: <u>Recl @ 8°c On Ice</u>	