3R - 194

REPORTS

DATE:
12/1996

Attachment A - Jaquez Com. C #1 and Jaquez Com. E #1 Report for Total Fluids Pump Test

JAQUEZ COM. C #1 AND JAQUEZ COM. E #1

Report for Total Fluids Pump Test

December 1996

Prepared For

EL PASO FIELD SERVICES
FARMINGTON, NEW MEXICO

Project 17169

PHILIP
ENVIRONMENTAL

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1.0   INTRODUCTION

At the request of El Paso Field Services (EPFS), Philip Environmental Services Corporation (Philip) has prepared the following report for a total fluids pump test conducted in monitoring wells R-1 and R-2 at the Jaquez Com. C #1 and Jaquez Com. E #1 meter sites.

The Jaquez Com. C #1 and Jaquez Com. E #1 meter sites are currently owned and operated by EPFS. The meter sites are located in Section 6, Township 29N, and Range 9W, in San Juan County, New Mexico, near Blanco, New Mexico. The two meter stations are located within 40 feet of one another, on the same location. Past practices included discharge of pipeline liquids into earthen pit(s) at the site. Following soil remediation and monitoring well installation at the site, light non-aqueous phase liquids (LNAPL) were observed in monitoring wells R-1 and R-2 during periods of seasonal low groundwater elevations.

Philip recommended the initiation of a pump test in EPFS's September 1996 Semi-Annual report to the NMOCD; the pump test was approved by the NMOCD. The purpose and objectives of the pump test were:

- Determine if LNAPL can be removed during high seasonal groundwater by depressing the water table in and around R-1 and R-2.

- Determine the rate of LNAPL recovery that might be expected with continuous total fluids pumping.

- Determine a remedial strategy best suited for the site.

The pump test was initiated on November 5, 1996, and concluded on November 18, 1996.

2.0   SITE GEOLOGY

In August of 1993 ten monitoring wells were installed at the Jaquez site. Based on boring logs from the monitoring well installation, the site geology consisted of three distinct units in the area north of Citizen's Ditch. The first unit consisted of a fine- to medium-grained sand with varying amounts of silts and clays, which extended to approximately 8 feet below ground surface (bgs) and appeared to be saturated at approximately 5 - 6 feet bgs in borings R-1 and R-4. The second unit was a medium plastic clay that extended from approximately 8 feet bgs to approximately 14 feet bgs. The third and final unit was described as a medium- to coarse-grained sand, with appreciable silt and clay content from 14 to 18 feet bgs, and little or no clay content from 18 to 20 feet bgs. South of Citizen's Ditch the clay was not noted in any of the borings. The geology consisted predominately of a medium- to coarse-grained sand.

Some of the monitoring wells north of Citizen's Ditch showed evidence of two different saturated zones. The upper saturated zone was noted in borings R-1 and R-4, and indicates some leaking of Citizen's Ditch influencing water content in the upper sediments. Water from the ditch is probably migrating along secondary porosity features, such as root casts, pipelines, or joints. This upper zone was also where impacted soils were first encountered in most of the borings north of Citizen's Ditch.

3.0   METHODOLOGY

Site activities were initiated on November 5, 1996, by installing Grunfos Redi-Flow 2, 2-inch centrifugal lift submersible groundwater pumps in monitoring wells R-1 and R-2 with the intent of pumping at the maximum sustainable flow rate, thus depressing the water table, allowing LNAPL to flow into the wells. Initial depth-to-water and depth-to-product measurements were taken in each monitoring well with an electronic water level indicator or oil water interface probe prior to the initiation of the test, and periodically during the test. Groundwater from each well was discharged into individual 400 barrel lined steel frac tanks located at each pumping well.

Continuous pumping of the wells was maintained until the tanks were full. Prior to discontinuing pumping, pressure transducers connected to a data logger were installed in the monitoring wells north of Citizen's Ditch to record the recovery of the pumping wells and surrounding monitoring wells.

At the conclusion of the pump test, final depth-to-water measurements were taken and all groundwater pumps removed and thoroughly decontaminated. All liquids recovered during the pump test were transported by truck to EPFS's Kutz separator located in Bloomfield, New Mexico. At the request of NMOCD, prior to and at the conclusion of the pump test, EPFS collected groundwater samples from all of the monitoring wells at the site. Samples were analyzed for benzene, toluene, ethyl benzene, and total xylenes by United States Environmental Protection Agency method 8020.

4.0   RESULTS

Monitoring Well R-1

On November 5, 1996, at approximately 1415 hours, pumping was initiated in monitoring well R-1. Prior to pumping, an initial groundwater depth of 14.21 feet was recorded from the top of the well riser (TOR). No LNAPL was observed in the well prior to initiating the test. The initial pumping rate was approximately 0.75 gallons per minute (GPM), measured at the discharge line in the frac tank, and was maintained until water levels within the well stabilized.

On the morning of November 7, 1996, upon arrival to the site, the discharge lines were frozen and the pump had shut down. The discharge lines were thawed, and pumping resumed at approximately 1335 hours that same day. Once pumping was reestablished, the pump rate was increased to approximately 1.5 GPM, measured at the discharge to the frac tank, and maintained for the duration of the test. Pumping at a rate of 1.5 GPM drew the water in R-1 to 21.36 feet beneath TOR, which is less than one foot from the total depth of the well; 22.1 feet. The draw down depth of 21.36 is approximately six feet below seasonal low water levels when free-phase hydrocarbons begin to appear in R-1. This draw down was maintained in R-1 until the conclusion of the test on November 15, 1996. Despite the significant draw down in R-1 during the pump test, free-phase hydrocarbons were not observed in R-1 or in the discharge tank at the conclusion of the test. Specific draw down data and a graphic plot of water levels during the test are presented in Appendix A.

Prior to the conclusion of the pump test, a pressure transducer was installed in R-1 to monitor the recovery of the well once the pump was turned off. This data, recorded at the end of the test, showed that the well recovered almost completely within the first 60 minutes of measurements. After monitoring for over two days the water level still had not recovered to pre-test levels. Water levels taken by EPFS during post-test sampling four days after the conclusion of the test were still not at pre-test levels. This indicates some dewatering of the upper less permeable clays, making total recharge very slow.

On November 15, 1996, at approximately 1414 hours, the pump test was terminated. The following was noted at the conclusion of the pump test:

- The total duration of the pump test was 239 hours and 59 minutes.

- 17.87 feet of total fluids were measured in the discharge tank, which translates to approximately 15,011 gallons removed from R-1.

- The average overall flow rate was approximately 1.04 GPM.

- No LNAPL was noted in R-1's discharge tank at the conclusion of the test. Recovery data collected in R-1 and the other monitoring wells is presented in Appendix C in tabular and graphic form.

- R-1 was sampled for benzene, toluene, ethylbenzene, and total xylenes (BTEX) before and after the test.

- Sample results indicated a reduction in all BTEX compounds, except ethyl benzene in R-1.

- Total BTEX was reduced from 4,520 parts per billion (PPB) to 3,450 PPB. Results from both sampling events are presented in Table 1 and Appendix B.

Monitoring Well R-2

On November 5, 1996, continuous pumping was attempted in R-2. Prior to initiating the pump test, groundwater was measured at approximately 13.08 feet beneath TOR with 0.09 feet of floating free-phase hydrocarbons. When the pump was started, it pumped approximately three gallons of water and a small amount of free-phase hydrocarbons and stopped. It was determined there was a problem within the pump, and another pump was rented for the duration of the project.

On November 6, 1996, a new pump was installed in R-2 and pumping began at 1445 hours. It was difficult to maintain constant flow into the tank. The well would only sustain a maximum flow rate of 0.5 GPM, measured at the discharge line in the frac tank, for one to two hours before continuous flow would stop. The well would then have to recharge, and the pump rate be increased to overcome the height of the discharge tank, before continuous flow would resume.

On November 7, 1996, upon arrival on site, it was noted the discharge lines were frozen and the pump had shut down. The lines were thawed, insulated, and pumping resumed at approximately 1337 hours that day. On November 8, 1996, the lines were frozen again upon arrival to the site. Pumping was resumed at 0815 hours that morning, but the well would not sustain continuous pumping for more than one hour. At 1730 hours on November 8, 1996, pumping on R-2 was discontinued due to the inability of the well to sustain continuous pumping.

When R-2 was pumping and the well was drawn down to within one foot of the total depth of the well, some free-phase hydrocarbons were pumped from the well. However, product pumping was usually of short duration prior to the well being pumped dry. At the conclusion of the test the following was noted:

- Total fluids pumped into the discharge tank measured 0.42 feet, which translates to approximately 352.8 gallons.

- The overall average flow rate was approximately .12 GPM.

- No measurable product was noted in the tank, but a film was noted on the probe.

- No significant product level changes were observed in the well after pumping was discontinued. Specific water levels and product levels observed throughout the pump test are presented in tabular and graphic form in Appendix A.

- R-2 was sampled for BTEX compounds prior to initiating the test and after the test was completed.

- Sample results did show a reduction in all BTEX compounds except ethyl benzene, which remained approximately the same.

- Total BTEX in R-2 was reduced from 4,585 PPB, prior to the pump test, to 2,680 PPB following the pump test.

- At the time of sampling following the pump test, 0.04 feet of LNAPL was observed in R-2. Sample results for both sampling events are presented in Table 1 and Appendix B.

Monitoring Well R-3

Monitoring wells R-3, R-4, and R-5 were used as observation wells to monitor the effect of continuous pumping of R-1. Monitoring well R-3, located approximately 50 feet northeast of R-1, showed a maximum overall draw down of 1.25 feet during the pump test. Total BTEX values decreased slightly from 185 PPB before the pump test, to 139 PPB after the pump test. All BTEX values remained below NMWQCC standards.

Monitoring Well R-4

Monitoring well R-4, located approximately 30 feet west of R-1, was the closest observation well to R-1. R-4 showed an overall maximum draw down of approximately 1.32 feet during the pump test. Sample results from pre-test and post-test sampling events indicated a slight reduction in all BTEX compounds. Total BTEX prior to the pump test was 631 PPB, and 560 PPB at the conclusion of the test.

Monitoring Well R-5

R-5, located approximately 95 feet north of R-1, showed a maximum overall draw down of 0.92 feet during the pump test. BTEX values remained non-detectable before and after the pump test. Specific water level data for each well is presented in Appendix A and sample results from before and after the pump test are presented in Appendix B.

Monitoring Well M-1

Monitoring well M-1, located south of Citizen's Ditch on the west side of the garden area and approximately 225 feet southwest of R-1, showed a maximum draw down of 0.58 feet during the pump test. Water levels in M-1 continued to decline at the conclusion of the test to 0.69 feet below the initial water level. BTEX compounds were not detected before or after the pump test.

Monitoring Well M-2

Monitoring well M-2, located south of Citizen's Ditch on the east side of the garden area and approximately 180 feet southeast of R-1, showed a maximum draw down of 0.83 feet during the pump test. Water levels in M-2 also continued to decline after the pump test was complete to 0.91 feet below static water level recorded prior to starting the pump test, and before beginning to rebound. Samples collected for BTEX compounds were

below laboratory detection limits prior to the pump test, and remained non-detectable after the pump test.

Monitoring Well M-3

Monitoring well M-3, located just south of Citizen's Ditch in northwest corner of the garden area and approximately 145 feet southwest of R-1, showed maximum draw down of 0.76 feet during the pump test. Water levels continued to decline to 0.87 feet below static water level recorded prior to the start of the pump test, before rebounding. Sample results for BTEX compounds collected after the pump test showed a slight increase in concentrations of benzene and ethyl benzene. Total BTEX rose from 21 PPB prior to the test to 72.1 PPB after the test.

Monitoring Well M-4

Monitoring well M-4, located south of Citizen's Ditch at the north end of the garden area and approximately 135 feet south of R-1, showed a maximum draw down of 0.99 feet during the pump test. Water levels in M-4 also declined after the conclusion of the pump test to 1.05 feet below pre-test conditions, before rebounding. Benzene, ethyl benzene, and total xylenes sample results rose slightly from pre-test concentrations. Total BTEX before the pump test was 60 PPB, and 101 after the pump test. Despite a slight increase in BTEX concentrations, all BTEX compounds remained below NMWQCC standards.

Monitoring Well M-5

Monitoring well M-5, located south of Citizen's Ditch in the northeast corner of the garden area and approximately 120 feet southeast of R-1, showed a maximum draw down of 1.06 feet during the pump test. As in the other monitoring wells south of Citizen's Ditch, the water level continued to decline after the pump test to a final level of 1.12 feet below static conditions recorded prior to starting the pump test. Samples collected for BTEX compounds were below laboratory detection limits prior to the pump test and remained non-detectable following the pump test. Water level data and sample results for all the monitoring wells can be found in Appendix A and B, respectively.

5.0   SUMMARY

Garden Area South of Citizen's Ditch

Despite the distance from pumping well R-1, significant influence was noted in the monitoring wells south of Citizen's Ditch. Most of the monitoring wells showed a depression in water levels of nearly one foot. This indicates hydraulic communication across Citizen's Ditch. The continuing decrease in water levels after the pump test was discontinued and the slow recharge of the monitoring wells also indicates significant

dewatering of the saturated zone. The pump test was completed during a period when groundwater levels are decreasing along with the seasonal decrease in water levels in Citizen's Ditch and the end of the irrigation season. Water levels in the monitoring wells may not rebound to pre-test levels until Spring, when the ditch is running full and irrigation resumes. A slight increase in BTEX concentrations in M-3 and M-4 is probably due to the reduction of water levels in the monitoring wells. The BTEX compounds remaining in the saturated zone are probably bound up in clay particles and secondary porosity features within the saturated zone. Once the water levels were lowered, trapped hydrocarbons were freed, increasing concentrations in groundwater.

Meter Site Location North of Citizen's Ditch

The pump test data clearly showed that the monitoring wells north of Citizen's Ditch were effected significantly by pumping from R-1. R-3 and R-4 showed over one foot of depression in water levels during the pump test. Despite the lack of free-phase hydrocarbon recovery during the test, significant reductions in BTEX concentrations were indicated by post-test sampling events. Taking into consideration the low permeability associated with the upper clay units, it may take considerable pumping to completely dewater the clay unit before significant product accumulation is seen in the monitoring wells.

6.0   RECOMMENDATIONS

Based on the results of Philip's data review of the pump test, Philip recommends waiting to see if free-phase hydrocarbons return with seasonal low ground water levels. If free-phase hydrocarbons do return, Philip recommends installing a free-phase skimming system to remove as much LNAPL as possible during the low groundwater season.

As ground water levels begin to increase, it may be appropriate to install a total fluids pumping system in R-1 and R-2, with appropriate controls, to ensure continuous removal of water from these wells. Pumping continuously on R-1 and R-2 may maintain low season water levels, thus allowing the free-phase hydrocarbons to remain recoverable.

Also, during total fluids pumping, the addition of nutrients and oxygenates in surrounding wells could provide the proper environment for bio degradation of remaining hydrocarbons in the dissolved phase portion of the plume and the smear zone.

**Table 1 - Pre-Test and Post-Test
BTEX Sample Results**

TABLE 1
PRE-TEST AND POST-TEST BTEX RESULTS

Location	Date Sampled	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L	Total BTEX µg/L
R-1 Pre-Test	10/28/96	1690	1970	60.8	800	4520
R-1 Post-Test	11/20/96	1240	1540	61.9	600	3450
R-2 Pre-Test	10/28/96	1100	2300	85.4	1100	4585
R-2 Post-Test	11/20/96	428	1340	87.3	821	2680
R-3 Pre-Test	10/28/96	< 1	10.7	12.6	109	132
R-3 Post-Test	11/20/96	< 1	12.5	12.4	114	139
R-4 Pre-Test	10/28/96	320	53.4	20.1	237	631
R-4 Post-Test	11/20/96	289	31.2	19.3	220	560
R-5 Pre-Test	10/28/96	< 1	< 1	< 1	< 3	< 6
R-5 Post-Test	11/20/96	< 1	< 1	< 1	< 3	< 6
M-1 Pre-Test	10/28/96	< 1	< 1	< 1	< 3	< 6
M-1 Post-Test	11/20/96	< 1	< 1	< 1	< 3	< 6
M-2 Pre-Test	10/28/96	< 1	< 1	< 1	< 3	< 6
M-2 Post-Test	11/20/96	< 1	< 1	< 1.0	< 3	< 6
M-3 Pre-Test	10/28/96	17.4	< 1	1.55	2.23	21
M-3 Post-Test	11/20/96	70.2	< 1	1.89	< 3	72.1
M-4 Pre-Test	10/29/96	1.03	< 1	3.66	55.5	60
M-4 Post-Test	11/21/96	3.28	< 1	7.77	90.3	101
M-5 Pre-Test	10/29/96	< 1	< 1	< 1	< 3	< 6
M-5 Post-Test	11/21/96	< 1	< 1	< 1	< 3	< 6

µg/L = micrograms per liter   mg/L = milligrams per liter
BTEX Analysis by USEPA Method 8260   TDS Analysis by USEPA Method 160.1
NA - Data not available for this sampling event

Figure 1 - Pre-Test Groundwater Elevation Map

R-05
85.410

FENCE LINE

GAS WELL
PIT AREA

85

85.5

R-03
85.420

R-02
84.970

R-01
84.860

DITCH

HOUSE

SHED

R-04
84.780

FOOT BRIDGE

84.5

PASSIVE AIR SYSTEM

M-05
82.460

OLD TRAILER

HOUSE

BARN

M-03
82.760

M-04
84.670

84

OLD OUT
BUILDING

83.5

83

M-02
81.750

82.5

82

81.5
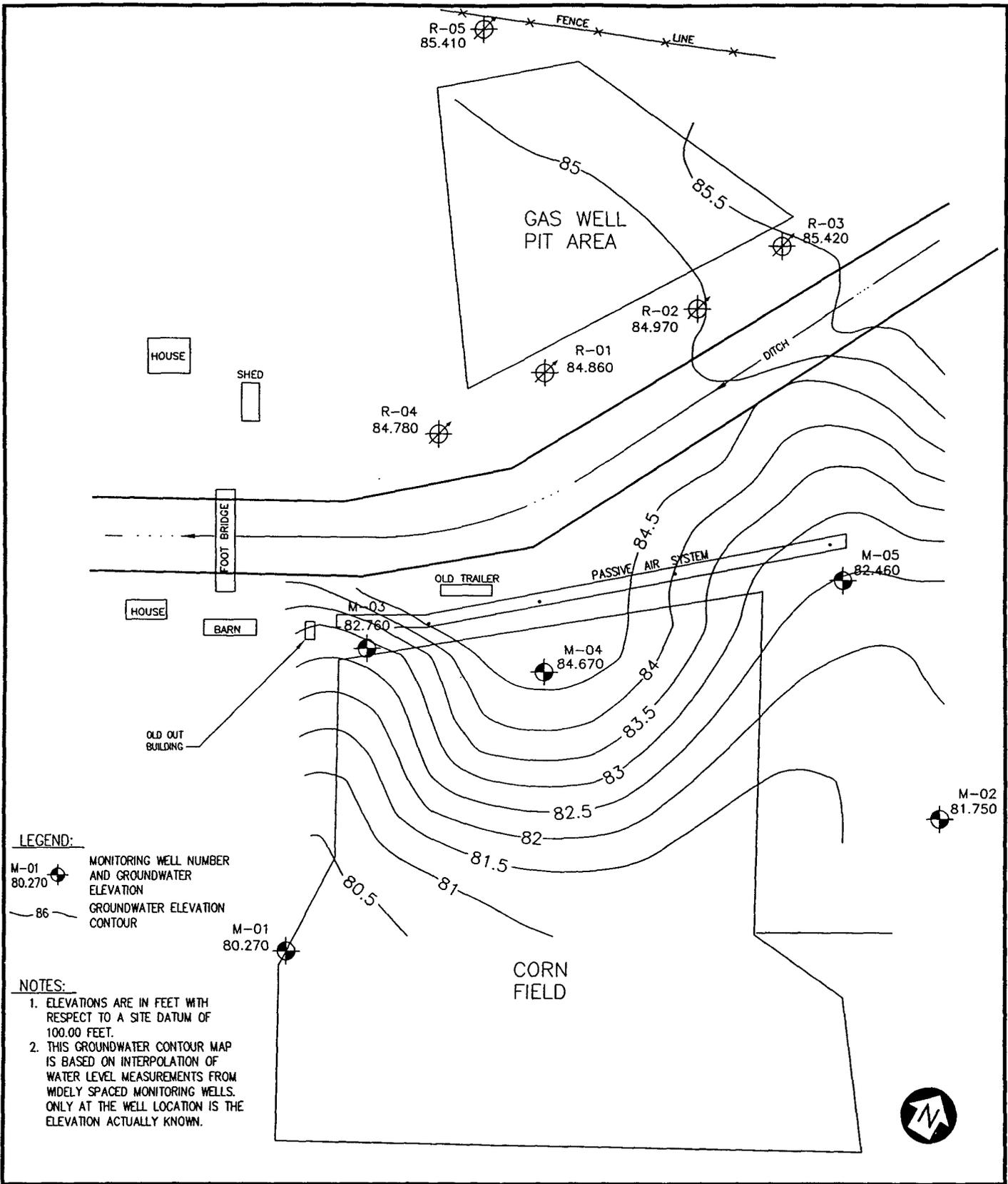
LEGEND:

M-01
80.270   MONITORING WELL NUMBER
             AND GROUNDWATER
             ELEVATION

— 86 —   GROUNDWATER ELEVATION
           CONTOUR

80.5

81

M-01
80.270

CORN
FIELD

NOTES:
1. ELEVATIONS ARE IN FEET WITH
   RESPECT TO A SITE DATUM OF
   100.00 FEET.
2. THIS GROUNDWATER CONTOUR MAP
   IS BASED ON INTERPOLATION OF
   WATER LEVEL MEASUREMENTS FROM
   WIDELY SPACED MONITORING WELLS.
   ONLY AT THE WELL LOCATION IS THE
   ELEVATION ACTUALLY KNOWN.

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ENVIRONMENTAL

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COL.

NO.	REVISION	BY	APPR.	DATE
△				

TITLE:				
JAQUEZ GAS COM E#1 & C#1 GROUNDWATER ELEVATION CONTOURS PRIOR TO PUMP TEST	SCALE NONE	DATE	PROJECT NO: 17169	
	DWN: MC	12/13/96	EL PASO FIELD SERVICES COMPANY	
	DES:			
	CHKD:		FIGURE 1	REV: 0
	APPD:			

Figure 2 - Maximum Draw Down Groundwater Elevation Map

R-05
84.480

FENCE LINE

GAS WELL PIT AREA

-83-
-82-
-81-
-80-
-79-

-84-

R-03
84.210

R-02
83.780

R-01
77.710

DITCH

HOUSE

SHED

R-04
83.510

FOOT BRIDGE

HOUSE

BARN

OLD TRAILER

PASSIVE AIR SYSTEM

-84-

M-05
81.400

M-03
82.000

M-04
83.710

OLD OUT BUILDING

-83-

-82-

-81-

-80-

M-02
80.920
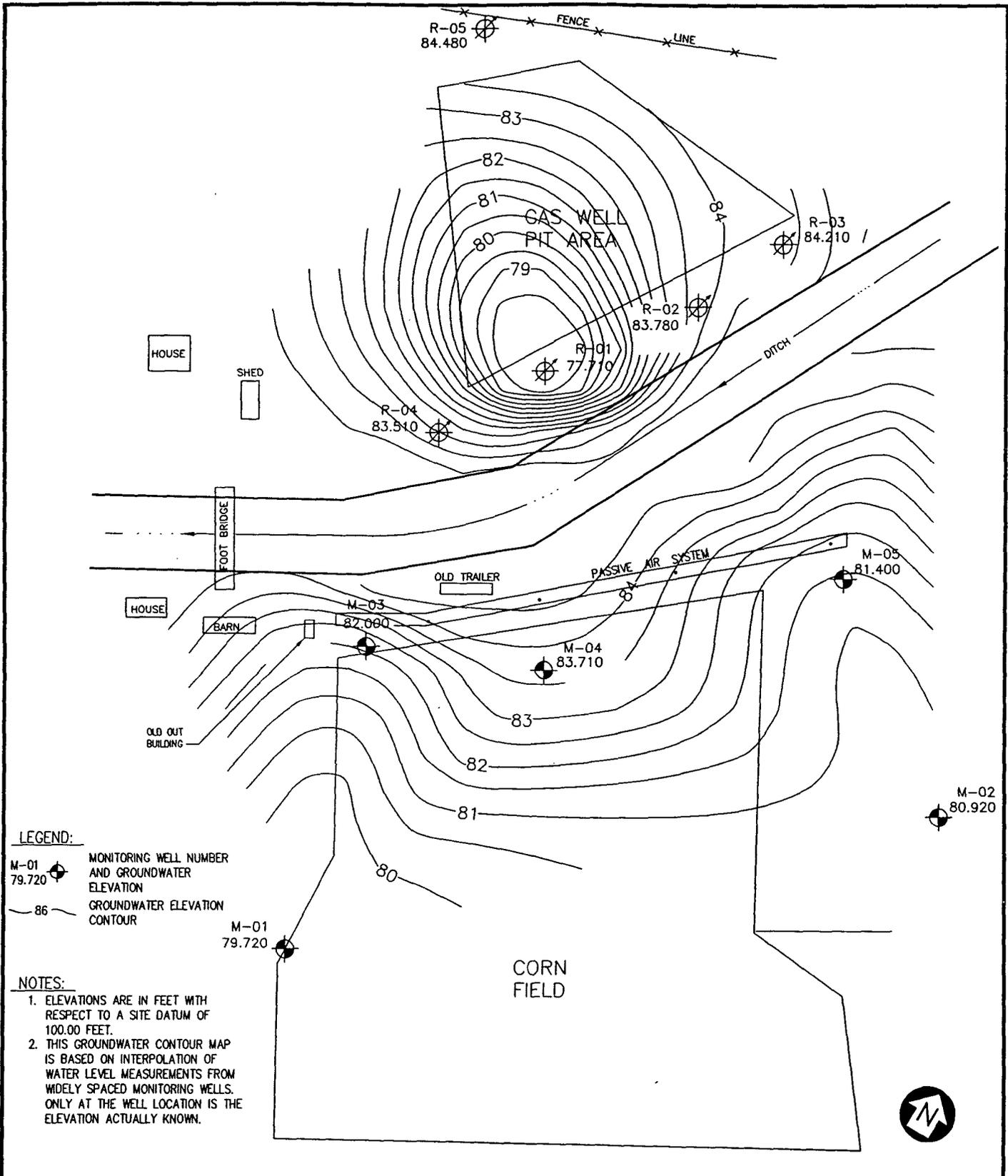
LEGEND:

M-01 ⊕
79.720
MONITORING WELL NUMBER AND GROUNDWATER ELEVATION

— 86 —
GROUNDWATER ELEVATION CONTOUR

M-01
79.720

CORN FIELD

NOTES:
1. ELEVATIONS ARE IN FEET WITH RESPECT TO A SITE DATUM OF 100.00 FEET.
2. THIS GROUNDWATER CONTOUR MAP IS BASED ON INTERPOLATION OF WATER LEVEL MEASUREMENTS FROM WIDELY SPACED MONITORING WELLS. ONLY AT THE WELL LOCATION IS THE ELEVATION ACTUALLY KNOWN.

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PHILIP
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NO.	REVISION	BY	APPR.	DATE

TITLE:

JAQUEZ GAS COM E#1 & C#1
GROUNDWATER ELEVATION CONTOURS
END OF PUMP TEST

SCALE	NONE	DATE	PROJECT NO:	17169
DWN:	MC	12/13/96	EL PASO FIELD SERVICES COMPANY	
DES:				
CHKD:			FIGURE 2	REV: 0
APPD:				

COL. J:\16297\CIV\CL02-3

Appendix A - Groundwater Elevation Data

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	0855	14.21	NA	0.00	22.1	0.00
11/5/96	1755	15.95	NA	0.00	22.1	-1.74
11/6/96	0840	16.69	NA	0.00	22.1	-2.48
11/6/96	1130	16.75	NA	0.00	22.1	-2.54
11/6/96	1545	16.82	NA	0.00	22.1	-2.61
11/7/96	0843	14.53	NA	0.00	22.1	-0.32
11/7/96	1314	14.51	NA	0.00	22.1	-0.3
11/7/96	1539	20.13	NA	0.00	22.1	-5.92
11/8/96	0913	21.24	NA	0.00	22.1	-7.03
11/8/96	1140	21.28	NA	0.00	22.1	-7.07
11/8/96	1633	21.36	NA	0.00	22.1	-7.15
11/9/96	0742	21.36	NA	0.00	22.1	-7.15
11/10/96	1037	21.35	NA	0.00	22.1	-7.14
11/11/96	0923	21.36	NA	0.00	22.1	-7.15
11/12/96	0916	21.36	NA	0.00	22.1	-7.15
11/13/96	0948	21.36	NA	0.00	22.1	-7.15
11/14/96	0927	21.36	NA	0.00	22.1	-7.15
11/15/96	0953	21.36	NA	0.00	22.1	-7.15
11/18/96	0937	15.33	NA	0.00	22.1	-1.12
11/20/96		15.1	NA	0.00	22.1	-0.89
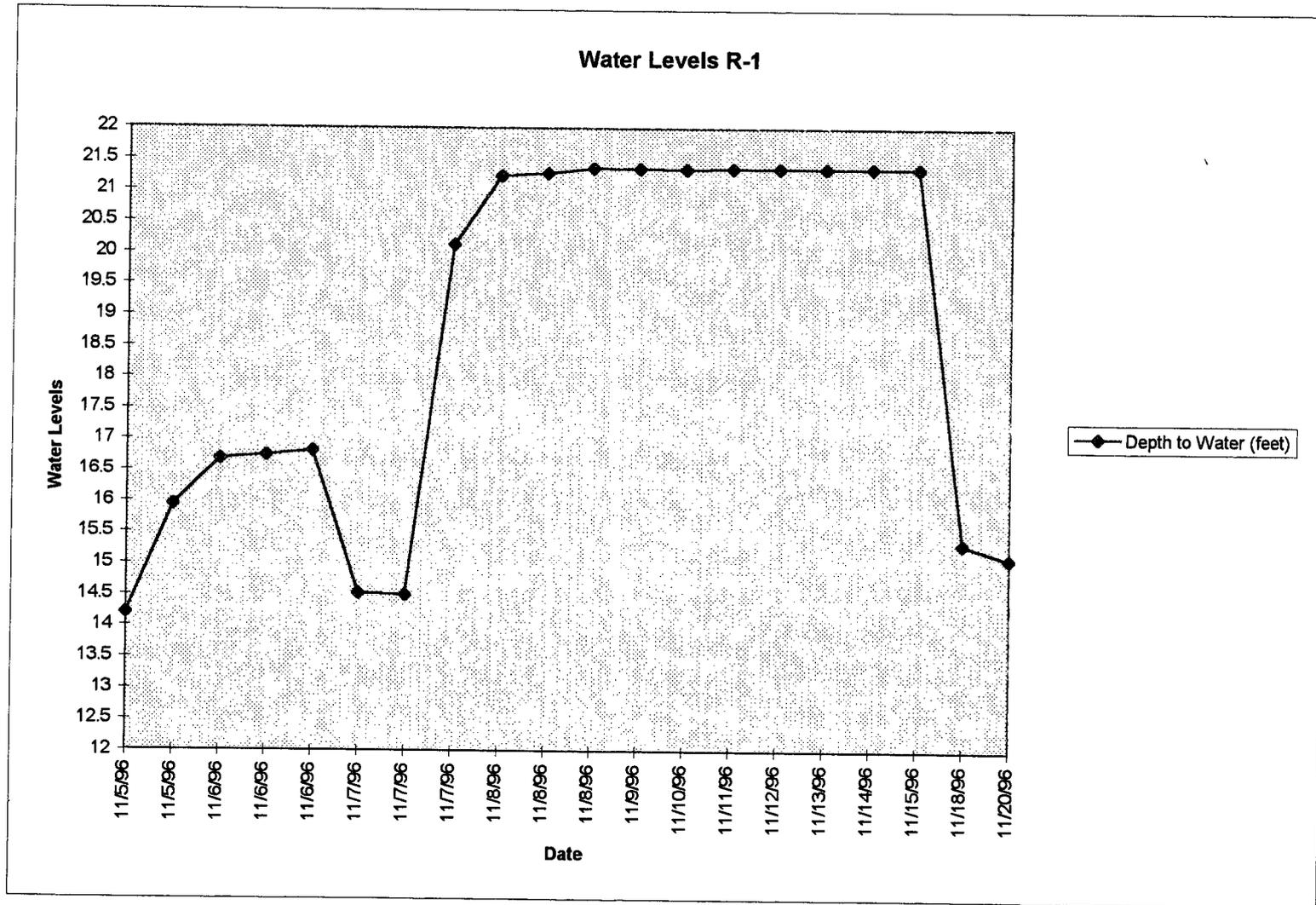
Water Levels R-1

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	0903	13.08	12.97	0.11	22.1	0.00
11/5/96	1801	13.18	13.08	0.10	22.1	-0.10
11/6/96	0850	13.42	13.27	0.15	22.1	-0.34
11/6/96	1135	13.43	13.28	0.15	22.1	-0.35
11/6/96	1553	14.00	13.97	0.03	22.1	-0.92
11/7/96	0851	13.42	13.28	0.14	22.1	-0.34
11/7/96	1317	13.44	13.34	0.10	22.1	-0.36
11/7/96	1545	20.47	20.43	0.04	22.1	-7.39
11/8/96	0919	20.05	20.01	0.04	22.1	-6.97
11/8/96	1145	20.00	19.97	0.03	22.1	-6.92
11/8/96	1638	19.90	19.50	0.40	22.1	-6.82
11/9/96	0752	14.03	14.00	0.03	22.1	-0.95
11/10/96	1031	14.13	14.08	0.05	22.1	-1.05
11/11/96	0927	14.19	14.16	0.03	22.1	-1.11
11/12/96	0916	14.28	14.23	0.05	22.1	-1.2
11/13/96	0951	14.31	14.26	0.05	22.1	-1.23
11/14/96	0931	14.26	14.21	0.05	22.1	-1.18
11/15/96	0952	14.27	14.21	0.06	22.1	-1.19
11/18/96	0941	14.18	14.14	0.04	22.1	-1.1
11/20/96		13.98	13.94	0.04	22.1	-0.9
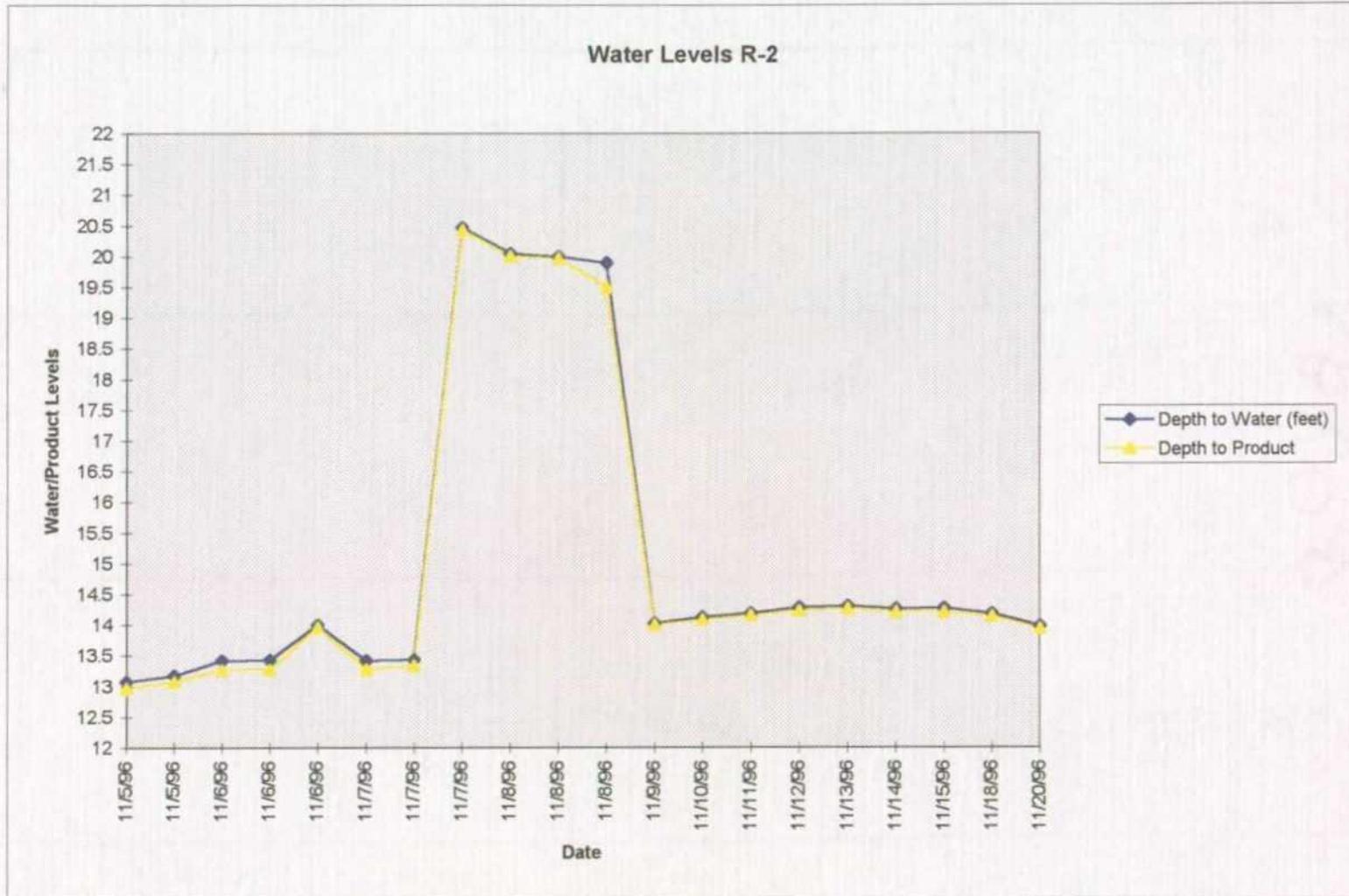
Water Levels R-2

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1315	13.87	NA	0.00	22.1	0.00
11/5/96	1805	14.01	NA	0.00	22.1	-0.14
11/6/96	0856	14.21	NA	0.00	22.1	-0.34
11/6/96	1139	14.21	NA	0.00	22.1	-0.34
11/6/96	1608	14.23	NA	0.00	22.1	-0.36
11/7/96	0855	14.28	NA	0.00	22.1	-0.41
11/7/96	1319	14.27	NA	0.00	22.1	-0.40
11/7/96	1548	14.44	NA	0.00	22.1	-0.57
11/8/96	0924	14.78	NA	0.00	22.1	-0.91
11/8/96	1146	14.79	NA	0.00	22.1	-0.92
11/8/96	1640	14.76	NA	0.00	22.1	-0.89
11/9/96	0755	14.86	NA	0.00	22.1	-0.99
11/10/96	1002	14.97	NA	0.00	22.1	-1.10
11/11/96	0918	15.04	NA	0.00	22.1	-1.17
11/12/96	0908	15.11	NA	0.00	22.1	-1.24
11/13/96	0942	15.12	NA	0.00	22.1	-1.25
11/14/96	0922	15.07	NA	0.00	22.1	-1.20
11/15/96	0943	15.08	NA	0.00	22.1	-1.21
11/18/96	0932	15.08	NA	0.00	22.1	-1.21
11/20/96		14.88	NA	0.00	22.1	-1.01
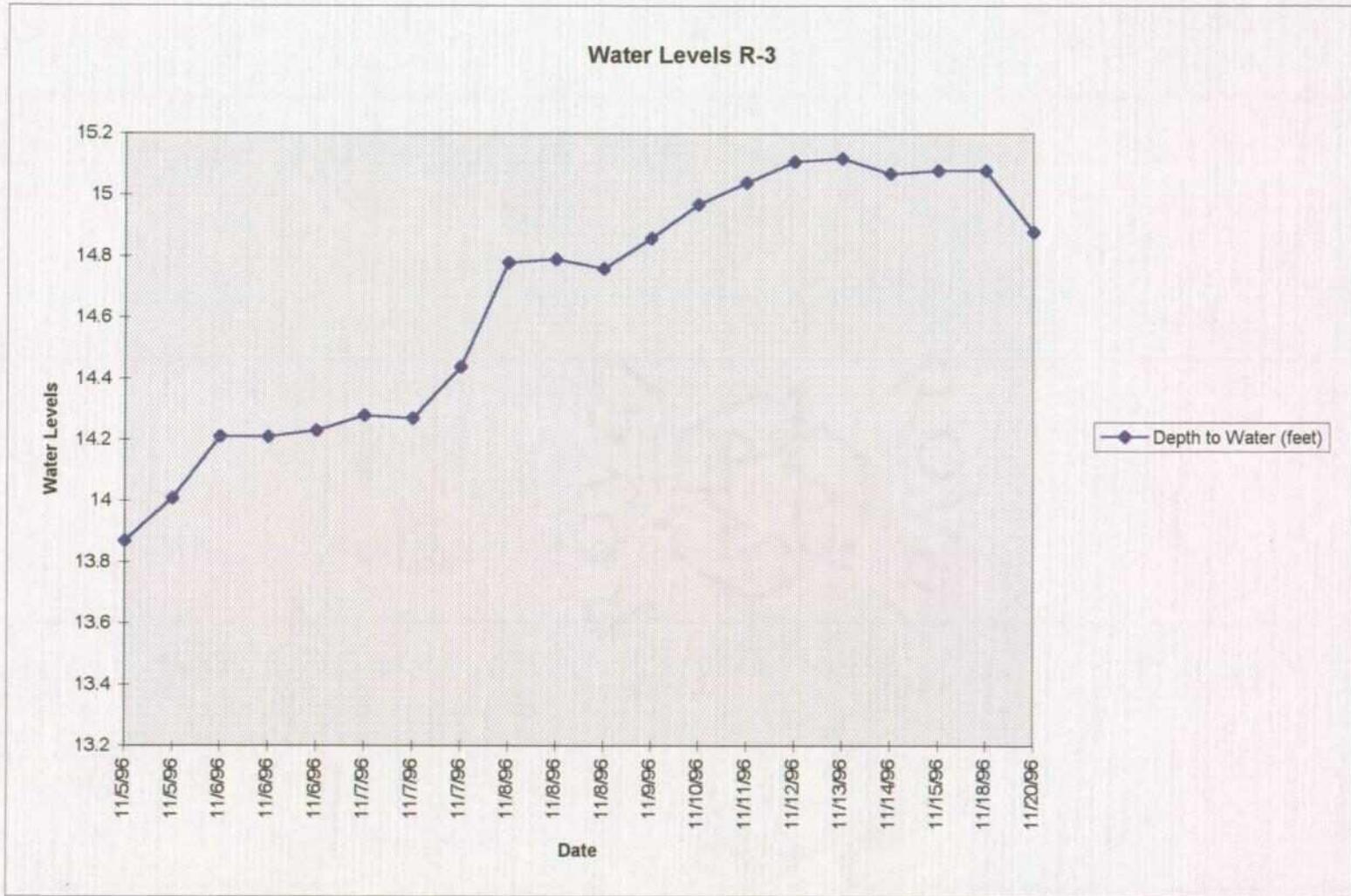
Water Levels R-3

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1310	13.51	NA	0.00	22.1	0.00
11/5/96	1758	13.69	NA	0.00	22.1	-0.18
11/6/96	0845	13.9	NA	0.00	22.1	-0.39
11/6/96	1132	13.91	NA	0.00	22.1	-0.40
11/6/96	1550	13.93	NA	0.00	22.1	-0.42
11/7/96	0846	13.88	NA	0.00	22.1	-0.37
11/7/96	1312	13.83	NA	0.00	22.1	-0.32
11/7/96	1542	14.23	NA	0.00	22.1	-0.72
11/8/96	0916	14.55	NA	0.00	22.1	-1.04
11/8/96	1142	14.56	NA	0.00	22.1	-1.05
11/8/96	1645	14.54	NA	0.00	22.1	-1.03
11/9/96	0742	14.61	NA	0.00	22.1	-1.10
11/10/96	1006	14.67	NA	0.00	22.1	-1.16
11/11/96	0912	14.75	NA	0.00	22.1	-1.24
11/12/96	0904	14.82	NA	0.00	22.1	-1.31
11/13/96	0939	14.83	NA	0.00	22.1	-1.32
11/14/96	0918	14.78	NA	0.00	22.1	-1.27
11/15/96	0939	14.78	NA	0.00	22.1	-1.27
11/18/96	0927	14.64	NA	0.00	22.1	-1.13
11/20/96		14.48	NA	0.00	22.1	-0.97
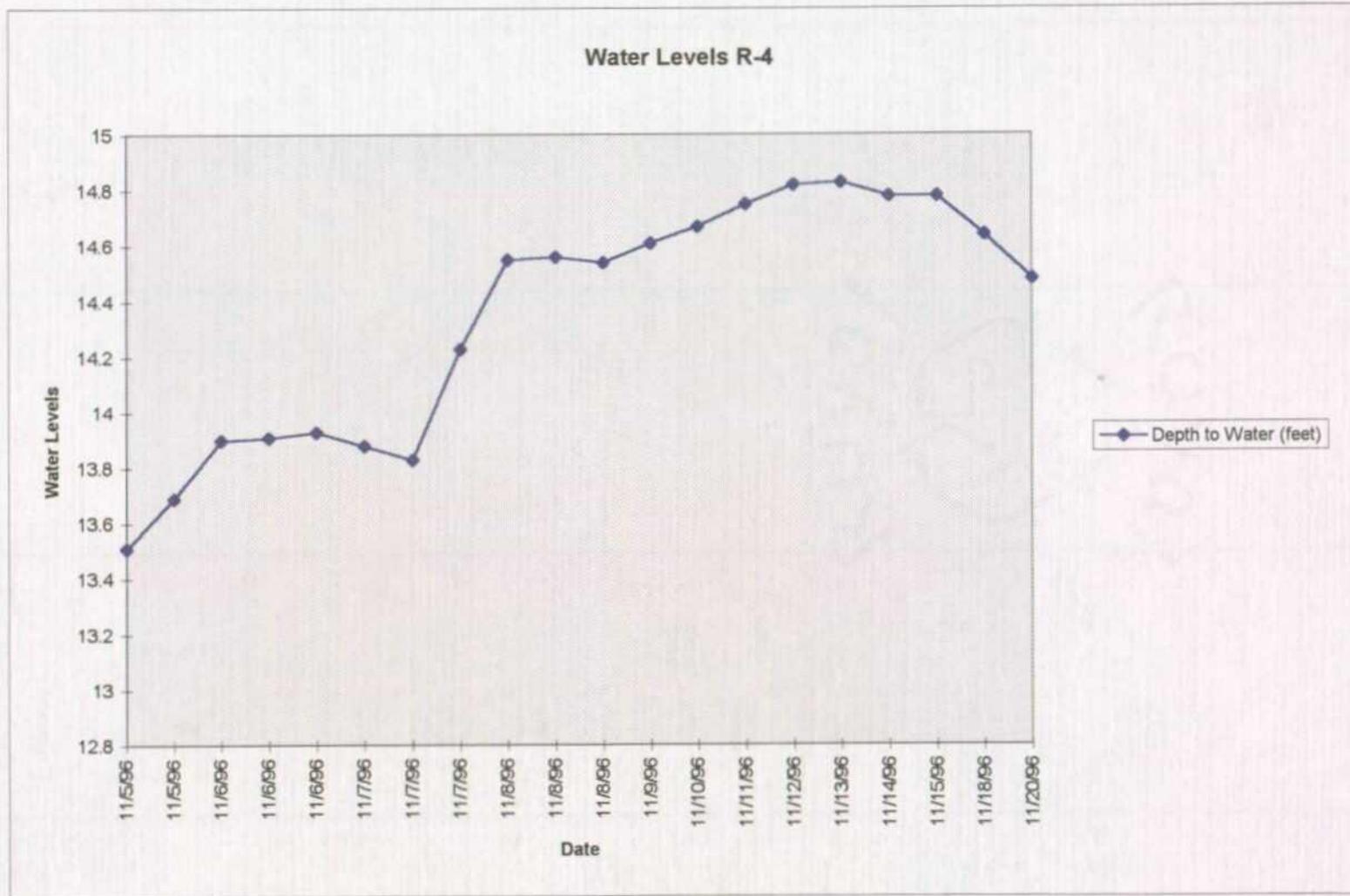
Water Levels R-4

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1318	16.36	NA	0.00	24.4	0.00
11/5/96	1809	16.35	NA	0.00	24.4	0.01
11/6/96	0859	16.56	NA	0.00	24.4	-0.20
11/6/96	1142	16.59	NA	0.00	24.4	-0.23
11/6/96	1612	16.58	NA	0.00	24.4	-0.22
11/7/96	0859	16.79	NA	0.00	24.4	-0.43
11/7/96	1321	16.74	NA	0.00	24.4	-0.38
11/7/96	1550	16.76	NA	0.00	24.4	-0.40
11/8/96	0926	17.04	NA	0.00	24.4	-0.68
11/8/96	1148	17.02	NA	0.00	24.4	-0.66
11/8/96	1642	16.95	NA	0.00	24.4	-0.59
11/9/96	0759	17.02	NA	0.00	24.4	-0.66
11/10/96	0958	17.06	NA	0.00	24.4	-0.70
11/11/96	0908	17.15	NA	0.00	24.4	-0.79
11/12/96	0901	17.27	NA	0.00	24.4	-0.91
11/13/96	0935	17.28	NA	0.00	24.4	-0.92
11/14/96	0911	17.09	NA	0.00	24.4	-0.73
11/15/96	0934	17.02	NA	0.00	24.4	-0.66
11/18/96	0923	17.33	NA	0.00	24.4	-0.97
11/20/96		17.05	NA	0.00	24.4	-0.69
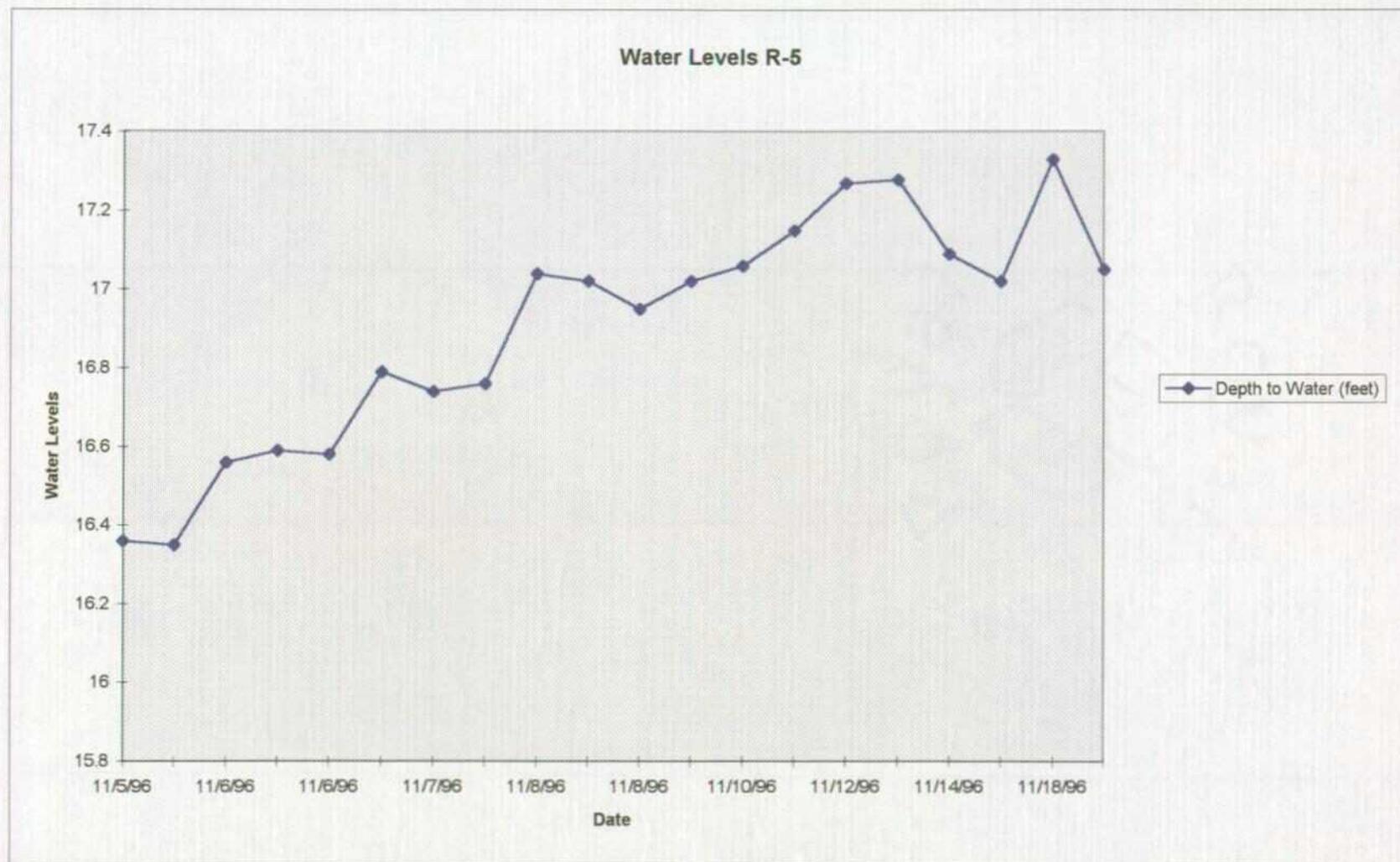
Water Levels R-5

Depth to Water (feet)

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1342	4.57	NA	0.00	15.3	0.00
11/5/96	NR	NR	NA	0.00	15.3	NA
11/6/96	0910	4.69	NA	0.00	15.3	-0.12
11/6/96	1156	4.70	NA	0.00	15.3	-0.13
11/6/96	1623	4.70	NA	0.00	15.3	-0.13
11/7/96	0915	4.80	NA	0.00	15.3	-0.23
11/7/96	1333	4.78	NA	0.00	15.3	-0.21
11/7/96	1602	4.78	NA	0.00	15.3	-0.21
11/8/96	0940	4.88	NA	0.00	15.3	-0.31
11/8/96	1200	4.88	NA	0.00	15.3	-0.31
11/8/96	1654	4.87	NA	0.00	15.3	-0.30
11/9/96	0815	4.93	NA	0.00	15.3	-0.36
11/10/96	1024	4.98	NA	0.00	15.3	-0.41
11/11/96	0903	5.04	NA	0.00	15.3	-0.47
11/12/96	0856	5.11	NA	0.00	15.3	-0.54
11/13/96	0931	5.15	NA	0.00	15.3	-0.58
11/14/96	0904	5.12	NA	0.00	15.3	-0.55
11/15/96	0930	5.12	NA	0.00	15.3	-0.55
11/18/96	0918	5.26	NA	0.00	15.3	-0.69
11/20/96		5.19	NA	0.00	15.3	-0.62
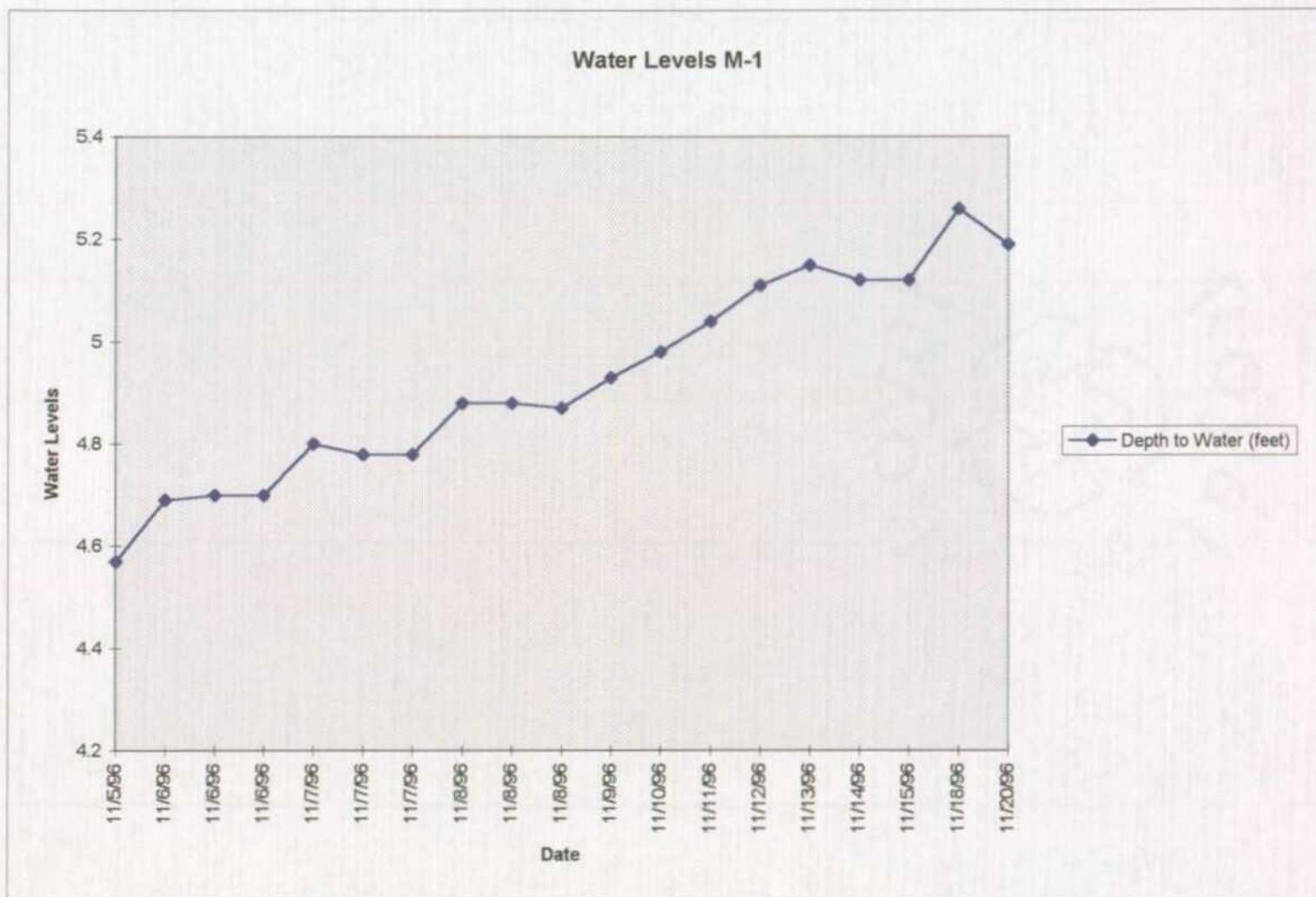
Water Levels M-1

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1339	4.14	NA	0.00	10.25	0.00
11/5/96	NR	NR	NA	0.00	10.25	NA
11/6/96	0907	4.27	NA	0.00	10.25	-0.13
11/6/96	1152	4.26	NA	0.00	10.25	-0.12
11/6/96	1620	4.27	NA	0.00	10.25	-0.13
11/7/96	0911	4.38	NA	0.00	10.25	-0.24
11/7/96	1330	4.35	NA	0.00	10.25	-0.21
11/7/96	1600	4.37	NA	0.00	10.25	-0.23
11/8/96	0937	4.55	NA	0.00	10.25	-0.41
11/8/96	1158	4.55	NA	0.00	10.25	-0.41
11/8/96	1652	4.56	NA	0.00	10.25	-0.42
11/9/96	0811	4.67	NA	0.00	10.25	-0.53
11/10/96	1012	4.75	NA	0.00	10.25	-0.61
11/11/96	0859	4.84	NA	0.00	10.25	-0.70
11/12/96	0853	4.91	NA	0.00	10.25	-0.77
11/13/96	0928	4.95	NA	0.00	10.25	-0.81
11/14/96	0901	4.95	NA	0.00	10.25	-0.81
11/15/96	0927	4.97	NA	0.00	10.25	-0.83
11/18/96	0914	5.05	NA	0.00	10.25	-0.91
11/20/96		4.85	NA	0.00	10.25	-0.71
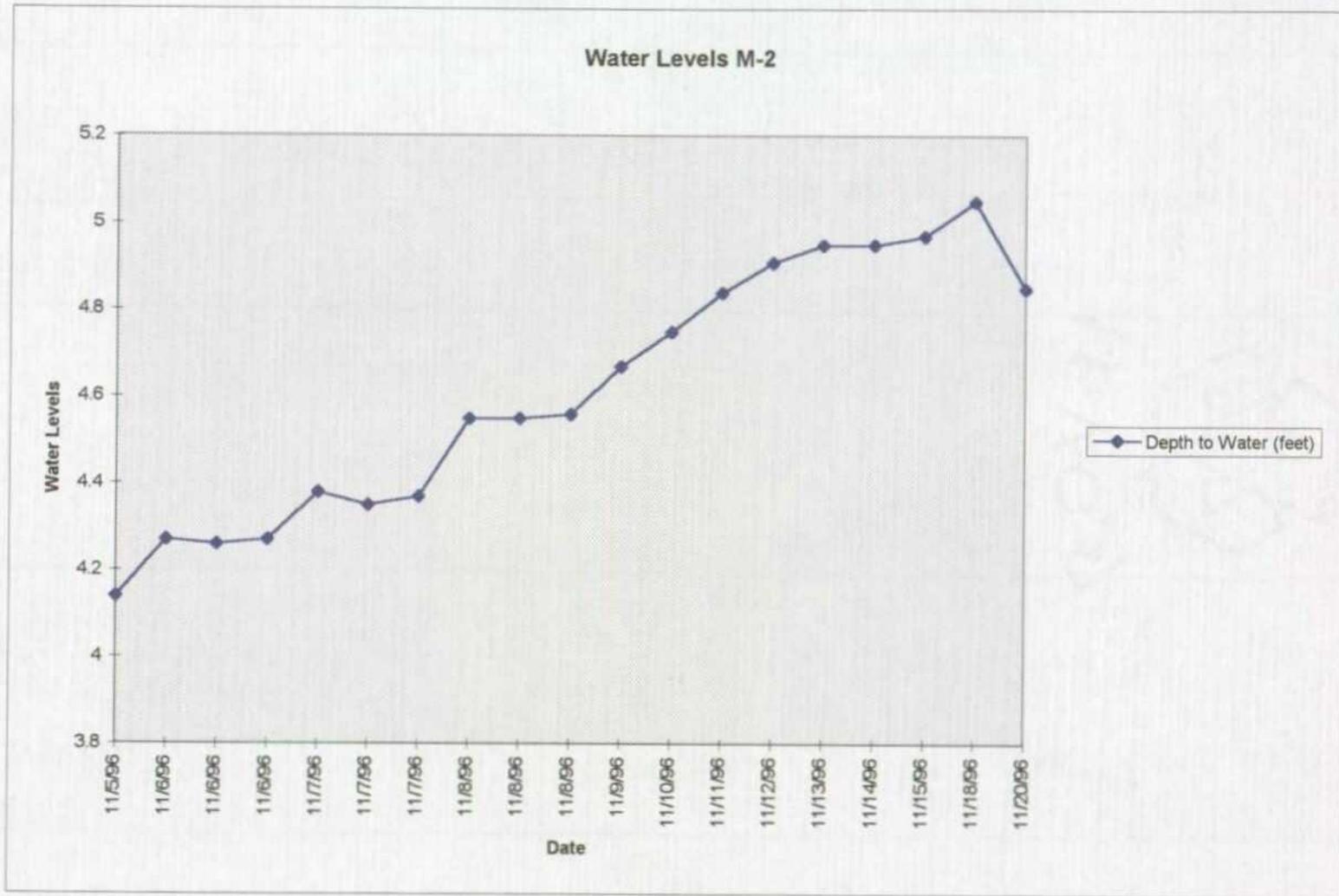
Water Levels M-2

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1328	5.03	NA	0.00	9.34	0.00
11/5/96	NR	NR	NA	0.00	9.34	N/A
11/6/96	0903	5.1	NA	0.00	9.34	-0.07
11/6/96	1146	5.10	NA	0.00	9.34	-0.07
11/6/96	1616	5.13	NA	0.00	9.34	-0.10
11/7/96	0903	5.21	NA	0.00	9.34	-0.18
11/7/96	1325	5.21	NA	0.00	9.34	-0.18
11/7/96	1553	5.21	NA	0.00	9.34	-0.18
11/8/96	0930	5.35	NA	0.00	9.34	-0.32
11/8/96	1152	5.36	NA	0.00	9.34	-0.33
11/8/96	1648	5.37	NA	0.00	9.34	-0.34
11/9/96	0804	5.45	NA	0.00	9.34	-0.42
11/10/96	1022	5.54	NA	0.00	9.34	-0.51
11/11/96	0852	5.62	NA	0.00	9.34	-0.59
11/12/96	0845	5.71	NA	0.00	9.34	-0.68
11/13/96	0920	5.76	NA	0.00	9.34	-0.73
11/14/96	0853	5.78	NA	0.00	9.34	-0.75
11/15/96	0920	5.79	NA	0.00	9.34	-0.76
11/18/96	0914	5.9	NA	0.00	9.34	-0.87
11/20/96		5.86	NA	0.00	9.34	-0.83
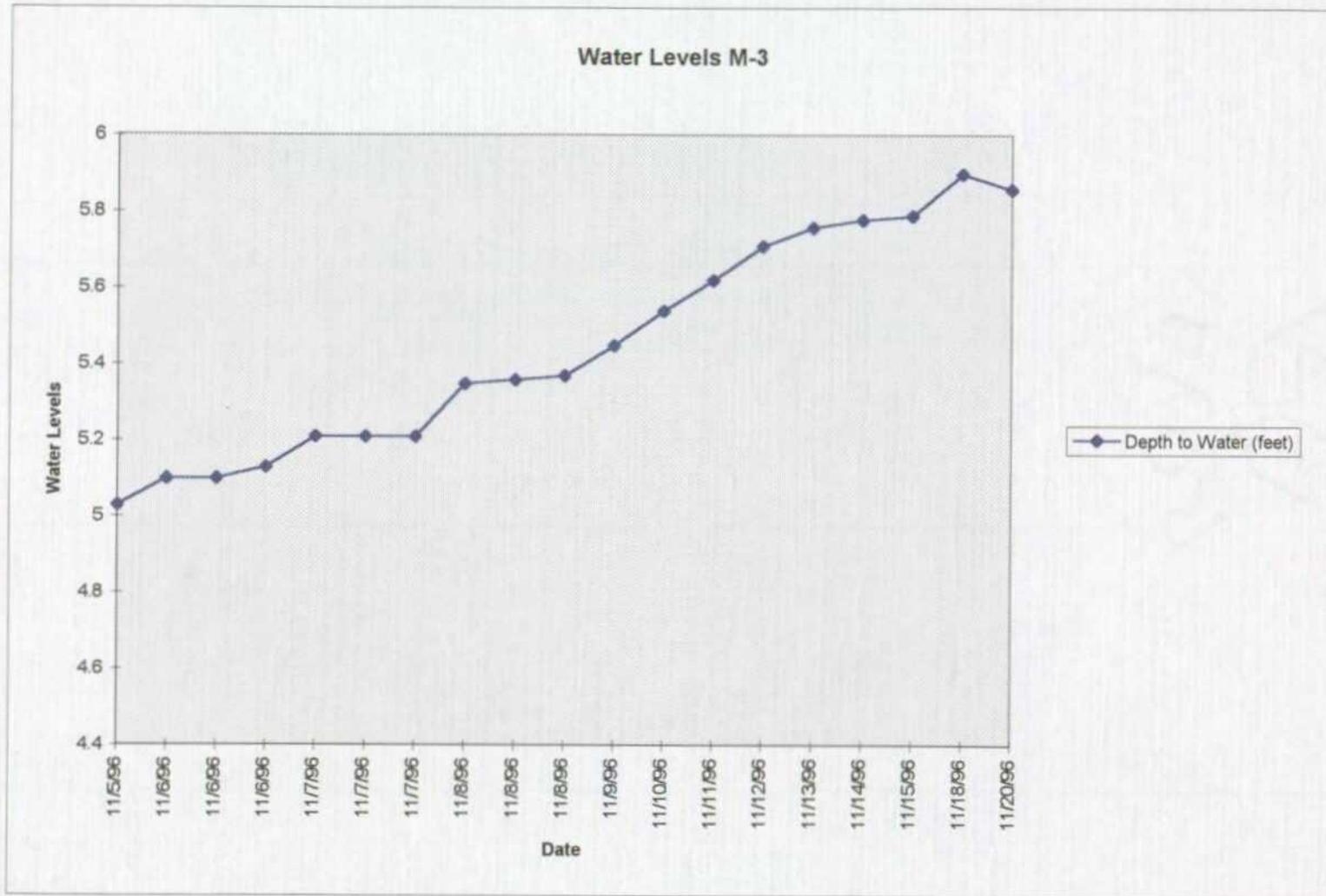
Water Levels M-3

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1334	3.34	NA	0.00	11.03	0.00
11/5/96	NR	NR	NA	0.00	11.03	NA
11/6/96	0905	3.57	NA	0.00	11.03	-0.23
11/6/96	1148	3.58	NA	0.00	11.03	-0.24
11/6/96	1618	3.58	NA	0.00	11.03	-0.24
11/7/96	0906	3.95	NA	0.00	11.03	-0.61
11/7/96	1327	3.61	NA	0.00	11.03	-0.27
11/7/96	1555	3.7	NA	0.00	11.03	-0.36
11/8/96	0932	3.98	NA	0.00	11.03	-0.64
11/8/96	1154	3.99	NA	0.00	11.03	-0.65
11/8/96	1649	3.97	NA	0.00	11.03	-0.63
11/9/96	0806	4.07	NA	0.00	11.03	-0.73
11/10/96	1019	4.13	NA	0.00	11.03	-0.79
11/11/96	0853	4.22	NA	0.00	11.03	-0.88
11/12/96	0848	4.3	NA	0.00	11.03	-0.96
11/13/96	0923	4.33	NA	0.00	11.03	-0.99
11/14/96	0855	4.29	NA	0.00	11.03	-0.95
11/15/96	0922	4.3	NA	0.00	11.03	-0.96
11/18/96	0909	4.39	NA	0.00	11.03	-1.05
11/21/96		4.27	NA	0.00	11.03	-0.93
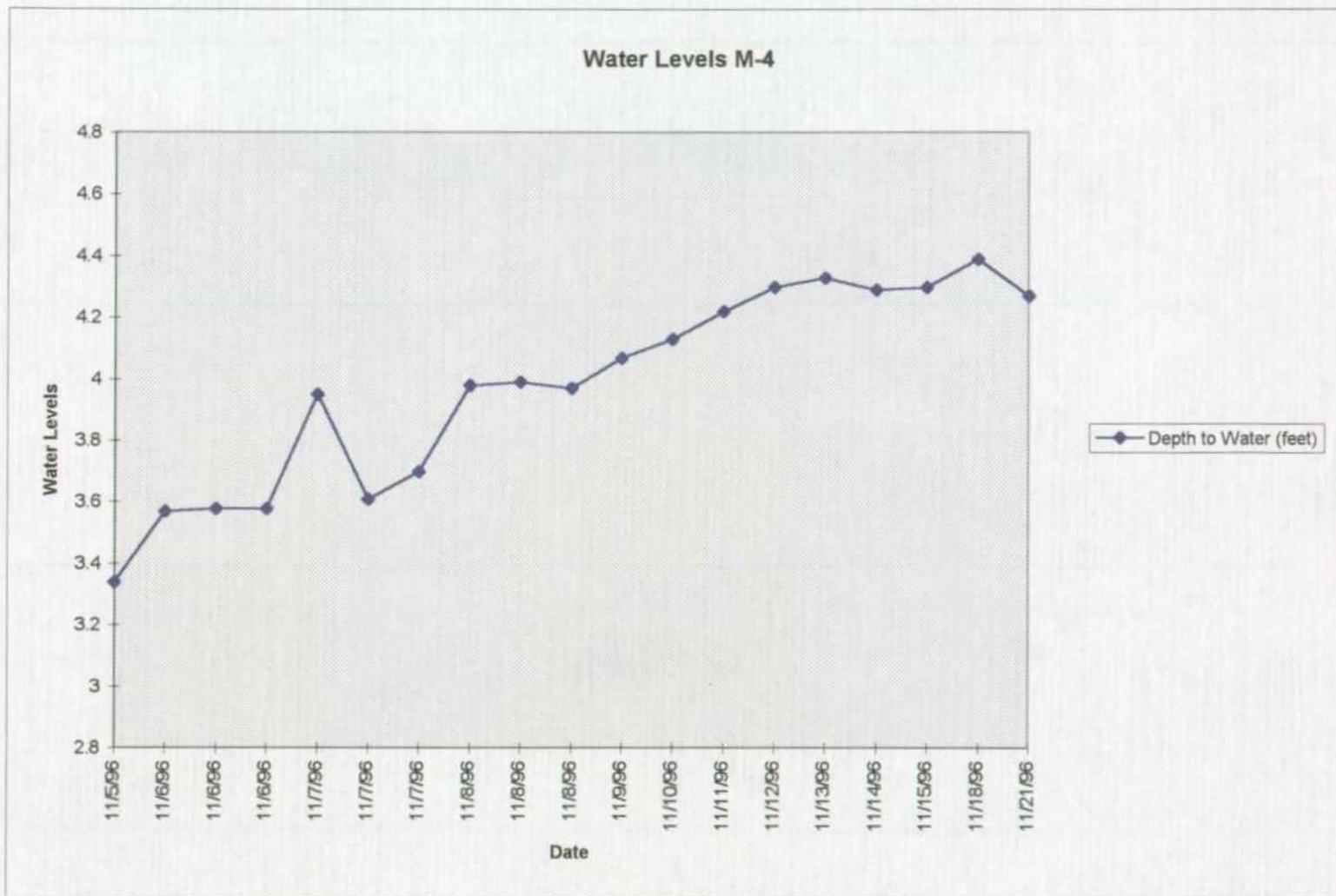
Water Levels M-4

Date	Time	Depth to Water (feet)	Depth to Product	Product Thickness	Total Depth of Well	Change From Static
11/5/96	1337	4.36	NA	0.00	9.69	0.00
11/5/96	NR	NR	NA	0.00	9.69	NA
11/6/96	0917	4.55	NA	0.00	9.69	-0.19
11/6/96	1151	4.56	NA	0.00	9.69	-0.20
11/6/96	NR	NR	NA	0.00	9.69	NA
11/7/96	0908	4.64	NA	0.00	9.69	-0.28
11/7/96	1328	4.61	NA	0.00	9.69	-0.25
11/7/96	1557	4.69	NA	0.00	9.69	-0.33
11/8/96	0934	4.96	NA	0.00	9.69	-0.6
11/8/96	1156	4.97	NA	0.00	9.69	-0.61
11/8/96	1651	4.99	NA	0.00	9.69	-0.63
11/9/96	0809	5.1	NA	0.00	9.69	-0.74
11/10/96	1014	5.2	NA	0.00	9.69	-0.84
11/11/96	0857	5.29	NA	0.00	9.69	-0.93
11/12/96	0851	5.37	NA	0.00	9.69	-1.01
11/13/96	0925	5.42	NA	0.00	9.69	-1.06
11/14/96	0858	5.41	NA	0.00	9.69	-1.05
11/15/96	0925	5.42	NA	0.00	9.69	-1.06
11/18/96	0912	5.48	NA	0.00	9.69	-1.12
11/21/96		5.41	NA	0.00	9.69	-1.05

Water Levels M-5
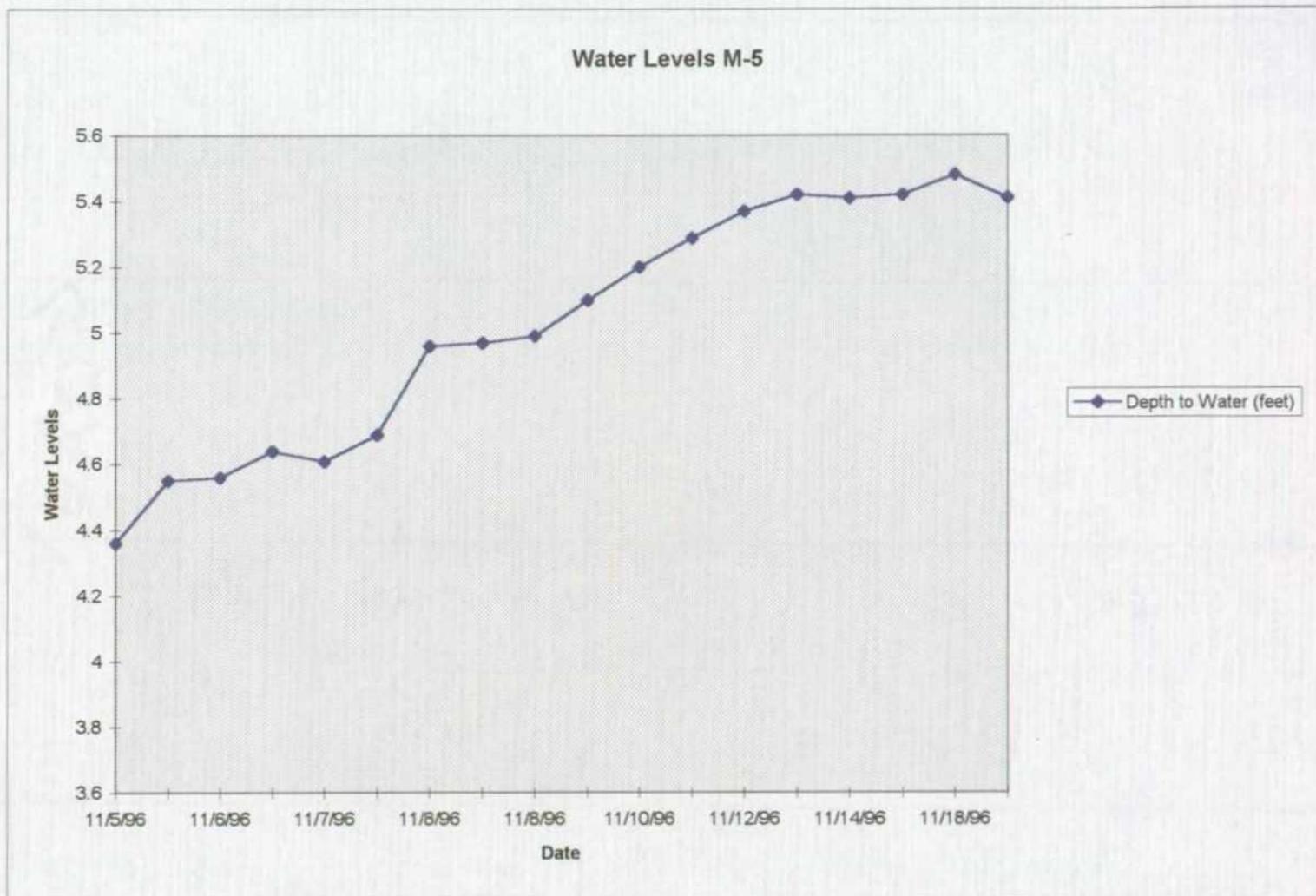
Appendix B - Laboratory Reports

November 4, 1996

Pre-Test Pumping Results

Jaquez Corn Field
Monitor Well Analytical Results
Lab Sample #'s 960900 to 960910
Sampled October 28, 1996
Sampled by D. Bird

Report Distribution:

Scott Pope, Philip Environmental
Results Log Book

CHAIN OF CUSTODY RECORD

Project No.	Project Name				

Project Name: _JROOSE_ Date: _10-29-96_

Samplers: (Signature) _Dennis Bird_

Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTEX (Requested Analysis)			Remarks
10-29-96	0950		X	960 700	G-2		X			MONITOR WELL R-1
10-29-96	1135		X	960 701	G-2		X			MONITOR WELL R-2
10-29-96	1215		X	960 702	G-2		X			MONITOR WELL R-3
10-29-96	1215		X	960 703	G-2		X			MONITOR WELL R-3
10-29-96	1242		X	960 704	G-2		X			MONITOR WELL R-4
10-29-96	1325		X	960 705	G-2		X			MONITOR WELL R-5
10-29-96	1507		X	960 706	G-2		X			MONITOR WELL M-1
10-29-96	1515		X	960 707	G-2		X			MONITOR WELL M-2
10-29-96	1625		X	960 708	G-2		X			MONITOR WELL M-3
10-29-96	1046		X	960 709	G-2		X			MONITOR WELL M-4
10-29-96	1100		X	960 710	G-2		X			MONITOR WELL M-5
10-29-96	—		X	————————	G-1		X			TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	10-29-96 1335				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		Marla Hopper	10/29/96 1345	

Carrier Co:

Carrier Phone No.:

Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960900
MTR CODE | SITE NAME:		Jacquez MW R-1
SAMPLE DATE | TIME (Hrs):	10/28/96	950
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/30/96	10/30/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1690	PPB	25	D		
TOLUENE	1970	PPB	25	D		
ETHYL BENZENE	60.8	PPB	25	D		
TOTAL XYLENES	800	PPB	25	D		
TOTAL BTEX	4520	PPB				

– BTEX is by EPA Method 8020 –

The Surrogate Recovery was at ___90.8___ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _John Larch_   Date: _11/1/96_

947967.XLS,10/30/96

EL PASO FIELD SERVICES

EPFS

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __R-1__

Meter Code _____

Site Name __JAQUEZ__

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removal
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer

[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet)__22.1__
Initial Depth to Water (feet)__13.93__
Height of Water Column in Well (feet)__8.17__
Diameter (inches): Well __4__ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.4	16.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other _Q.Q. CHEMETS KIT_

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1006										12.8	7.12	653		
10-28-96	1011						5.0	5.0			13.0	7.25	805		
10-28-96	1017						5.0	10.0			12.9	7.34	672		
10-28-96	1022						5.0	15.0			12.7	7.31	589		
10-28-96	1028						5.0	20.0			12.7	7.29	569	1.0	

Comments _STRONG HYDROCARBON SMELL._

Developer's Signature _Dennis Bird_ Date _10-28-96_ Reviewer _____ Date _11/1/96_

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960901
MTR CODE | SITE NAME:		Jacquez MW R-2
SAMPLE DATE | TIME (Hrs):	10/28/96	1135
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/30/96	10/30/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1100	PPB	25	D		
TOLUENE	?300	PPB	25	D		
ETHYL BENZENE	85.4	PPB	25	D		
TOTAL XYLENES	1100	PPB	25	D		
TOTAL BTEX	4585	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____90.2_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____   Date: __11/1/96__

960900.XLS,10/30/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development   Well Number _R-2_

☒ Purging

Site Name _JAQUEZ_   Meter Code _____

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) _22.1_
Initial Depth to Water (feet) _12.77_
Height of Water Column in Well (feet) _9.33_
Diameter (inches): Well _4_ Gravel Pack _____

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		6.2	18.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments
☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other _D.O. CHEMETS KIT_

Water Disposal
ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1050										13.7	7.30	367		
10-28-96	1055						5.0	5.0			13.5	7.00	455		
10-28-96	1102						5.0	10.0			13.1	7.07	452		
10-28-96	1110						5.0	15.0			13.0	7.11	418		
10-28-96	1123						5.0	20.0			12.7	7.11	417	1.0	

Comments_* 0.08' OF FREE FLOATING HYDROCARBON. STRONG HYDROCARBON SMELL_

Developer's Signature _Dennis Bird_   Date _10-28-96_ Reviewer _____ Date _11/1/96_

* 0.08' = 0.96 Inches of Product

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960902
MTR CODE | SITE NAME:		Jacquez MW R-3
SAMPLE DATE | TIME (Hrs):	10/28/96	1215
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	10.7	PPB				
ETHYL BENZENE	12.6	PPB				
TOTAL XYLENES	109	PPB				
TOTAL BTEX	132	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____94.5_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____John Farrell_____   Date: ___11/1/96___

960901.XLS,10/30/96
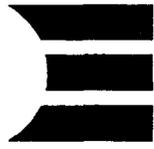
EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960903
MTR CODE | SITE NAME:		Jacquez MW R-3
SAMPLE DATE | TIME (Hrs):	10/28/96	1215
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: Field Duplicate

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	17.6	PPB				
ETHYL BENZENE	17.2	PPB				
TOTAL XYLENES	150	PPB				
TOTAL BTEX	185	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____ 93.1 _____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: _____ 11/1/96 _____

960902.XLS, 10/30/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

| | Development
☒ Purging

Well Number R-3

Site Name JAQUEZ

Meter Code _____

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 22.1
Initial Depth to Water (feet) 13.63
Height of Water Column in Well (feet) 8.47
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.6	16.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
- ☐ DO Monitor
- ☒ Conductivity Meter
- ☒ Temperature Meter
- ☒ Other D.O. CHEMETS KIT

Water Disposal

ON SITE BARRELS

Methods of Development

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

☐ Other_____

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	0915										13.8	6.54	618		
10-28-96	0921						5.0	5.0			13.2	6.23	711		
10-28-96	0927						5.0	10.0			12.5	6.50	553		
10-28-96	0935						5.0	15.0			12.3	6.61	470		
10-28-96	0941						5.0	20.0			12.1	6.74	394	1.0	

Comments_____

Developer's Signature _Dennis Bird_ Date 10-28-96 Reviewer _____ Date 11/1/96

Jaquez Monitor Well R-3

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960904
MTR CODE | SITE NAME:		Jacquez MW R-4
SAMPLE DATE | TIME (Hrs):	10/28/96	1242
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/30/96	10/30/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	320	PPB	2	D		
TOLUENE	53.4	PPB	2	D		
ETHYL BENZENE	20.1	PPB	2	D		
TOTAL XYLENES	237	PPB	2	D		
TOTAL BTEX	631	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at ___91.0___ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____   Date: __11/1/96__

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __R-4__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) __22.1__
Initial Depth to Water (feet) __13.32__
Height of Water Column in Well (feet) __8.78__
Diameter (inches): Well __4__ Gravel Pack_____

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.O. CHEMETS KIT__

Methods of Development

	Pump	Bailer
[ ]	Centrifugal	[X] 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		5.8	17.4
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal
__ON SITE BARRELS__

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1202										14.1	7.33	506		
10-28-96	1207						5.0	5.0			14.3	7.28	54		
10-28-96	1212						5.0	10.0			14.2	7.31	621		
10-28-96	1220						5.0	15.0			14.4	7.35	991		
10-28-96	1232						5.0	20.0			14.5	7.42	1071	1.0	

Comments_____

Developer's Signature __Dennis Bird__   Date __10-28-96__ Reviewer __John Ferch__   Date __11/1/96__

Jaquez Monitor Well R-4

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960905
MTR CODE | SITE NAME:		Jacquez MW R-5
SAMPLE DATE | TIME (Hrs):	10/28/96	1325
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____ 93.6 _____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: __11/1/96__

960904.XLS,10/30/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

- [ ] Development
- [X] Purging

Well Number _R-5_

Site Name _JAQUEZ_

Meter Code _____

Development Criteria
- [X] 3 to 5 Casing Volumes of Water Removel
- [ ] Stabilization of Indicator Parameters
- [ ] Other_____

Water Volume Calculation
Initial Depth of Well (feet)_ _24.4_
Initial Depth to Water (feet)_ _16.19_
Height of Water Column in Well (feet)_ _8.21_
Diameter (inches): Well _4_ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.4	16.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments
- [X] pH Meter
- [ ] DO Monitor
- [X] Conductivity Meter
- [X] Temperature Meter
- [X] Other _D.O. CHEMETS KIT_

Water Disposal
ON SITE BARRELS

Methods of Development
Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer
[ ] Other_____	

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1258										14.3	7.78	579		
10-28-96	1303						5.0	5.0			14.7	7.75	586		
10-28-96	1312						5.0	100			14.0	7.55	1137	25	

Comments_ _BAILED DRY @ 10.0 GALLONS_

Developer's Signature _Dennis Bird_ Date _10-28-96_ Reviewer _John Field_ Date _11/1/96_

Jaquez Monitor Well R-5

Chart showing PPB VOC versus Sample Date for Benzene, Toluene, Ethyl Benzene, Total Xylenes, and Total BTEX. Y-axis: PPB VOC (0 to 1). X-axis: Sample Date from 7-Sep-93 to 28-Oct-96.

Sample Dates: 7-Sep-93, 4-Oct-93, 10-Nov-93, 15-Dec-93, 12-Jan-94, 9-Feb-94, 7-Mar-94, 13-Jun-94, 7-Sep-94, 15-Dec-94, 9-Feb-95, 25-Aug-95, 2-Nov-95, 6-Feb-96, 29-May-96, 6-Aug-96, 28-Oct-96

Legend:
- Benzene
- Toluene
- Ethyl Benzene
- Total Xylenes
- Total BTEX

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960906
MTR CODE | SITE NAME:		Jacquez MW M-1
SAMPLE DATE | TIME (Hrs):	10/28/96	1507
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____ 93.2 _____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _John Fardn_   Date: 11/1/96

960905.XLS, 10/30/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number *M-1*

Site Name *JAQUEZ*

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removal
[ ] Stabilization of Indicator Parameters
[ ] Other _____

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer

[ ] Other _____

Water Volume Calculation

Initial Depth of Well (feet) __*15.3*__
Initial Depth to Water (feet) __*4.39*__
Height of Water Column in Well (feet) __*10.91*__
Diameter (inches): Well __*4*__ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		*7.2*	*21.6*
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other *D.O. CHEMETS KIT*

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1407										12.1	7.82	295		
10-28-96	142						5.0	5.0			12.4	7.38	292		
10-28-96	1420						3.5	8.5			12.2	7.31	285	25	

Comments *BAILED DRY @ 8.5 GALLONS.*

Developer's Signature *Dennis Bird*   Date *10-28-96*   Reviewer _____   Date *4/1/96*

Jaquez Monitor Well M-1
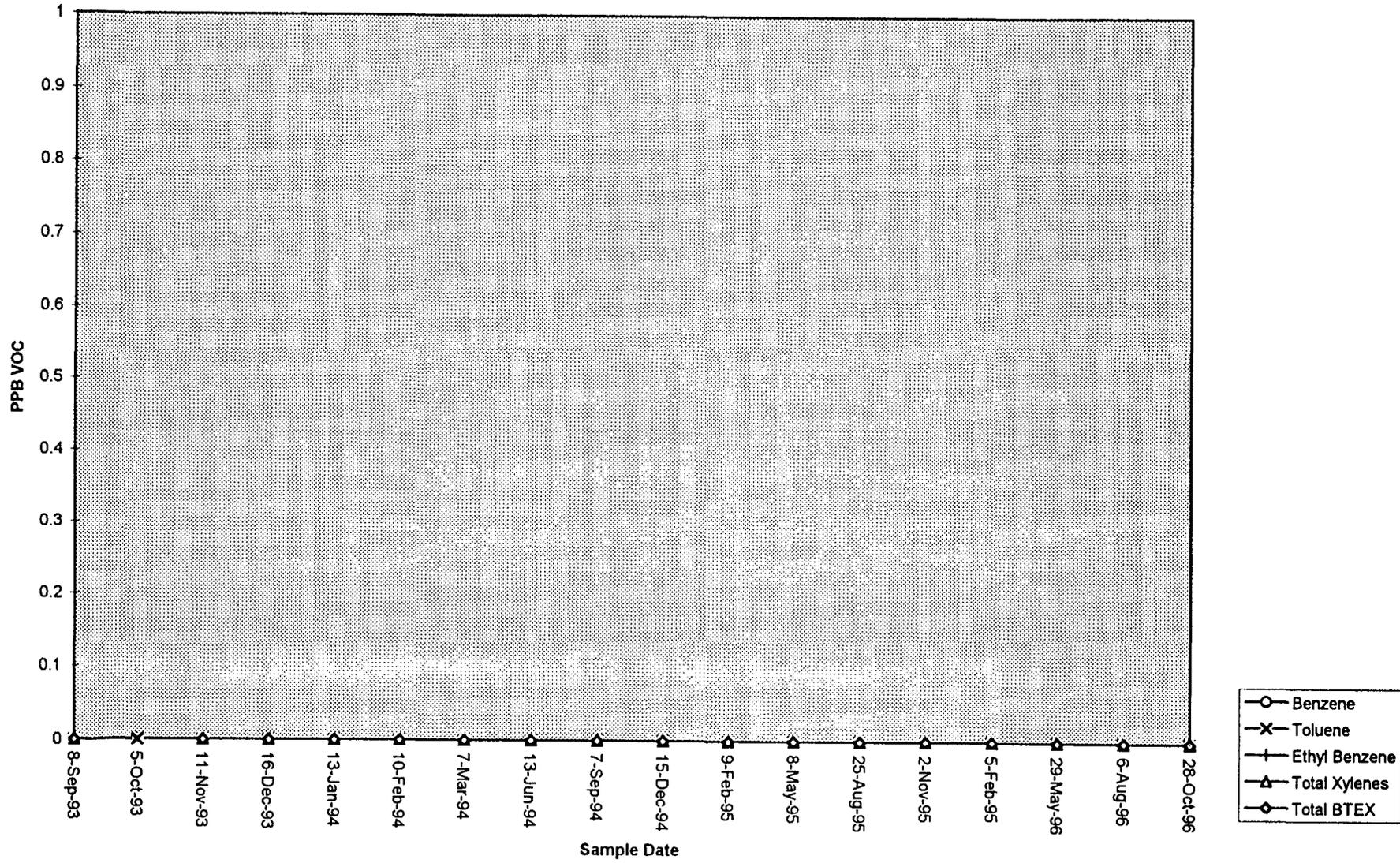
Chart: PPB VOC (y-axis, 0 to 1) versus Sample Date (x-axis).

Sample Dates: 8-Sep-93, 5-Oct-93, 11-Nov-93, 16-Dec-93, 13-Jan-94, 10-Feb-94, 7-Mar-94, 13-Jun-94, 7-Sep-94, 15-Dec-94, 9-Feb-95, 8-May-95, 25-Aug-95, 2-Nov-95, 5-Feb-95, 29-May-96, 6-Aug-96, 28-Oct-96

Legend:
- Benzene
- Toluene
- Ethyl Benzene
- Total Xylenes
- Total BTEX

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960907
MTR CODE | SITE NAME:		Jacquez MW M-2
SAMPLE DATE | TIME (Hrs):	10/28/96	1518
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____93.1_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _John Lat____   Date: __11/1/96__

960906.XLS,10/30/96

EL PASO FIELD SERVICES

EPFS

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number _M-2_

Meter Code _____

Site Name _JAQUEZ_

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other _____

Water Volume Calculation

Initial Depth of Well (feet) _15.1_
Initial Depth to Water (feet) _3.73_
Height of Water Column in Well (feet) _11.37_
Diameter (inches): Well _4_ Gravel Pack _____

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other _D.O. CHEMETS KIT_

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] 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		7.5	22.5
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1432										11.0	7.12	539		
10-28-96	1438						5.0	5.0			11.3	6.92	540		
10-28-96	1443						5.0	10.0			12.0	7.00	5.36		
10-28-96	1450						5.0	15.0			11.7	6.88	500		
10-28-96	1455						5.0	20.0			11.7	6.90	497		
10-28-96	1501						5.0	25.0			11.5	6.76	505	1.0	

Comments _____

Developer's Signature _Dennis Bird_   Date _10-28-96_   Reviewer _John Full_   Date _1/16/91_

Jaquez Monitor Well M-2
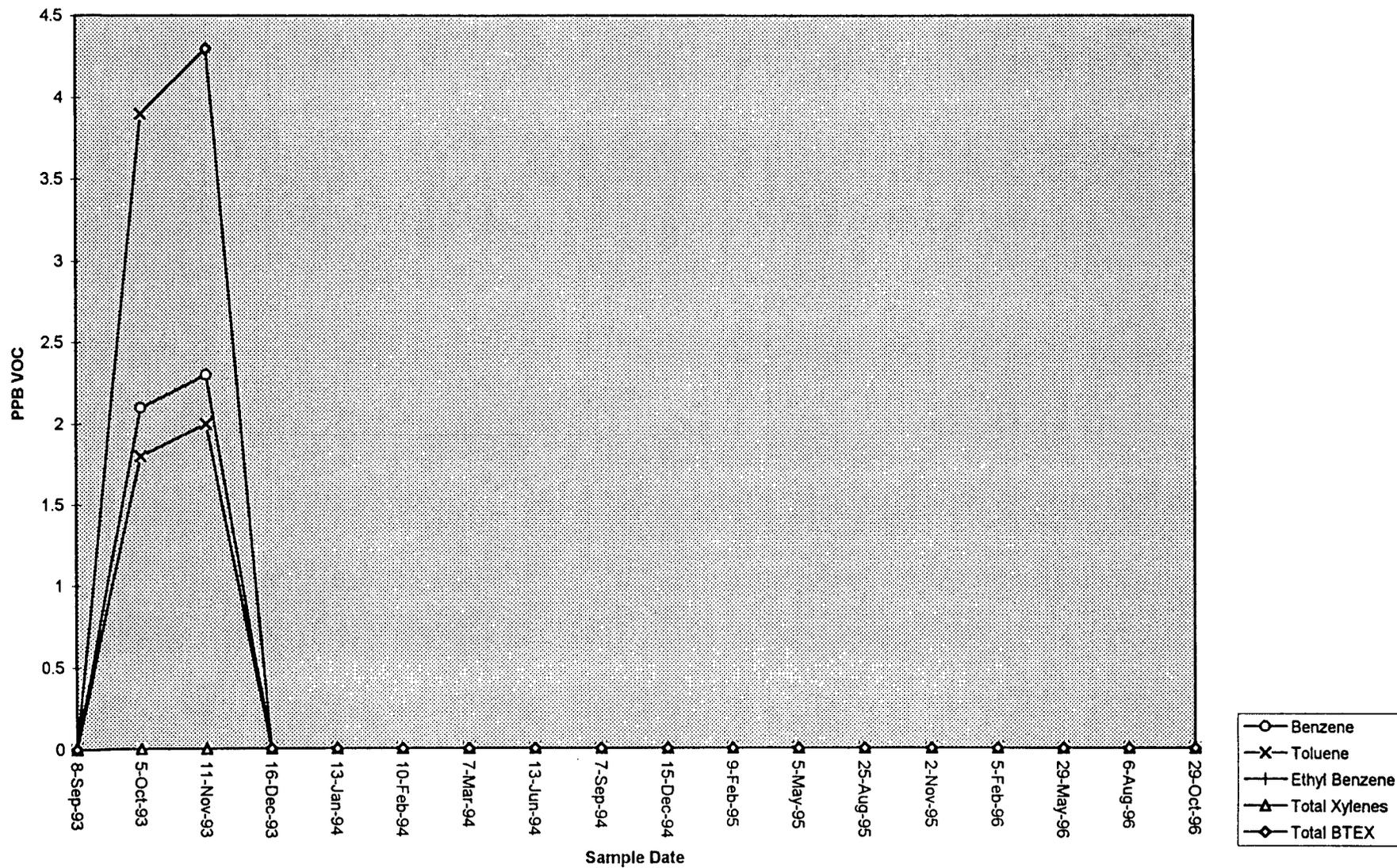
EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960908
MTR CODE | SITE NAME:		Jacquez MW M-3
SAMPLE DATE | TIME (Hrs):	10/28/96	1625
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	17.4	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	1.55	PPB				
TOTAL XYLENES	2.23	PPB				
TOTAL BTEX	21	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____92.9_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: ___11/1/96___

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __M-3__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) __15.2__
Initial Depth to Water (feet) __4.75__
Height of Water Column in Well (feet) __10.45__
Diameter (inches): Well __4__ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.9	20.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.Q CHEMETS KIT__

Water Disposal
__ON SITE BARRELS__

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer
[ ] Other_____	

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
10-28-96	1542										11.5	7.05	546		
10-28-96	1547						5.0	5.0			12.1	6.88	510		
10-28-96	1552						5.0	10.0			12.4	6.87	449		
10-28-96	1603						5.0	15.0			12.2	6.92	412		
10-28-96	1608						5.0	20.0			12.3	6.90	398		
10-28-96	1615						5.0	25.0			11.9	6.95	374	1.5	

Comments_____

Developer's Signature __Dennis Bird__   Date __10-28-96__   Reviewer_____   Date __11/1/96__

Jaquez Monitor Well M-3

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960909
MTR CODE | SITE NAME:		Jacquez MW M-4
SAMPLE DATE | TIME (Hrs):	10/29/96	1046
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/29/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.03	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	3.66	PPB				
TOTAL XYLENES	55.5	PPB				
TOTAL BTEX	60	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at ____93.0____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

_____

Approved By: _John Labdhi_   Date: _11/1/96_

960907.XLS,10/30/96

Jaquez Monitor Well M-4
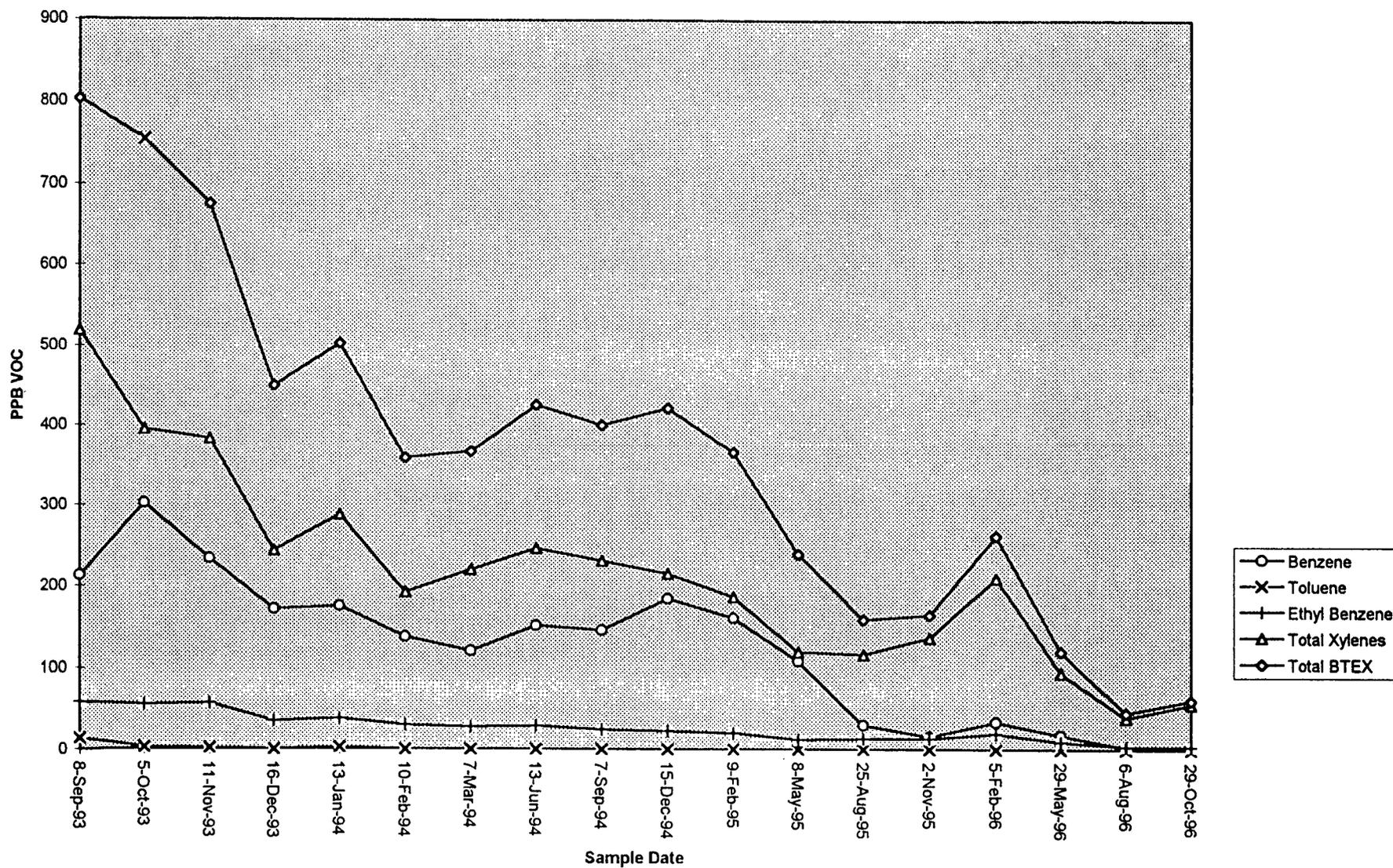
EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development   Well Number _M-4_

[X] Purging   Meter Code _____

Site Name _JAQUEZ_

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel

[ ] Stabilization of Indicator Parameters

[ ] Other_____

Methods of Development

	Pump		Bailer
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) _15.3_

Initial Depth to Water (feet) _3.04_

Height of Water Column in Well (feet) _12.26_

Diameter (inches): Well _4_ Gravel Pack_____

Item	Water Volume in Well		Gallons to be
	Cubic Feet	Gallons	Removed
Well Casing	8.1		24.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter

[ ] DO Monitor

[X] Conductivity Meter

[X] Temperature Meter

[X] Other_D.O. CHEMETS KIT_

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-29-96	0925										10.8	6.98	405		
10-29-96	0930						5.0	5.0			11.8	6.94	418		
10-29-96	0938						5.0	10.0			11.7	6.99	404		
10-29-96	1037						4.0	14.0			12.2	7.03	402	5.0	

Comments _BAILED DRY @ 10.0 GALLONS._

Developer's Signature _Dennis Bird_   Date _10-29-96_   Reviewer _John Fehler_   Date _1/1/96_

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960910
MTR CODE | SITE NAME:		Jacquez MW M-5
SAMPLE DATE | TIME (Hrs):	10/29/96	1100
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	10/29/96	10/30/96
TYPE | DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____92.7_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: __11/1/96__

960908.XLS,10/30/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __M-5__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removed
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) __15.1__
Initial Depth to Water (feet) __4.23__
Height of Water Column in Well (feet) __10.87__
Diameter (inches): Well __4__ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.2	21.6	
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.O. CHEMETS KIT__

Water Disposal
__ON SITE BARRELS__

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer

[ ] Other_____

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
10-29-96	0955										10.6	6.92	548		
10-29-96	1001						5.0	5.0			11.1	6.83	468		
10-29-96	1005						5.0	10.0			11.7	6.80	448		
10-29-96	1013						5.0	15.0			11.7	6.84	464		
10-29-96	1021						5.0	20.0			11.8	6.87	481		
10-29-96	1032						5.0	25.0			11.7	7.02	482	4.0	

Comments_____

Developer's Signature __Dennis Bird__   Date __10-29-96__   Reviewer _____   Date __11/1/96__

Jaquez Monitor Well M-5

Chart with y-axis labeled "PPB VOC" (0 to 1) and x-axis labeled "Sample Date" with dates: 8-Sep-93, 5-Oct-93, 11-Nov-93, 16-Dec-93, 13-Jan-94, 10-Feb-94, 7-Mar-94, 13-Jun-94, 7-Sep-94, 15-Dec-94, 9-Feb-95, 8-May-95, 25-Aug-95, 2-Nov-95, 5-Feb-96, 29-May-96, 6-Aug-96, 29-Oct-96.

Legend:
- Benzene
- Toluene
- Ethyl Benzene
- Total Xylenes
- Total BTEX

December 2, 1996

Post-Test Pumping Results

Jaquez Corn Field
Monitor Well Analytical Results
Lab Sample #'s 961007 to 961017
Sampled November 20, 1996
Sampled by D. Bird

Report Distribution:

       Scott Pope, Philip Environmental
       Sandra Miller, W/O Attachments
       Results Log Book

Attachments

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.	Project Name						Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
Samplers: (Signature)				Date:									
	Date	Time	Comp.	GRAB	Sample Number								
WATER	11-20-92	1010		X			60	3					MONITOR WELL R-1
WATER	11-20-92	1035		X			60	3					MONITOR WELL R-1
WATER	11-20-92	1130		X			60	3					MONITOR WELL R-2
WATER	11-20-92	1205		X			60	3					MONITOR WELL R-3
WATER	11-20-92	1315		X			60	3					MONITOR WELL R-4
WATER	11-20-92	1400		X			60	3					MONITOR WELL R-5
WATER	11-20-92			X			60	3					MONITOR WELL M-1
WATER	11-20-92			X			60	3					MONITOR WELL M-2
WATER	11-20-92			X			60	3					MONITOR WELL M-3
WATER	11-21-92	1117		X			60	3					MONITOR WELL M-4
WATER	11-20-92	1217		X			60	3					MONITOR WELL M-5
WATER	11-20-92	—		X			1	3					TRIP BLANK
WATER	11-20-92	—		X			1	3					TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961007
MTR CODE | SITE NAME:	N/A	Jaquez MW R-1
SAMPLE DATE | TIME (Hrs):	11/20/96	1055
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/26/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1240	PPB	25	D		
TOLUENE	1540	PPB	25	D		
ETHYL BENZENE	61.9	PPB	25	D		
TOTAL XYLENES	600	PPB	25	D		
TOTAL BTEX	3450	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at _____101_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative: _____

Approved By: _John Ferrell_   Date: _12/2/96_

961007.XLS,12/2/96

≡ EL PASO
≡ FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961008
MTR CODE | SITE NAME:	N/A	Jaquez MW R-1
SAMPLE DATE | TIME (Hrs):	11/20/96	1055
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: Field Duplicate

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1320	PPB	25	D		
TOLUENE	1610	PPB	25	D		
ETHYL BENZENE	63.1	PPB	25	D		
TOTAL XYLENES	613	PPB	25	D		
TOTAL BTEX	3610	PPB				

– BTEX is by EPA Method 8020 –

The Surrogate Recovery was at _____ 101 _____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _John Hatcher_   Date: _12/2/96_

961008.XLS,12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name _JAQUEZ_

☐ Development
☒ Purging

Well Number _R-1_

Meter Code _____

Development Criteria
- ☒ 3 to 5 Casing Volumes of Water Removel
- ☐ 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/_
Initial Depth to Water (feet) _15./_
Height of Water Column in Well (feet) _7.00_
Diameter (inches): Well _4_ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.6	13.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments
- ☒ pH Meter
- ☐ DO Monitor
- ☒ Conductivity Meter
- ☒ Temperature Meter
- ☒ Other _O.O. CHEMETS KIT_

Water Disposal
ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1026										13.4	7.46	669		
11-20-96	1034						5.0	5.0			13.6	7.13	708		
11-20-96	1040						5.0	10.0			14.0	7.08	530		
11-20-96	1046						5.0	15.0			14.6	7.00	478	0.5	

Comments_____

Developer's Signature _Dennis Bird_ Date _11-20-96_ Reviewer _____ Date _12/2/96_

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961009
MTR CODE | SITE NAME:	N/A	Jaquez MW R-2
SAMPLE DATE | TIME (Hrs):	11/20/96	1152
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	428	PPB	25	D		
TOLUENE	1340	PPB	25	D		
ETHYL BENZENE	87.3	PPB	25	D		
TOTAL XYLENES	821	PPB	25	D		
TOTAL BTEX	2680	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____99.2_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative: _____

Approved By: _John Harrell_   Date: _12/2/96_

961009.XLS, 12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number R-2

Site Name JAQUEZ

Meter Code _____

Development Criteria
[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other _____

Water Volume Calculation
Initial Depth of Well (feet) 22.1
Initial Depth to Water (feet) 13.98
Height of Water Column in Well (feet) 8.12
Diameter (inches): Well _____ Gravel Pack _____

Instruments
[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	5.4	16.1	
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal
ON SITE BARRELS

Methods of Development
Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer
[ ] Other _____	

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1116										15.3	7.10	413		
11-20-96	1121						5.0	5.0			14.6	6.88	493		
11-20-96	1128						5.0	10.0			14.6	6.97	505		
11-20-96	1145						5.0	15.0			14.8	7.15	460	0.5	

Comments 0.04' OF FREE FLOATING HYDROCARBON. STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird   Date 11-20-96 Reviewer _____ Date 12/2/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961010
MTR CODE | SITE NAME:	N/A	Jaquez MW R-3
SAMPLE DATE | TIME (Hrs):	11/20/96	1228
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	12.5	PPB				
ETHYL BENZENE	12.4	PPB				
TOTAL XYLENES	114	PPB				
TOTAL BTEX	139	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____101_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: _12/2/96_

961010.XLS,12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __R-3__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other _____

Water Volume Calculation

Initial Depth of Well (feet) __22.1__
Initial Depth to Water (feet) __14.88__
Height of Water Column in Well (feet) __7.22__
Diameter (inches): Well __4__ Gravel Pack _____

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] 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		4.8	14.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.O. CHEMETS KIT__

Water Disposal

__ON SITE BARRELS__

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulativ	Increment	Cumulative					
11-20-96	1204										15.9	7.00	926		
11-20-96	1209						5.0	5.0			16.0	6.99	876		
11-20-96	1215						5.0	10.0			16.5	7.06	608		
11-20-96	1223						5.0	15.0			16.8	7.12	558	1.5	

Comments _____

Developer's Signature __Dennis Bird__ Date __11-20-96__ Reviewer __John Fuller__ Date __12/2/96__

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961011
MTR CODE | SITE NAME:	N/A	Jaquez MW R-4
SAMPLE DATE | TIME (Hrs):	11/20/96	1315
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	289	PPB	5	D		
TOLUENE	31.2	PPB	5	D		
ETHYL BENZENE	19.3	PPB	5	D		
TOTAL XYLENES	220	PPB	5	D		
TOTAL BTEX	560	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____102_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _John Loell_   Date: _12/2/96_

961011.XLS,12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name _JAQUEZ_

☐ Development
☒ Purging

Well Number _R-4_

Meter Code _____

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removel
- ☐ Stabilization of Indicator Parameters
- ☐ Other_____

Water Volume Calculation

Initial Depth of Well (feet)_22.1_
Initial Depth to Water (feet)_14.48_
Height of Water Column in Well (feet)_7.62_
Diameter (inches): Well_4_ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.0	15.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
- ☐ DO Monitor
- ☒ Conductivity Meter
- ☒ Temperature Meter
- ☒ Other _D.O. CHEMETS KIT_

Water Disposal
ON SITE BARRELS

Methods of Development

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

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1245										17.6	7.18	611		
11-20-96	1250						5.0	5.0			17.5	7.25	670		
11-20-96	1256						5.0	10.0			17.6	7.31	843		
11-20-96	1306						5.0	15.0			17.9	7.43	1160	1.0	

Comments_____

Developer's Signature _Dennis Bird_ Date_11-20-96_ Reviewer_____ Date_12/2/96_

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961012
MTR CODE | SITE NAME:	N/A	Jaquez MW R-5
SAMPLE DATE | TIME (Hrs):	11/20/96	1405
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

— BTEX is by EPA Method 8020 —

The Surrogate Recovery was at _____102_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _John Ladd_____   Date: __12/2/96__

961012.XLS, 12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Site Name _JAQUEZ_

Well Number _R-5_

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer

[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) _24.4_
Initial Depth to Water (feet) _17.05_
Height of Water Column in Well (feet) _7.35_
Diameter (inches): Well _4_ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.9	14.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other _D.O. CHEMETS KIT_

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1327										18.5	7.64	1026		
11-20-96	1332						5.0	5.0			17.6	7.60	1070		
11-20-96	1400						5.0	10.0			16.6	7.57	996	2.5	

Comments _BAILED DRY @ 80 GALLONS._

Developer's Signature _Dennis Bird_ Date _11-20-96_ Reviewer _____ Date _12/4/96_

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	**N/A**	961013
MTR CODE | SITE NAME:	N/A	Jaquez MW M-1
SAMPLE DATE | TIME (Hrs):	11/20/96	1512
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

– BTEX is by EPA Method 8020 –

The Surrogate Recovery was at ____101____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____   Date: __12/2/96__

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name __VAQUEZ__

[ ] Development
[X] Purging

Well Number __M-1__

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Methods of Development

	Pump		Bailer
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) __15.3__
Initial Depth to Water (feet) __5.19__
Height of Water Column in Well (feet) __10.11__
Diameter (inches): Well __4__ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.7	20.0
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.O. CHEMETS KIT__

Water Disposal

__ON SITE BARRELS__

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1435										14.3	7.83	324		
11-20-96	1440						5.0	5.0			13.8	7.51	350		
11-20-96	1505						5.0	10.0			13.8	7.37	319	3.5	

Comments __BAILED DRY @ 7.0 GALLONS__

Developer's Signature __Dennis Bird__ Date __11-20-96__ Reviewer _____ Date __12/2/96__
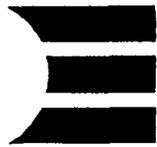
EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961014
MTR CODE | SITE NAME:	N/A	Jaquez MW M-2
SAMPLE DATE | TIME (Hrs):	11/20/96	1556
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at _____102_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative: _____

Approved By: _____   Date: ___12/2/96___

961014.XLS,12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number __M-2__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) __15.1__
Initial Depth to Water (feet) __4.85__
Height of Water Column in Well (feet) __10.25__
Diameter (inches): Well __4__ Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.8	20.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other __D.O. CHEMETS KIT__

Water Disposal
__ON SITE BARRELS__

Methods of Development

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

☐ Other _____

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity μmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1526										12.5	7.26	562		
11-20-96	1530						5.0	5.0			11.7	7.08	552		
11-20-96	1535						5.0	10.0			11.7	7.03	538		
11-20-96	1545						5.0	15.0			11.6	7.02	512		
11-20-96	1550						5.0	20.0			11.6	7.03	509	1.0	

Comments _____

Developer's Signature __Dennis Bird__ Date __11-20-96__ Reviewer __Joe Lucia__ Date __12/4/96__

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961015
MTR CODE | SITE NAME:	N/A	Jaquez MW M-3
SAMPLE DATE | TIME (Hrs):	11/20/96	1642
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/25/96	11/25/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	70.2	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	1.89	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	72.1	PPB				

– BTEX is by EPA Method 8020 –

The Surrogate Recovery was at _____100_____ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative: _____

Approved By: _John Loedi_ (signature)   Date: _12/2/96_

961015.XLS, 12/2/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number __M-3__

Site Name __JAQUEZ__

Meter Code _____

Development Criteria
[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Water Volume Calculation
Initial Depth of Well (feet)__15.2__
Initial Depth to Water (feet)__5.86__
Height of Water Column in Well (feet)__9.34__
Diameter (inches): Well__4__ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.2	18.5
Gravel Pack			
Drilling Fluids			
Total			

Methods of Development
Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer
[ ] Other_____	

Instruments
[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other __D.O. CHEMETS KIT__

Water Disposal
__ON SITE BARRELS__

Water Removal Data

Date	Time	Development Method Pump	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Cumulativ	Product Volume Removed (gallons) Increment	Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-20-96	1612										12.5	7.07	416		
11-20-96	1617						5.0	5.0			12.5	7.04	372		
11-20-96	1622						5.0	10.0			12.3	7.08	364		
11-20-96	1629						5.0	15.0			11.9	7.21	339		
11-20-96	1635						5.0	20.0			11.7	7.20	335		

Comments_____

Developer's Signature __Dennis Wird__ Date __11-20-96__ Reviewer _____ Date __12/1/96__

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961016
MTR CODE | SITE NAME:	N/A	Jaquez MW M-4
SAMPLE DATE | TIME (Hrs):	11/21/96	1147
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.28	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	7.77	PPB				
TOTAL XYLENES	90.3	PPB				
TOTAL BTEX	101	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at ___91.6___ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _John Truelle_   Date: _12/2/96_

961016.XLS,12/2/96

EPFS

EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name __JAQUEZ__

- [ ] Development
- [X] Purging

Well Number __M-4__

Meter Code _____

Development Criteria

- [X] 3 to 5 Casing Volumes of Water Removel
- [ ] Stabilization of Indicator Parameters
- [ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet)___15.3___
Initial Depth to Water (feet)___4.27___
Height of Water Column in Well (feet)___11.03___
Diameter (inches): Well__4__ Gravel Pack_____

Instruments

- [X] pH Meter
- [ ] DO Monitor
- [X] Conductivity Meter
- [X] Temperature Meter
- [X] Other __D.O CHEMETS KIT__

Methods of Development

	Pump		Bailer
[ ]	Centrifugal	[X]	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	7.3	21.9	
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal

__ON SITE BARRELS__

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-21-96	1041										13.8	6.93	419		
11-21-96	1045						5.0	5.0			14.0	6.89	423		
	1107						5.0	10.0			15.3	7.17	404	3.5	

Comments___BAILED DRY P 8.0 GALLONS.___

Developer's Signature___Dennis Bird___ Date__11-21-96__ Reviewer_____ Date__12/2/96__

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961017
MTR CODE | SITE NAME:	N/A	Jaquez MW M-5
SAMPLE DATE | TIME (Hrs):	/21/96	1217
PROJECT:	Groundwater Remediation	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

-- BTEX is by EPA Method 8020 --

The Surrogate Recovery was at ___89.2___ % for this sample   All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

_____

Approved By: _John Loull_   Date: _12/2/96_

961017.XLS,12/2/96

EPFS

EL PASO FIELD SERVICES

Well Development and Purging Data

( ) Development
(X) Purging

Well Number _M-5_

Site Name _JAQUEZ_

Meter Code _____

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removal
[ ] Stabilization of Indicator Parameters
[ ] Other_____

Methods of Development

	Pump		Bailer
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other_____

Water Volume Calculation

Initial Depth of Well (feet) _15.1_
Initial Depth to Water (feet) _5.41_
Height of Water Column in Well (feet) _9.69_
Diameter (inches): Well _4_ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.4	19.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other _D.O. CHEMETS KIT_

Water Disposal

ON SITE BARRELS

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulativ	Increment	Cumulative					
11-21-96	1120										14.0	7.21	505		
11-21-96	1124						5.0	5.0			14.0	7.03	501		
11-21-96	1128						5.0	10.0			14.6	6.98	509		
11-21-96	1140						5.0	15.0			14.7	7.00	483		
11-21-96	1205						5.0	20.0			14.5	7.30	499	3.5	

Comments_____

Developer's Signature _Dennis Bird_ Date _11-21-96_ Reviewer _____ Date _12/2/96_

Appendix C - Recovery Data

		Environmental Logger			
		11/19 08	:37		
		Unit # 0 Test 0			
Setups:	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
----------	---------	---------	---------	---------	---------
Type	Function	Function	Function	Function	Function
I.D.					
Linearity	0	0	0	0	0
Scale factor	11.7	11.78	58	25.1	11.5
Offset	0.196	-2.582	-0.309	-1.167	-0.304
Delay mSEC	50	50	50	50	50
	Ste	p 0 11/15	14:13:40		
Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
----------	---------	---------	---------	---------	---------
0	12.562	7.847	7.081	7.126	6.865
0.0083	12.562	7.924	7.089	7.153	6.865
0.0166	12.562	7.846	7.073	7.143	6.865
0.025	12.562	7.876	7.081	7.153	6.867
0.0333	-0.509	8.005	7.089	7.143	6.865
0.0416	-0.455	8.003	7.081	7.147	6.865
0.05	-0.343	8.003	7.081	7.143	6.865
0.0583	-0.25	8.003	7.081	7.15	6.865
0.0666	-0.164	8.003	7.081	7.143	6.865
0.075	-0.081	8.003	7.089	7.15	6.865
0.0833	-0.009	8.003	7.089	7.147	6.865
0.1	0.111	8.003	7.065	7.153	6.865
0.1166	0.216	8.003	7.081	7.147	6.865
0.1333	0.301	8.003	7.081	7.143	6.865
0.15	0.381	8.001	7.081	7.147	6.865
0.1666	0.462	8.003	7.089	7.147	6.865
0.1833	0.523	8.003	7.089	7.147	6.865
0.2	0.593	8.003	7.081	7.15	6.865
0.2166	0.663	8.001	7.081	7.15	6.865
0.2333	0.721	8.001	7.081	7.15	6.863
0.25	0.77	8.001	7.081	7.147	6.865
0.2666	0.818	8.003	7.097	7.143	6.865
0.2833	0.855	8.001	7.089	7.143	6.863
0.3	0.9	8.001	7.089	7.147	6.863
0.3166	0.935	8.003	7.081	7.143	6.863
0.3333	0.971	8.003	7.081	7.143	6.863
0.4166	1.099	8.003	7.089	7.147	6.865

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
0.5	1.201	8.003	7.089	7.14	6.863
0.5833	1.273	8.003	7.081	7.147	6.863
0.6666	1.322	8.003	7.089	7.147	6.863
0.75	1.377	8.003	7.089	7.15	6.863
0.8333	1.426	8.003	7.097	7.147	6.865
0.9166	1.474	8.003	7.097	7.143	6.865
1	1.516	8.001	7.097	7.147	6.863
1.0833	1.56	8.003	7.105	7.147	6.863
1.1666	1.607	8.003	7.097	7.153	6.863
1.25	1.651	8.003	7.097	7.147	6.865
1.3333	1.694	8.003	7.097	7.143	6.865
1.4166	1.736	8.001	7.097	7.153	6.867
1.5	1.777	8.003	7.097	7.147	6.865
1.5833	1.814	8.003	7.097	7.147	6.863
1.6666	1.856	8.003	7.105	7.15	6.865
1.75	1.899	8.003	7.105	7.15	6.867
1.8333	1.935	8.003	7.097	7.153	6.867
1.9166	1.97	8.005	7.105	7.147	6.867
2	2.009	8.005	7.097	7.153	6.867
2.5	2.213	8.003	7.121	7.143	6.868
3	2.385	8.005	7.121	7.153	6.868
3.5	2.553	8.005	7.129	7.136	6.867
4	2.735	8.005	7.137	7.153	6.868
4.5	3.016	8.006	7.137	7.157	6.87
5	4.591	8.006	7.113	7.136	6.87
5.5	4.781	8.008	7.152	7.16	6.871
6	4.912	8.009	7.152	7.16	6.873
6.5	5.024	8.011	7.16	7.153	6.873
7	5.129	8.013	7.16	7.17	6.874
7.5	5.223	8.014	7.152	7.17	6.874
8	5.31	8.016	7.176	7.17	6.876
8.5	5.394	8.017	7.176	7.17	6.876
9	5.474	8.019	7.176	7.177	6.878
9.5	5.549	8.021	7.192	7.167	6.878
10	5.618	8.03	7.129	7.167	6.878
12	5.871	8.035	7.16	7.16	6.886
14	6.066	8.042	7.176	7.177	6.889
16	6.221	8.045	7.2	7.191	6.897
18	6.347	8.045	7.224	7.198	6.898
20	6.44	8.05	7.192	7.215	6.901
22	6.516	8.053	7.232	7.222	6.903
24	6.58	8.05	7.247	7.232	6.903
26	6.633	8.058	7.232	7.253	6.906
28	6.676	8.064	7.263	7.249	6.911
30	6.709	8.062	7.247	7.253	6.909
32	6.736	8.066	7.287	7.266	6.908
34	6.762	8.066	7.271	7.287	6.911

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
36	6.78	8.069	7.303	7.283	6.915
38	6.794	8.075	7.319	7.301	6.917
40	6.805	8.075	7.319	7.314	6.919
42	6.819	8.079	7.327	7.311	6.922
44	6.826	8.085	7.327	7.304	6.925
46	6.834	8.083	7.342	7.314	6.923
48	6.84	8.083	7.334	7.321	6.922
50	6.845	8.083	7.35	7.314	6.922
52	6.85	8.083	7.319	7.318	6.92
54	6.859	8.083	7.342	7.318	6.919
56	6.861	8.082	7.35	7.311	6.914
58	6.867	8.087	7.319	7.318	6.917
60	6.872	8.088	7.35	7.321	6.917
62	6.877	8.095	7.35	7.325	6.919
64	6.882	8.101	7.358	7.338	6.926
66	6.885	8.101	7.366	7.355	6.925
68	6.888	8.103	7.366	7.335	6.922
70	6.89	8.103	7.358	7.349	6.915
72	6.893	8.103	7.374	7.338	6.909
74	6.898	8.104	7.342	7.328	6.904
76	6.898	8.106	7.366	7.328	6.903
78	6.901	8.109	7.374	7.331	6.898
80	6.904	8.115	7.374	7.321	6.898
82	6.907	8.119	7.358	7.331	6.904
84	6.909	8.119	7.382	7.328	6.903
86	6.91	8.125	7.39	7.342	6.909
88	6.91	8.128	7.39	7.338	6.911
90	6.915	8.132	7.374	7.345	6.915
92	6.915	8.132	7.398	7.342	6.912
94	6.915	8.128	7.382	7.342	6.914
96	6.917	8.13	7.406	7.338	6.909
98	6.918	8.132	7.398	7.342	6.914
100	6.92	8.135	7.382	7.345	6.912
110	6.923	8.14	7.421	7.352	6.926
120	6.925	8.148	7.421	7.349	6.942
130	6.93	8.135	7.39	7.297	6.903
140	6.933	8.122	7.39	7.26	6.9
150	6.934	8.138	7.406	7.263	6.936
160	6.934	8.138	7.39	7.444	6.939
170	6.93	8.144	7.429	7.448	6.964
180	6.92	8.146	7.437	7.438	6.989
190	6.918	8.152	7.445	7.438	7.024
200	6.917	8.152	7.421	7.462	7.054
210	6.912	8.165	7.477	7.448	7.11
220	6.91	8.156	7.461	7.438	7.12
230	6.912	8.146	7.453	7.444	7.126
240	6.91	8.143	7.453	7.441	7.128

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
250	6.909	8.138	7.445	7.438	7.132
260	6.907	8.136	7.445	7.438	7.14
270	6.904	8.138	7.414	7.434	7.148
280	6.899	8.136	7.421	7.424	7.159
290	6.898	8.141	7.453	7.424	7.191
300	6.893	8.136	7.437	7.424	7.2
310	6.899	8.128	7.445	7.42	7.2
320	6.902	8.125	7.437	7.42	7.194
330	6.901	8.151	7.469	7.427	7.268
340	6.899	8.151	7.469	7.427	7.282
350	6.902	8.141	7.461	7.431	7.301
360	6.909	8.133	7.445	7.424	7.296
370	6.909	8.132	7.445	7.434	7.294
380	6.917	8.133	7.453	7.444	7.287
390	6.917	8.143	7.453	7.441	7.288
400	6.912	8.143	7.437	7.448	7.298
410	6.91	8.144	7.429	7.455	7.309
420	6.912	8.133	7.461	7.465	7.31
430	6.909	8.144	7.429	7.485	7.338
440	6.91	8.151	7.485	7.53	7.411
450	6.912	8.133	7.453	7.537	7.397
460	6.912	8.133	7.485	7.547	7.395
470	6.914	8.125	7.477	7.554	7.397
480	6.912	8.122	7.493	7.554	7.375
490	6.917	8.125	7.461	7.554	7.365
500	6.917	8.128	7.477	7.544	7.357
510	6.918	8.125	7.469	7.551	7.353
520	6.926	8.13	7.485	7.53	7.348
530	6.933	8.133	7.453	7.537	7.345
540	6.938	8.143	7.453	7.527	7.354
550	6.938	8.146	7.461	7.527	7.357
560	6.938	8.148	7.453	7.533	7.36
570	6.939	8.157	7.493	7.53	7.364
580	6.939	8.154	7.461	7.527	7.362
590	6.942	8.469	7.485	7.527	7.364
600	6.941	9.52	7.516	7.537	7.364
610	6.942	9.869	7.501	7.547	7.359
620	6.946	9.869	7.548	7.544	7.375
630	6.947	9.869	7.485	7.547	7.349
640	6.947	9.869	7.477	7.537	7.343
650	6.949	9.101	7.382	7.53	7.334
660	6.949	9.769	7.398	7.52	7.337
670	6.947	9.244	7.406	7.523	7.334
680	6.944	8.162	7.414	7.53	7.353
690	6.942	6.796	7.414	7.54	7.375
700	6.944	5.562	7.421	7.554	7.371
710	6.947	4.717	7.429	7.54	7.359

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
720	6.949	4.114	7.406	7.544	7.357
730	6.949	3.706	7.429	7.547	7.353
740	6.944	3.264	7.453	7.547	7.36
750	6.942	2.759	7.414	7.551	7.365
760	6.944	2.693	7.421	7.554	7.381
770	6.944	2.459	7.453	7.561	7.378
780	6.947	2.353	7.437	7.561	7.381
790	6.949	2.229	7.445	7.561	7.397
800	6.952	2.221	7.477	7.571	7.409
810	6.954	2.181	7.493	7.581	7.423
820	6.954	2.158	7.461	7.595	7.442
830	6.952	2.163	7.493	7.612	7.455
840	6.95	4.206	7.469	7.612	7.441
850	6.95	4.675	7.469	7.602	7.416
860	6.949	5.173	7.445	7.602	7.412
870	6.949	5.514	7.453	7.602	7.419
880	6.947	5.572	7.461	7.612	7.433
890	6.947	5.726	7.485	7.609	7.439
900	6.947	5.681	7.477	7.612	7.422
910	6.946	5.547	7.493	7.612	7.417
920	6.946	5.989	7.485	7.616	7.419
930	6.946	6.685	7.501	7.609	7.417
940	6.946	6.941	7.485	7.609	7.414
950	6.942	7.095	7.509	7.619	7.422
960	6.939	8.688	7.501	7.616	7.423
970	6.939	9.869	7.493	7.616	7.422
980	6.936	9.869	7.524	7.619	7.422
990	6.934	9.869	7.485	7.622	7.417
1000	6.933	9.869	7.524	7.616	7.417
1015	6.93	9.869	7.509	7.619	7.43
1030	6.926	9.869	7.461	7.626	7.425
1045	6.923	9.869	7.469	7.622	7.423
1060	6.922	9.869	7.501	7.622	7.408
1075	6.92	9.869	7.453	7.602	7.381
1090	6.918	9.869	7.485	7.602	7.401
1105	6.914	9.869	7.421	7.585	7.387
1120	6.91	9.319	7.414	7.568	7.368
1135	6.91	9.121	7.327	7.383	7.208
1150	6.912	9.2	7.406	7.345	7.276
1165	6.912	9.144	7.39	7.345	7.241
1180	6.909	9.13	7.437	7.325	7.25
1195	6.909	8.991	7.453	7.352	7.272
1210	6.904	9.128	7.429	7.338	7.213
1225	6.896	8.855	7.485	7.407	7.305
1240	6.883	8.631	7.532	7.506	7.411
1255	6.886	9.869	7.501	7.496	7.368
1270	6.886	9.869	7.485	7.472	7.31

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
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1285	6.891	9.869	7.358	7.318	7.158
1300	6.894	9.07	7.445	7.201	7.176
1315	6.89	8.842	7.374	7.181	7.084
1330	6.885	7.844	7.469	7.28	7.186
1345	6.882	7.903	7.485	7.427	7.282
1360	6.882	7.903	7.485	7.496	7.28
1375	6.882	7.958	7.35	7.424	7.071
1390	6.875	8.003	7.406	7.414	7.137
1405	6.869	7.878	7.382	7.407	7.06
1420	6.863	7.452	7.39	7.414	7.123
1435	6.864	7.529	7.421	7.396	7.263
1450	6.864	7.611	7.366	7.396	7.055
1465	6.856	7.667	7.382	7.414	7.071
1480	6.853	7.791	7.406	7.379	7.12
1495	6.85	9.869	7.39	7.366	7.117
1510	6.845	9.534	7.453	7.359	7.165
1525	6.84	9.327	7.477	7.355	7.208
1540	6.837	9.326	7.461	7.366	7.298
1555	6.832	9.215	7.453	7.373	7.279
1570	6.827	9.35	7.437	7.39	7.274
1585	6.823	9.356	7.485	7.366	7.417
1600	6.821	9.263	7.477	7.362	7.433
1615	6.821	9.115	7.477	7.373	7.439
1630	6.818	8.79	7.429	7.383	7.431
1645	6.816	8.557	7.453	7.386	7.382
1660	6.81	8.501	7.406	7.376	7.353
1675	6.808	8.511	7.429	7.379	7.354
1690	6.803	8.451	7.414	7.379	7.375
1705	6.799	8.186	7.374	7.376	7.318
1720	6.8	8.072	7.398	7.376	7.309
1735	6.803	8.056	7.366	7.376	7.272
1750	6.8	8.046	7.366	7.379	7.265
1765	6.802	8.051	7.39	7.393	7.285
1780	6.8	7.963	7.358	7.39	7.246
1795	6.797	8.017	7.35	7.39	7.228
1810	6.795	7.979	7.342	7.386	7.206
1825	6.791	7.944	7.342	7.383	7.195
1840	6.791	7.895	7.342	7.383	7.2
1855	6.784	7.863	7.342	7.369	7.187
1870	6.786	7.756	7.334	7.376	7.17
1885	6.781	7.694	7.334	7.366	7.17
1900	6.776	7.733	7.319	7.359	7.153
1915	6.78	7.674	7.327	7.362	7.123
1930	6.776	7.69	7.319	7.383	7.117
1945	6.78	7.696	7.311	7.379	7.081
1960	6.781	7.683	7.311	7.393	7.085
1975	6.776	7.698	7.311	7.386	7.09

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
1990	6.773	7.743	7.311	7.39	7.074
2005	6.773	7.743	7.303	7.39	7.063
2020	6.772	7.698	7.303	7.39	7.044
2035	6.77	7.709	7.303	7.386	7.036
2050	6.773	7.764	7.303	7.383	7.029
2065	6.778	7.757	7.295	7.386	7.016
2080	6.775	7.752	7.295	7.39	7.01
2095	6.775	7.756	7.287	7.386	6.999
2110	6.772	7.741	7.271	7.386	6.937
2125	6.776	7.757	7.263	7.39	6.909
2140	6.772	7.76	7.271	7.383	6.909
2155	6.768	7.694	7.271	7.383	6.915
2170	6.77	7.685	7.263	7.39	6.893
2185	6.765	7.783	7.279	7.383	6.909
2200	6.768	7.826	7.263	7.383	6.878
2215	6.767	7.857	7.287	7.383	6.925
2230	6.76	7.852	7.295	7.376	6.955
2245	6.76	7.841	7.271	7.376	6.892
2260	6.756	7.821	7.263	7.373	6.859
2275	6.757	7.725	7.263	7.376	6.857
2290	6.762	7.715	7.255	7.369	6.841
2305	6.762	7.662	7.263	7.376	6.852
2320	6.767	7.638	7.255	7.376	6.827
2335	6.77	7.579	7.271	7.379	6.856
2350	6.77	7.572	7.279	7.379	6.882
2365	6.76	7.479	7.271	7.369	6.851
2380	6.76	7.468	7.263	7.369	6.846
2395	6.756	7.404	7.271	7.369	6.843
2410	6.757	7.378	7.255	7.362	6.835
2425	6.759	7.405	7.303	7.355	6.843
2440	6.752	7.354	7.263	7.338	6.838
2455	6.759	7.371	7.271	7.342	6.849
2470	6.759	7.326	7.263	7.352	6.859
2485	6.752	7.331	7.208	7.338	6.815
2500	6.751	7.299	7.232	7.349	6.786
2515	6.754	7.296	7.247	7.338	6.788
2530	6.751	7.333	7.239	7.345	6.771
2545	6.749	7.323	7.232	7.338	6.761
2560	6.749	7.259	7.239	7.335	6.769
2575	6.749	7.209	7.168	7.342	6.714
2590	6.757	7.143	7.176	7.342	6.681
2605	6.765	7.068	7.152	7.342	6.642
2620	6.762	7.065	7.121	7.342	6.59
2635	6.759	6.976	7.184	7.335	6.624
2650	6.759	6.955	7.184	7.328	6.62
2665	6.768	7.05	7.065	7.328	6.544
2680	6.772	7.039	7.042	7.331	6.475

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
2695	6.767	7.007	7.137	7.331	6.62
2710	6.77	6.939	7.137	7.325	6.676
2725	6.772	6.885	7.137	7.321	6.606
2740	6.775	6.647	7.097	7.307	6.546
2755	6.776	6.701	7.137	7.325	6.639
2770	6.781	6.632	7.026	7.345	6.516
2785	6.789	6.496	7.034	7.345	6.513
2800	6.799	6.473	7.105	7.314	6.643
2815	6.799	6.508	7.137	7.318	6.735
2830	6.803	6.417	7.121	7.331	6.702
2845	6.799	6.267	7.152	7.318	6.783
2860	6.792	6.197	7.192	7.314	6.859
2875	6.788	6.192	7.216	7.314	6.893
2890	6.78	6.185	7.239	7.318	6.919
2905	6.776	6.177	7.247	7.328	6.922
2920	6.78	6.095	7.255	7.345	6.939
2935	6.778	6.044	7.271	7.345	6.945
2950	6.775	5.96	7.295	7.328	6.988
2965	6.77	5.925	7.311	7.318	7.016
2980	6.76	5.959	7.334	7.311	7.043
2995	6.764	5.895	7.311	7.321	7.043
3010	6.764	5.898	7.303	7.325	7.049
3025	6.765	5.859	7.303	7.331	7.04
3040	6.757	5.842	7.35	7.328	7.041
3055	6.765	5.724	7.342	7.331	7.032
3070	6.762	5.702	7.327	7.328	7.025
3085	6.76	5.768	7.303	7.331	7.03
3100	6.759	5.705	7.319	7.338	7.044
3115	6.754	5.739	7.358	7.335	7.068
3130	6.757	5.755	7.327	7.331	7.06
3145	6.754	5.76	7.35	7.331	7.047
3160	6.752	5.71	7.334	7.335	7.019
3175	6.757	5.647	7.311	7.338	7.003
3190	6.754	5.666	7.319	7.338	7.018
3205	6.754	5.485	7.319	7.331	7.018
3220	6.752	5.599	7.311	7.335	7.008
3235	6.752	5.588	7.295	7.338	6.981
3250	6.751	5.39	7.271	7.335	6.955
3265	6.749	5.364	7.271	7.335	6.908
3280	6.752	5.274	7.263	7.335	6.908
3295	6.754	5.244	7.271	7.335	6.931
3310	6.757	5.155	7.311	7.342	6.953
3325	6.754	5.08	7.287	7.342	6.953
3340	6.754	5.017	7.279	7.342	6.966
3355	6.757	4.953	7.295	7.349	6.963
3370	6.751	4.934	7.279	7.335	6.944
3385	6.746	4.829	7.263	7.338	6.937

Jaquez Pump Test
Recovery Data

Time	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
3400	6.748	4.797	7.295	7.335	6.97
3415	6.748	4.82	7.303	7.338	6.983
3430	6.746	4.734	7.287	7.335	6.947
3445	6.744	4.731	7.334	7.338	6.991
3460	6.741	4.619	7.279	7.335	6.977
3475	6.741	4.572	7.263	7.335	6.901
3490	6.74	4.543	7.247	7.331	6.876
3505	6.74	4.569	7.271	7.335	6.86
3520	6.746	4.545	7.239	7.335	6.859
3535	6.748	4.511	7.247	7.342	6.86
3550	6.754	4.447	7.271	7.338	6.915
3565	6.752	4.408	7.263	7.338	6.912
3580	6.754	4.325	7.271	7.335	6.911
3595	6.754	4.299	7.263	7.342	6.892
3610	6.754	4.236	7.287	7.338	6.934
3625	6.752	4.183	7.303	7.338	6.985
3640	6.744	4.133	7.303	7.335	6.996
3655	6.74	4.132	7.279	7.338	6.972
3670	6.741	4.022	7.303	7.321	6.977
3685	6.741	3.985	7.319	7.335	6.961
3700	6.746	3.977	7.279	7.335	6.956
3715	6.748	3.945	7.279	7.331	6.961
3730	6.749	3.923	7.271	7.342	6.944
3745	6.748	3.887	7.271	7.342	6.958
3760	6.744	3.817	7.287	7.328	6.974
3775	6.744	3.767	7.287	7.328	6.969
3790	6.738	3.744	7.279	7.331	6.955
3805	6.741	3.711	7.279	7.328	6.963
3820	6.741	3.696	7.271	7.328	6.953
3835	6.74	3.637	7.263	7.331	6.944
3850	6.736	3.6	7.271	7.338	6.95
3865	6.735	3.571	7.263	7.331	6.941
3880	6.74	3.545	7.263	7.328	6.915
3895	6.735	3.47	7.263	7.349	6.915
3910	6.735	3.421	7.247	7.342	6.912
3925	6.735	3.373	7.176	7.321	6.862
3940	6.73	3.314	7.121	7.338	6.819
3955	6.727	3.256	7.081	7.331	6.772
3970	6.73	3.256	7.058	7.321	6.727
3985	6.73	3.214	7.081	7.314	6.717
4000	6.73	3.19	6.994	7.321	6.646
4015	6.738	3.203	6.986	7.318	6.618
4030	6.735	3.164	6.955	7.311	6.588
4045	6.736	3.129	6.97	7.311	6.569
END					

Jaquez Pump Test
Recovery Data

Recovery of R-1
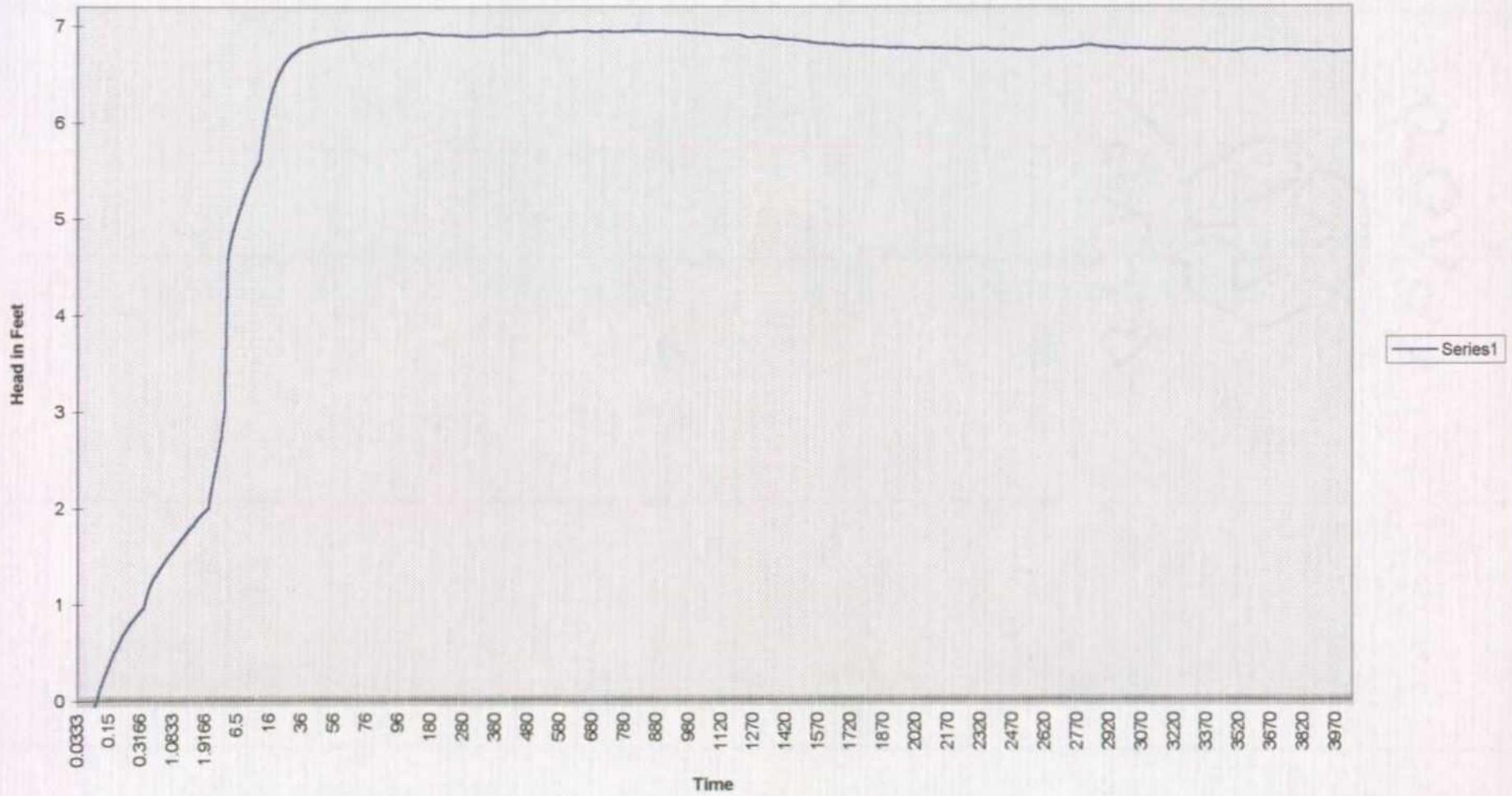
Series1

Head in Feet

Time

Jaquez Pump Test
Recovery Data

Recovery of R-2
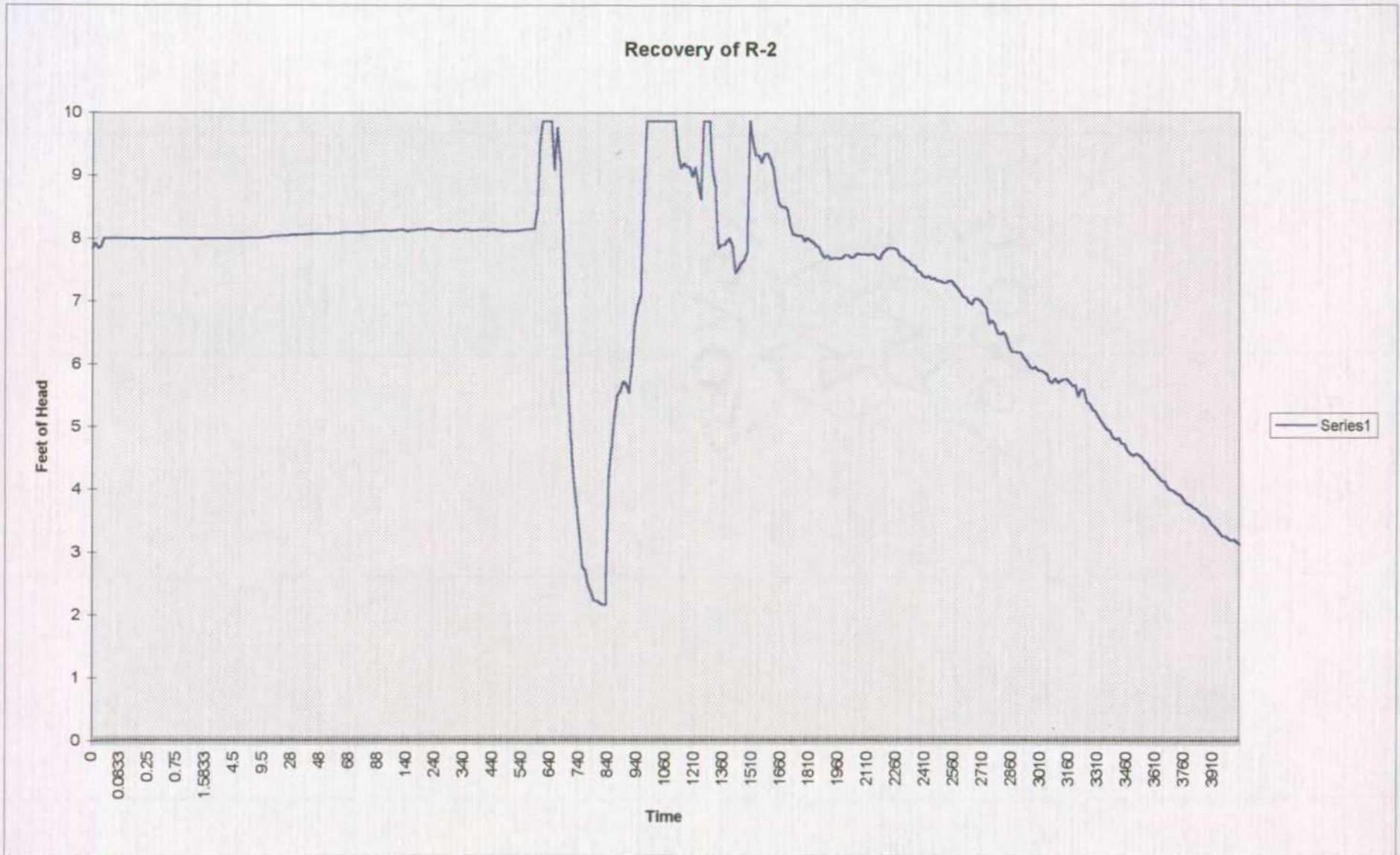
Jaquez Pump Test
Recovery Data
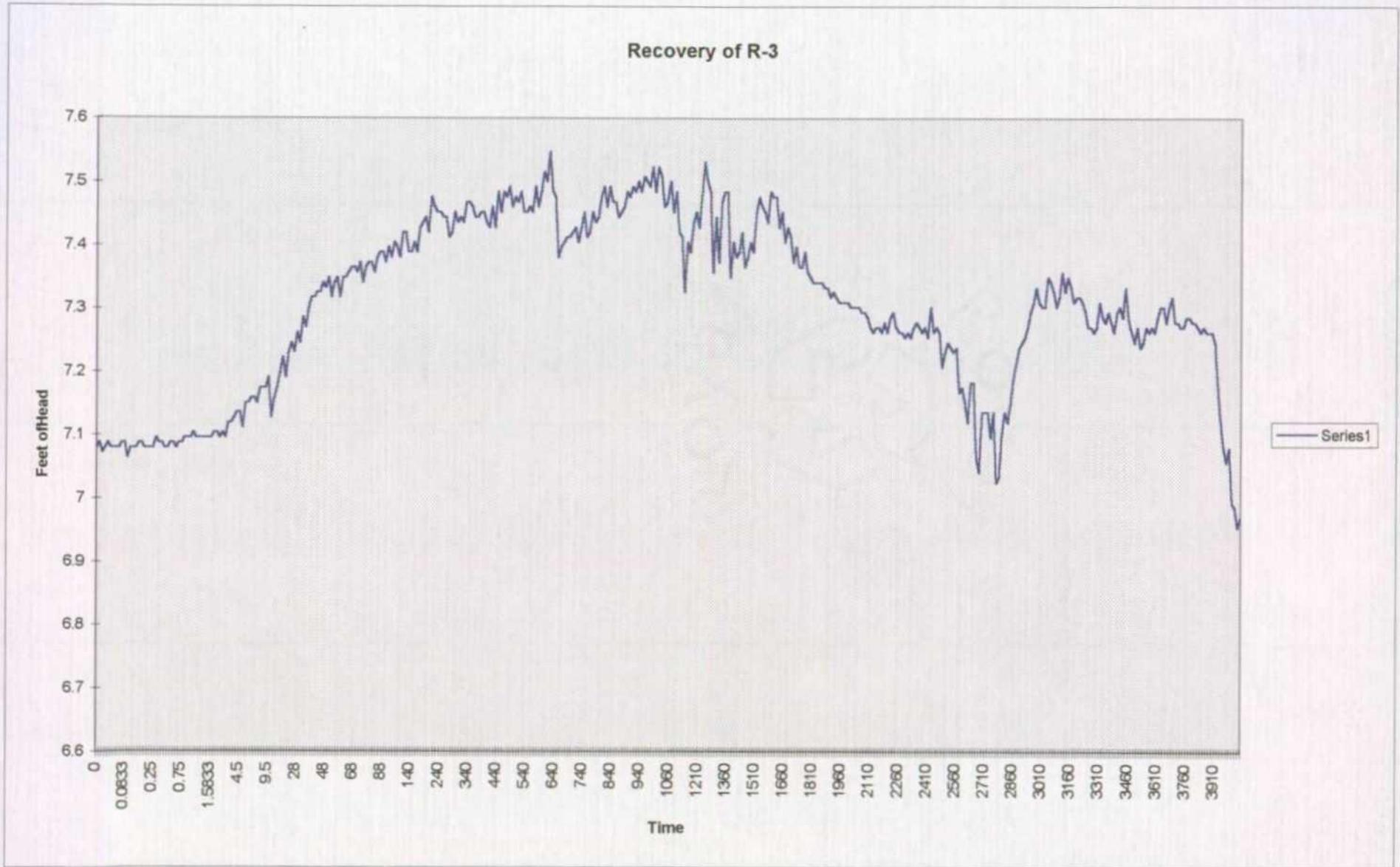
Recovery of R-3

Jaquez Pump Test
Recovery Data

Recovery of R-4

Jaquez Pump Test
Recovery Data

Recovery of R-5