3R – 194

GWMR

10 / 13 / 2014

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October 13, 2014

Mr. Glenn von Gonten
Senior Hydrologist
Environmental Bureau
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Remedial Action Summary Report
Jaquez Gas Com C#1 and E#1 Site
San Juan County, New Mexico
NMOCD Case #3R194

Dear Mr. von Gonten:

On behalf of El Paso CGP Company, LLC (El Paso), MWH has prepared this Remedial Action Summary Report for the Jaquez Gas Com C#1 & E#1 site (Site) in San Juan County, New Mexico (Figure 1).

This Remedial Action Summary Report is a follow-up to a site Excavation Report submitted to the New Mexico Oil Conservation District (NMOCD) in September 2011 requesting case closure (2011 Excavation Report). The excavation work was initiated following a 2010 release that was attributed to BP American Production Company (BP). The 2011 Excavation Report was resubmitted in 2012 with additional cross-sections (provided as Figure 5, 6, and 7).

OVERVIEW SUMMARY OF SITE HISTORY

In the fall of 1992, petroleum-impacted soils were discovered near the surface at the Site by the landowner. In the spring and summer of 1993, impacted soils were delineated and excavated to the extent possible without disturbing the Bloomfield Citizens' Irrigation Ditch (Citizens' Ditch), an unlined earthen ditch conveying water to Bloomfield, NM. Excavations were completed both north and south of Citizens' Ditch.

The excavation area north of Citizens' Ditch was terminated approximately 30 feet from the north bank, and the excavation area south of Citizens' Ditch was limited to the cornfield/garden area and did not encroach upon the southern embankment. Impacts remained between the two excavation areas and beneath Citizens' Ditch.

Following the excavation, groundwater monitoring wells R-1 through R-5 were installed north of Citizens' Ditch, and M-1 through M-5 were installed south of Citizens' Ditch. A passive

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interceptor trench was also installed at the toe of the south bank of Citizens' Ditch. Between 1993 and 2000, free product was recovered from monitoring wells R-1 and R-2 through the use of passive- and belt-type skimmers. In June 1999, the landowner encountered discolored soils while plowing in the garden area south of Citizens' Ditch and east of the previous excavation area. In November and December 1999, further soil assessment was completed near the garden area and north of Citizens' Ditch where the property owner believed a former pit was located. All soil samples collected from the investigation were below analytical detection limits. In January 2000, additional downgradient monitoring wells R-6 and M-6 were installed west of the Site near the landowner's residence. The analytical results from these wells were typically non-detect with only very low concentrations ever reported.

Various remediation activities were completed through 2005 to mitigate soil and groundwater impacts. Remediation activities included excavation, installation of a passive interceptor trench, addition of nutrient amendments to stimulate bio-degradation, installation and operation of an air sparge/soil vapor extraction (AS/SVE) system, and Oxygen Release Compound (ORC®) injections. The AS/SVE system was permanently shut down in early 2005 and four quarters of post-remediation monitoring were performed in 2005. The 2005 Annual Report was submitted in January 2006 requesting closure, as benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations in all monitoring wells were below closure standards for four consecutive quarters. Figure 2 shows the site conditions and features prior to the large excavation in 2010-2011.

In March 2010, El Paso was notified by BP that a release had occurred from the Jaquez C#1 gathering line where this line crossed the southern embankment of Citizens' Ditch. Following initial emergency response activities completed by BP, El Paso completed groundwater, soil, and air sampling in June, August, and September 2010 to assess the extent of new impacts at the Site. Groundwater samples collected from the monitoring wells were non-detect for the BTEX constituents except for the sample collected from M-4, where benzene was 147 micrograms per liter (µg/L). BTEX had been below closure standards at M-4 between 2002 and the final quarterly sampling event in 2005. M-4 was next to the gathering line and the spike in benzene was attributed to the new release. Elevated levels of BTEX detected in soil at the southern embankment of Citizens' Ditch were also attributed to the new release. Results of this soil and groundwater sampling were detailed in the 2010 Groundwater, Soil, and Air Sampling Report dated November 2010 (2010 Characterization Report) and submitted to the NMOCD November 10, 2010.

El Paso submitted a soil excavation plan to the NMOCD in December 2010. Between December 2010 and March 2011, approximately 16,231 cubic yards (CY) of newly- and historically-impacted soils were excavated and removed from the Site (Figure 3). Four of forty-two confirmation samples exceeded soil standards. Three of those four were at the northern excavation boundary where further excavation was not possible due the adjacent property owner's refusal to allow the movement or relocation of a trailer home located over the

edge of the impacted soil area (Figures 3 and 4). Impacted soil was identified in two distinct lenses. The volume of impacted soil remaining in place in this area was estimated to be 30 CY based on excavation sidewall data and hand borings collected around the trailer.

An additional soil sample from the floor south of Citizens' Ditch exceeded closure criteria for total petroleum hydrocarbons as gasoline-range organics (TPH-GRO) and total petroleum hydrocarbons (TPH). This sample was located east of the property owner's garage.

During the excavation, four samples of groundwater entering the excavation were collected and two of the four samples exceeded the applicable quality standards. A sample from near the northern property line exhibited benzene at 32.4 µg/L. A water sample from south of Citizens' Ditch, east of the property owner's garage, exhibited 301 µg/L benzene and 1,560 µg/L of total xylenes.

The in-ground components of the AS/SVE system and the passive interceptor trench were removed during the course of excavation and all monitoring wells were destroyed except for M-6. The excavation activities were detailed and summarized in a Soil Excavation Report dated September 2011 and submitted to the NMOCD on September 2, 2011.

CLOSURE CONSIDERATIONS

Initially, closure was requested in 2005 based on four consecutive quarters of groundwater sampling with results below closure criteria; however, a sample collected from M-4 in June 2010 during site-wide groundwater sampling following the BP release exhibited 147 µg/L benzene. The result for benzene is the highest reported at M-4 since 1999, approximately three years prior to injection of ORC® upgradient of M-4. The total xylenes result of 139 µg/L in 2010 was the highest recorded at M-4 since 1997. Over the course of 13 sampling events between November 1999 and November 2005, groundwater concentrations at M-4 remained below closure criteria.

Closure was subsequently requested in the 2011 Soil Excavation Report based on activities completed to date. Although closure was requested, four soil samples from the excavation and two samples of infiltrated groundwater did not meet closure criteria. The northern boundary of the 2010-2011 excavation was limited by the adjacent property owner's request to not move an existing mobile home. Three soil samples (two sidewall and one floor) from this area did not pass applicable standards for benzene, total BTEX, and/or TPH. It is estimated that approximately 30 CY of soil remain in place that would have been removed if the mobile home had been moved. It is believed the limited hydrocarbon mass remaining does not pose a significant source to groundwater based on non-detect groundwater monitoring results north of Citizens' Ditch during the 2010 pre-excavation investigation. Post-excavation groundwater sampling has not been conducted because monitoring wells in that vicinity were destroyed during the excavation activities.

A detailed summary of the remedial activities completed at the Site since 1992 is provided in chronological order in Appendix A. MWH and EPCGP would like to discuss this Remedial Action Summary Report with the NMOCD to identify and understand the steps necessary to achieve closure at the Site.

Please contact me at (515) 253-0830 with any questions.

Sincerely,

Michael Alowitz

/mja:hls
Attachments
cc: Joseph Wiley, EPCGP

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TABLES

TABLES

The provided tables show historic groundwater sample results, as presented in the 2010 Characterization Report. No groundwater sampling has been completed since the 2010 sampling event other than sampling of water observed during the 2010-2011 excavation. Yellow highlights in the attached tables show results that exceed groundwater standards.

TABLE 1
Summary of Historical Groundwater Analytical Data
El Paso Corporation Jaquez Site, San Juan County, New Mexico

Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
M-1	9/8/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	10/5/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	11/11/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	12/16/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	1/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	2/10/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	3/7/1994	<0.5	<0.5	<0.5	<0.5	N/A	ND	NA
M-1	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
M-1	6/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-1	9/7/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	12/15/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	2/9/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	5/8/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	8/25/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	11/2/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	2/5/1996	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-1	5/28/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
M-1	8/6/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
M-1	10/28/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-1	11/20/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-1	2/19/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-1	5/28/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-1	8/21/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-1	11/10/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-1	2/18/1998	5.08	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-1	5/19/1998	<1.0	<1.0	<1.0	<3.0	<6.0	ND	<0.1
M-1	5/25/1999	0.5	0.5	0.5	1.5	3	ND	0.05
M-1	1/19/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	5/30/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	6/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	8/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	11/17/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	2/14/2001	10	<0.5	<0.5	<0.5	10	ND	NA
M-1	5/31/2001	1	<0.5	<0.5	0.6	1.6	ND	NA
M-1	8/21/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA

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M-1	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-1	2/22/2002	<0.5	<1.0	<0.5	<0.5	ND	ND	NA
M-1	5/22/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
M-1	11/6/2002	<0.5	<0.5	<0.5	1	1	ND	NA
M-1	2/27/2003	0.1	0.2	<0.5	1.3	1.6	ND	NA
M-1	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	0.90
M-1	8/20/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-1	11/24/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-1	2/26/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-1	5/19/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-1	8/17/2004	NA	NA	NA	NA	ND	ND	NA
M-1	11/17/2004	NA	NA	NA	NA	ND	ND	NA
M-1	2/22/2005	NA	NA	NA	NA	NA	ND	NA
M-1	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-1	8/29/2005	NA	NA	NA	NA	NA	ND	NA
M-1	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-1	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
M-2	9/8/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-2	10/5/1993	2	2	<2.0	<2.0	4.0	ND	NA
M-2	11/11/1993	2.3	2	<2.0	<2.0	4.3	ND	NA
M-2	12/16/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-2	1/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-2	2/10/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-2	3/7/1994	<0.5	<0.5	<0.5	<0.5	N/A	ND	NA
M-2	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
M-2	6/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-2	9/7/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	12/15/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	2/9/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	5/5/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	8/25/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	11/2/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	2/5/1996	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-2	5/28/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
M-2	8/6/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA

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M-2	10/28/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-2	11/20/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-2	2/19/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-2	5/28/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-2	8/21/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-2	11/10/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-2	2/18/1998	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-2	5/19/1998	<1.0	<1.0	<1.0	<3.0	<6	ND	<0.1
M-2	5/25/1999	0.5	0.5	0.5	1.5	3	ND	0.05
M-2	1/19/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	5/30/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	6/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	8/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	11/20/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	2/14/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	5/31/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	8/21/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-2	2/22/2002	<0.5	<1.0	<0.5	<0.5	ND	ND	NA
M-2	5/22/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
M-2	11/6/2002	<0.5	<0.5	<0.5	1	1	ND	NA
M-2	2/27/2003	NA	NA	NA	NA	NA	NA	NA
M-2	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	0.30
M-2	8/20/2003	NA	NA	NA	NA	NA	NA	NA
M-2	11/24/2003	NA	NA	NA	NA	NA	NA	NA
M-2	2/26/2004	NA	NA	NA	NA	NA	ND	NA
M-2	5/19/2004	<1.0	<1.0	<1.0	<3.0	NA	ND	NA
M-2	8/17/2004	NA	NA	NA	NA	NA	ND	NA
M-2	11/17/2004	NA	NA	NA	NA	NA	ND	NA
M-2	2/22/2005	NA	NA	NA	NA	NA	ND	NA
M-2	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-2	8/29/2005	NA	NA	NA	NA	NA	ND	NA
M-2	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-2	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
M-3	9/8/1993	116	<2.0	3	37.6	157	ND	NA

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M-3	10/5/1993	306	<2.0	4	19	329	ND	NA
M-3	11/11/1993	8.4	5.3	<2.0	2.6	16	ND	NA
M-3	12/16/1993	42	<2.0	<2.0	<2.0	42	ND	NA
M-3	1/13/1994	19	2.1	<2.0	<2.0	21	ND	NA
M-3	2/10/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-3	3/7/1994	<0.5	<0.5	<0.5	2.5	3	ND	NA
M-3	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
M-3	6/13/1994	3.65	<2.0	<2.0	<2.0	4	ND	NA
M-3	9/7/1994	2.87	<2.5	<2.5	2.5	5	ND	NA
M-3	12/15/1994	<2.5	<2.5	<2.5	5.61	6	ND	NA
M-3	2/9/1995	11.4	<2.5	<2.5	<2.5	11	ND	NA
M-3	5/8/1995	180	67.2	<2.5	53.9	301	ND	NA
M-3	8/25/1995	11.8	<2.5	<2.5	16.8	29	ND	NA
M-3	11/2/1995	<2.5	<2.5	<2.5	5.03	5	ND	NA
M-3	2/5/1996	236	<2.5	5.77	22.2	264	ND	NA
M-3	5/28/1996	88.4	<1.0	5.93	20.3	115	ND	NA
M-3	8/6/1996	96.4	<1.0	2.5	3.27	102	ND	NA
M-3	10/29/1996	17.4	<1.0	1.55	2.23	21	ND	NA
M-3	11/20/1996	70.2	<1.0	1.89	<3	72	ND	NA
M-3	2/19/1997	2.44	<1.0	2.61	7.43	12	ND	NA
M-3	5/28/1997	38	6.1	<1	13.5	58	ND	20.1
M-3	8/21/1997	<1	<1	<1	7.68	8	ND	<1.2
M-3	11/10/1997	<1	<1	<1	7.68	8	ND	<1.2
M-3	2/18/1998	<1	<1	<1	<3	<6	ND	<1.2
M-3	5/19/1998	26.7	<1	<1	2.52	29	ND	0.32
M-3	8/26/1998	<1	2.8	<1	<3	3	ND	0.3
M-3	11/5/1998	1.93	3.2	<1	<3	5	ND	NA
M-3	5/25/1999	4.2	0.8	0.5	1.5	7	ND	0.05
M-3	8/5/1999	<1	1.8	<1	<3	<6	ND	<.1
M-3	11/12/1999	6	2.2	1.7	5.4	15	ND	ND
M-3	1/19/2000	4.1	2.8	1.6	3.7	12.2	ND	NA
M-3	2/24/2000	30	21	2.3	9.4	62.7	ND	NA
M-3	5/30/2000	2.1	<0.5	0.9	2.2	5.2	ND	<0.1
M-3	6/22/2000	0.6	<0.5	<0.5	<0.5	0.6	ND	0.14
M-3	7/25/2000	<0.5	<0.5	<0.5	1.1	1.1	ND	NA

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M-3	8/22/2000	0.6	<0.5	<0.5	2.2	2.8	ND	<0.05
M-3	11/20/2000	1.1	<0.5	<0.5	3.4	4.5	ND	<0.05
M-3	2/14/2001	0.6	<0.5	<0.5	0.6	1.2	ND	<0.05
M-3	5/31/2001	1.2	<0.5	<0.5	1.7	2.9	ND	0.18
M-3	8/21/2001	1.6	<0.5	1.2	4.5	7.3	ND	0.15
M-3	11/29/2001	0.7	<0.5	<0.5	<0.5	0.7	ND	0.23
M-3	2/22/2002	<0.5	<0.5	<0.5	1.1	1.1	ND	0.32
M-3	5/22/2002	<0.5	<0.5	<0.5	1	1	ND	0.31
M-3	11/6/2002	0.7	0.4	<0.5	1.2	2.300	ND	NA
M-3	2/27/2003	1.3	0.8	<0.5	2.6	4.700	ND	NA
M-3	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	0.40
M-3	8/20/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-3	11/24/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-3	2/26/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-3	5/19/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-3	8/17/2004	NA	NA	NA	NA	ND	ND	NA
M-3	11/17/2004	NA	NA	NA	NA	ND	ND	NA
M-3	2/22/2005	NA	NA	NA	NA	ND	ND	NA
M-3	5/24/2005	<1.0	0.9	1.0	2.0	3.880	ND	NA
M-3	8/29/2005	NA	NA	NA	NA	ND	ND	NA
M-3	11/21/2005	<1.0	<1.0	0.4	<2.0	0.430	ND	<0.050
M-3	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	ND
M-4	9/8/1993	213	13.3	58	519	803	ND	NA
M-4	10/5/1993	302	2	55	395	754	ND	NA
M-4	11/11/1993	234	2	56	383	675	ND	NA
M-4	12/16/1993	171	<2.0	34.3	244	449	ND	NA
M-4	1/13/1994	175	2.5	38	288	504	ND	NA
M-4	2/10/1994	137	<2.0	29.8	192	359	ND	NA
M-4	3/7/1994	120	<2.5	27	220	367	ND	NA
M-4	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
M-4	6/13/1994	151	<2.0	28.4	246	425	ND	NA
M-4	9/7/1994	145	<2.5	24.1	231	400	ND	NA
M-4	12/15/1994	184	<2.5	22.3	215	421	ND	NA
M-4	2/9/1995	160	<2.5	19.6	186	366	ND	NA
M-4	5/8/1995	108	<2.5	11.7	119	239	ND	NA

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M-4	8/25/1995	29.3	<2.5	13	116	158	ND	NA
M-4	11/2/1995	15.1	<2.5	12.9	136	164	ND	NA
M-4	2/5/1996	33.5	<2.5	19.3	209	262	ND	NA
M-4	5/28/1996	17	<1.0	8.93	93.6	120	ND	NA
M-4	8/6/1996	2.77	<1.0	3.5	38.5	45	ND	NA
M-4	10/29/1996	1.03	<1.0	3.66	55.5	60	ND	NA
M-4	11/22/1996	3.28	<1.0	7.77	90.3	101	ND	NA
M-4	2/19/1997	17.7	1.5	8.3	54	82	ND	NA
M-4	5/28/1997	53.6	11.6	43.4	366	475	ND	225
M-4	8/1/1997	39.7	3.2	1.51	100	145	ND	20.8
M-4	11/10/1997	44.8	<1.0	<1.0	71	116	ND	1.31
M-4	2/18/1998	91	<1.0	1.1	74.9	167	ND	<1.2
M-4	5/19/1998	46.6	<1.0	2.81	83.1	133	ND	0.21
M-4	8/26/1998	51	2.6	2.08	45.1	101	ND	43.9
M-4	11/5/1998	69	<1.0	<1.0	33	102	ND	NA
M-4	2/23/1999	133	<1	1.31	59.3	194	ND	283
M-4	5/25/1999	230	1.8	1.2	63	296	ND	190
M-4	8/5/1999	100	<2	<2	15.3	115	ND	54.9
M-4	11/12/1999	110	<2.5	<2.5	56	166	ND	57
M-4	1/19/2000	27	<0.5	<0.5	9.7	36.7	ND	NA
M-4	2/24/2000	11	<0.5	5.6	5.5	22.1	ND	NA
M-4	5/30/2000	38	1.1	<0.5	23	62.1	ND	<0.1
M-4	6/22/2000	44	1.6	8.9	16	70.5	ND	<0.1
M-4	7/25/2000	51	0.6	<0.5	13	64.6	ND	NA
M-4	8/22/2000	87	0.5	1.2	32	120.7	ND	1.66
M-4	11/17/2000	99	<0.5	0.5	5	104.5	ND	2.66
M-4	2/14/2001	94	<0.5	0.7	13	107.7	ND	3.37
M-4	5/31/2001	78	<0.5	<0.5	<0.5	78	ND	9.4
M-4	8/21/2001	30	<0.5	1.4	7.8	39.2	ND	5
M-4	11/29/2001	78	<0.5	11	78	167	ND	66
M-4	2/22/2002	34	<0.5	<0.5	3.4	37.4	ND	27.2
M-4	5/22/2002	51	<0.5	<0.5	2.2	53.2	ND	16
M-4	11/6/2002	1.2	<0.5	<0.5	0.7	1.9	ND	NA
M-4	2/27/2003	1.6	0.3	<0.5	1.3	3.200	ND	NA
M-4	5/28/2003	1.5	<1.0	<1.0	<3.0	1.500	ND	4.2

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M-4	8/20/2003	1.6	<1.0	<1.0	<3.0	1.600	ND	NA
M-4	11/24/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-4	2/26/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-4	5/19/2004	0.5	<1.0	<1.0	<3.0	ND	ND	NA
M-4	8/17/2004	4.4	<1.0	<1.0	<3.0	ND	ND	NA
M-4	11/17/2004	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-4	2/22/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-4	5/24/2005	3.7	<1.0	<1.0	<2.0	3.700	ND	NA
M-4	8/29/2005	1.2	<1.0	<1.0	<2.0	1.200	ND	NA
M-4	11/21/2005	3.3	<1.0	<1.0	<2.0	3.300	ND	<0.050
M-4	6/10/2010	147	<2.0	<2.0	139	286	ND	NA
M-5	9/8/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	10/5/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	11/11/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	12/16/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	1/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	2/10/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	3/7/1994	<0.5	<0.5	<0.5	<0.5	N/A	ND	NA
M-5	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
M-5	6/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
M-5	9/7/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	12/15/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	2/9/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	5/8/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	8/25/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	11/2/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	2/5/1996	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
M-5	5/28/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
M-5	8/6/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-5	10/29/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-5	11/21/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-5	2/19/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
M-5	5/28/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-5	8/21/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-5	8/21/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2

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M-5	2/18/1998	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
M-5	5/19/1998	<1.0	<1.0	<1.0	<3.0	<6	ND	<0.1
M-5	5/25/1999	0.5	0.5	0.5	1.5	3	ND	0.05
M-5	1/19/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-5	5/30/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-5	6/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-5	8/22/2000	43	<0.5	<0.5	<0.5	43	ND	NA
M-5	11/17/2000	2.6	<0.5	<0.5	<0.5	2.6	ND	NA
M-5	2/14/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-5	5/31/2001	0.6	<0.5	<0.5	<0.5	0.6	ND	NA
M-5	8/21/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-5	11/29/2001	5.6	<0.5	<0.5	<0.5	5.6	ND	NA
M-5	2/22/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
M-5	5/22/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
M-5	11/6/2002	<0.5	<0.5	<0.5	0.7	0.700	ND	NA
M-5	2/27/2003	NA	NA	NA	NA	NA	NA	NA
M-5	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	0.30
M-5	8/20/2003	NA	NA	NA	NA	NA	NA	NA
M-5	11/24/2003	NA	NA	NA	NA	NA	NA	NA
M-5	2/26/2004	NA	NA	NA	NA	NA	ND	NA
M-5	5/19/2004	<1.0	<1.0	<1.0	<3.0	NA	ND	NA
M-5	8/17/2004	NA	NA	NA	NA	NA	ND	NA
M-5	11/17/2004	NA	NA	NA	NA	NA	ND	NA
M-5	2/22/2005	NA	NA	NA	NA	NA	ND	NA
M-5	5/24/2005	<1.0	<1.0	<1.0	<2.0	NA	ND	NA
M-5	8/29/2005	NA	NA	NA	NA	NA	ND	NA
M-5	11/21/2005	<1.0	<1.0	<1.0	<2.0	NA	ND	NA
M-5	6/10/2010	<2.0	<2.0	<2.0	<6.0	NA	ND	NA
M-6	1/19/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	6/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	8/22/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	11/17/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	2/15/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	5/31/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	8/21/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA

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M-6	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	5/30/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	2/22/2002	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
M-6	5/22/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
M-6	11/6/2002	<0.5	0.4	1.1	1.3	2.800	ND	NA
M-6	2/27/2003	NA	NA	NA	NA	NA	NA	NA
M-6	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-6	8/20/2003	NA	NA	NA	NA	NA	NA	NA
M-6	11/24/2003	NA	NA	NA	NA	NA	NA	NA
M-6	2/26/2004	NA	NA	NA	NA	NA	ND	NA
M-6	5/19/2004	0.8	0.6	<1.0	<3.0	NA	ND	NA
M-6	8/17/2004	NA	NA	NA	NA	NA	ND	NA
M-6	11/17/2004	NA	NA	NA	NA	NA	ND	NA
M-6	2/22/2005	NA	NA	NA	NA	NA	ND	NA
M-6	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-6	8/29/2005	NA	NA	NA	NA	NA	ND	NA
M-6	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-6	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
M-7	2/27/2003	0.2	0.2	<0.5	0.9	1.3	ND	NA
M-7	5/28/2003	<1.0	<1.0	<1.0	1.3	1.3	ND	NA
M-7	8/20/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-7	11/24/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-7	2/25/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-7	5/19/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
M-7	8/17/2004	NA	NA	NA	NA	ND	ND	NA
M-7	11/17/2004	NA	NA	NA	NA	ND	ND	NA
M-7	2/22/2005	NA	NA	NA	NA	ND	ND	NA
M-7	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-7	8/29/2005	NA	NA	NA	NA	ND	ND	NA
M-7	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
M-7	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-1	9/7/1993	991	164	113	1111	2379	ND	NA
R-1	10/4/1993	1280	1328	74	799	3481	1"	NA
R-1	11/10/1993	242	322	15	93.9	673	ND	NA
R-1	12/15/1993	328	411	26.6	196	962	ND	NA

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R-1	1/12/1994	1830	1965	90.3	1053	4938	17"	NA
R-1	2/9/1994	1255	1504	42.3	730	3531	32"	NA
R-1	3/7/1994	7600	8500	280	2700	19080	4"	NA
R-1	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	10"	NA
R-1	6/13/1994	1450	1930	70	944	4394	11"	NA
R-1	9/7/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	2"	NA
R-1	12/15/1994	1890	2130	105	990	5115	TR	NA
R-1	8/25/1995	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	TR	NA
R-1	11/2/1995	2330	2400	108	946	5784	ND	NA
R-1	2/5/1996	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	0.24"	NA
R-1	5/28/1996	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	4.8"	NA
R-1	8/6/1996	2970	3080	130	1200	7380	TR	NA
R-1	10/28/1996	1690	1970	60.8	800	4520	ND	NA
R-1	11/20/1996	1240	1540	61.9	600	3450	ND	NA
R-1	2/19/1997	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	29.76"	NA
R-1	2/24/1999	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	.09'	NA
R-1	5/25/1999	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	TR	NA
R-1	1/20/2000	2500	3800	180	1900	8380	NO	NA
R-1	5/31/2000	2300	1000	120	2000	5420	TR	NA
R-1	6/26/2000	2400	690	150	2000	5420	TR	NA
R-1	7/26/2000	4900	2900	150	3100	11050	TR	NA
R-1	8/23/2000	2500	1400	180	2200	6280	TR	NA
R-1	11/20/2000	3500	2700	210	2900	9310	TR	NA
R-1	2/15/2001	120	<10	<10	190	310	NO	NA
R-1	6/1/2001	17	<2.5	<2.5	19	36	ND	NA
R-1	7/5/2001	17	1.8	1.2	18	38	ND	NA
R-1	8/23/2001	22	1.2	1	4.2	28.4	ND	NA
R-1	11/28/2001	100	17	3.9	24	144.9	ND	NA
R-1	2/21/2002	23	1.3	2.1	6.1	32.5	ND	NA
R-1	5/23/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-1	8/8/2002	0.4	2.5	1.2	2.4	6.5	ND	NA
R-1	11/6/2002	6	0.5	1.1	2.4	10	ND	NA
R-1	2/20/2003	0.5	2.2	1.7	5.7	10.1	ND	NA
R-1	5/29/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-1	8/20/2003	25.6	0.6	0.9	<3.0	27.1	ND	NA

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R-1	11/24/2003	18.0	<1.0	<1.0	<3.0	18.0	ND	NA
R-1	2/25/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-1	5/19/2004	13.0	<1.0	<1.0	<3.0	ND	ND	NA
R-1	8/17/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-1	11/17/2004	20.6	3.8	0.6	2.5	ND	ND	NA
R-1	2/22/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-1	5/24/2005	8.8	0.4	<1.0	<2.0	9.2	ND	NA
R-1	8/29/2005	6.0	0.40	<1.0	<2.0	6.4	ND	NA
R-1	11/21/2005	9.8	<1.0	0.4	0.9	ND	ND	NA
R-1	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-2	9/7/1993	278	651	59	538	1526	ND	NA
R-2	10/4/1993	509	789	73	741	2112	ND	NA
R-2	11/10/1993	284	470	38	401	1193	ND	NA
R-2	12/15/1993	529	864	65.3	709	2167	1"	NA
R-2	1/12/1994	1722	2501	150	1702	6075	24"	NA
R-2	2/9/1994	2806	3667	89.5	1520	8083	26"	NA
R-2	3/7/1994	5600	6800	290	2700	15390	4"	NA
R-2	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	7"	NA
R-2	6/13/1994	3210	3790	139	1670	8809	7"	NA
R-2	9/7/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
R-2	12/15/1994	1140	2200	148	1520	5008	0.6"	NA
R-2	8/25/1995	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	TR	NA
R-2	11/2/1995	1250	2030	116	1010	4406	TR	NA
R-2	2/5/1996	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	2.52	NA
R-2	5/28/1996	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	2.04"	NA
R-2	8/6/1996	2610	3960	165	1540	8275	0.72"	NA
R-2	10/28/1996	1100	2300	85.4	1100	4585	0.96"	NA
R-2	11/20/1996	428	1340	87.3	821	2680	0.48"	NA
R-2	2/19/1997	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	NA	NA
R-2	2/24/1999	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	0.07	NA
R-2	5/25/1999	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	TR	NA
R-2	1/20/2000	1200	2000	<130	1500	4700	NO	NA
R-2	5/31/2000	2300	3200	280	3000	8780	TR	NA
R-2	6/26/2000	1300	1300	79	1100	3779	TR	NA
R-2	7/26/2000	3600	3200	150	2300	9250	TR	NA

TABLE 1
Summary of Historical Groundwater Analytical Data
El Paso Corporation Jaquez Site, San Juan County, New Mexico

Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-2	8/23/2000	1600	1500	82	1100	4282	TR	NA
R-2	11/20/2000	770	1300	170	1500	3740	TR	NA
R-2	2/15/2001	620	400	43	440	1503	0.03	NA
R-2	6/1/2001	120	12	15	70	217	ND	NA
R-2	7/5/2001	39	31	18	220	308	ND	NA
R-2	8/23/2001	<2.5	22	22	310	354	ND	NA
R-2	11/28/2001	26	5.8	<5.0	85	116.8	ND	NA
R-2	2/21/2002	<20	1.0	<3.1	35	36	ND	NA
R-2	5/23/2002	<0.5	<0.5	2.4	30	32.4	ND	NA
R-2	8/8/2002	11.4	0.6	2	9.3	23.3	ND	NA
R-2	11/6/2002	19.8	0.6	1.6	7.6	29.6	ND	NA
R-2	2/20/2003	6.1	1.4	1.6	6.5	15.6	ND	NA
R-2	5/29/2003	<1.0	<1.0	<1.0	1.7	1.7	ND	NA
R-2	8/20/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-2	11/24/2003	<1.0	<1.0	<1.0	2.7	2.7	ND	NA
R-2	2/25/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-2	5/19/2004	1.2	2.1	<1.0	1.1	ND	ND	NA
R-2	8/17/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-2	11/17/2004	<1.0	<1.0	<1.0	1.1	ND	ND	NA
R-2	2/22/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-2	5/24/2005	<1.0	4.9	<1.0	1.3	6.2	ND	NA
R-2	8/29/2005	<1.0	<1.0	<1.0	1.2	1.2	ND	NA
R-2	11/21/2005	<1.0	<1.0	<1.0	1.1	1.1	ND	NA
R-2	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-3	9/7/1993	<2.0	61.4	22	207	290	ND	NA
R-3	10/4/1993	21	179	32	310	542	ND	NA
R-3	11/10/1993	6.19	27.7	10.4	89.2	134	ND	NA
R-3	12/15/1993	26	88.4	19.4	178	312	ND	NA
R-3	1/12/1994	4.4	2.9	2.7	18	28	ND	NA
R-3	2/9/1994	<2.0	10.9	8.3	59.6	79	ND	NA
R-3	3/7/1994	7.7	43	24	220	295	ND	NA
R-3	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
R-3	6/13/1994	3.03	41.4	18.4	188	251	ND	NA
R-3	9/7/1994	<2.5	18	6.9	67.9	93	ND	NA
R-3	12/15/1994	11.7	12.2	12.4	114	150	ND	NA

TABLE 1
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El Paso Corporation Jaquez Site, San Juan County, New Mexico

Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-3	2/9/1995	7.36	2.7	2.68	20.8	34	ND	NA
R-3	5/8/1995	16.6	11.7	13.9	126	168	ND	NA
R-3	8/25/1995	<2.5	15.2	13.6	101	130	ND	NA
R-3	11/2/1995	<2.5	14	9.3	82	105	ND	NA
R-3	2/5/1996	5.34	14	12.8	108	140	ND	NA
R-3	5/28/1996	1.05	18.7	22.9	203	246	ND	NA
R-3	8/6/1996	1.24	24.7	25.9	236	288	ND	NA
R-3	10/28/1996	<1.0	10.7	12.6	109	132	ND	NA
R-3	11/20/1996	<1.0	12.5	12.4	114	139	ND	NA
R-3	2/19/1997	2.12	1.9	2.29	12.6	19	ND	NA
R-3	5/28/1997	<1.0	15.3	13.5	130	159	ND	<1.2
R-3	8/21/1997	<1.0	20.8	18.6	176	215	ND	<1.2
R-3	11/10/1997	<1.0	13.6	17.2	149	180	ND	<1.2
R-3	2/18/1998	<1.0	<1.0	<1.0	<3	<6	ND	<1.2
R-3	5/19/1998	<1.0	11.9	12.5	125	150	ND	NA
R-3	5/25/1999	0.5	3.3	6.3	26	36	ND	NA
R-3	1/20/2000	<0.5	<0.5	0.5	5.2	5.7	ND	NA
R-3	5/31/2000	1	1.4	0.5	5.4	8.3	ND	NA
R-3	7/26/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	8/23/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	11/20/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	2/15/2001	2.2	<0.5	<0.5	<0.5	2.2	ND	NA
R-3	6/1/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	7/5/2001	<0.5	<0.5	<0.5	1.8	1.8	ND	NA
R-3	8/23/2001	1.3	<0.5	<0.5	<0.5	1.3	ND	NA
R-3	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	6/26/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-3	2/21/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-3	5/23/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-3	8/8/2002	<0.5	0.5	0.9	1	2.4	ND	NA
R-3	11/6/2002	<0.5	<0.5	<0.5	0.8	0.8	ND	NA
R-3	2/27/2003	NA	NA	NA	NA	NA	NA	NA
R-3	5/29/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-3	8/20/2003	NA	NA	NA	NA	NA	NA	NA
R-3	11/24/2003	NA	NA	NA	NA	NA	NA	NA

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Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-3	2/25/2004	NA	NA	NA	NA	NA	NA	NA
R-3	5/19/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-3	8/17/2004	NA	NA	NA	NA	NA	NA	NA
R-3	11/17/2004	NA	NA	NA	NA	NA	ND	NA
R-3	2/22/2005	NA	NA	NA	NA	NA	NA	NA
R-3	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-3	8/29/2005	NA	NA	NA	NA	NA	NA	NA
R-3	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-3	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-4	9/7/1993	104	267	39.9	370	781	ND	NA
R-4	10/4/1993	118	266	41	364	789	ND	NA
R-4	11/10/1993	93.6	132	40.4	347	613	ND	NA
R-4	12/15/1993	102	161	48.4	418	729	ND	NA
R-4	1/12/1994	124	101	38.5	353	617	ND	NA
R-4	2/9/1994	120	51.4	20.8	150	342	ND	NA
R-4	3/7/1994	150	63	20	190	423	ND	NA
R-4	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
R-4	6/13/1994	179	60.6	17.2	176	433	ND	NA
R-4	9/7/1994	238	102	26	218	584	ND	NA
R-4	12/15/1994	222	63.3	26.9	213	525	ND	NA
R-4	2/9/1995	273	61	20.4	165	519	ND	NA
R-4	5/8/1995	278	251	23.1	220	772	ND	NA
R-4	8/25/1995	646	278	50.8	544	1519	ND	NA
R-4	11/2/1995	343	60.4	35.1	284	723	ND	NA
R-4	2/5/1996	218	43.3	23.1	200	484	ND	NA
R-4	5/28/1996	716	199	36.6	394	1346	ND	NA
R-4	8/6/1996	384	156	24	275	839	ND	NA
R-4	10/28/1996	320	53.4	20.1	237	631	ND	NA
R-4	11/20/1996	289	31.2	19.3	220	560	ND	NA
R-4	2/19/1997	162	65.9	34.4	337	599	ND	NA
R-4	5/28/1997	189	92.5	13.3	144	439	ND	<1.2
R-4	8/21/1997	343	377	45.5	408	1174	ND	<1.2
R-4	11/10/1997	542	129	31.1	267	969	ND	<1.2
R-4	2/18/1998	98	15.9	10	79.3	203	ND	<1.2
R-4	5/19/1998	916	244	38.1	304	1502	ND	NA

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Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-4	5/25/1999	110	63	15	144	332	ND	NA
R-4	1/20/2000	280	89	60	690	1,119	ND	NA
R-4	5/31/2000	960	980	29	1900	3869	ND	NA
R-4	6/26/2000	950	1000	43	2500	4493	ND	NA
R-4	7/26/2000	520	400	50	1600	2570	ND	NA
R-4	8/23/2000	1500	1800	110	1800	5210	ND	NA
R-4	11/20/2000	590	580	110	1800	3080	ND	NA
R-4	2/15/2001	19	<10	<10	36	55	ND	NA
R-4	6/1/2001	3.4	0.5	<0.5	2.2	6.1	ND	NA
R-4	7/5/2001	370	85	<2.5	14	469	ND	NA
R-4	8/23/2001	86	20	<2.5	12	118	ND	NA
R-4	11/28/2001	79	0.5	1.5	13	94	ND	NA
R-4	2/21/2002	120	2.6	0.56	7.5	130.66	ND	NA
R-4	5/23/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-4	8/8/2002	<0.5	0.4	0.8	0.7	1.9	ND	NA
R-4	11/6/2002	15.8	0.6	0.9	20.9	38.2	ND	NA
R-4	2/20/2003	0.5	0.9	<0.5	2.4	3.800	ND	NA
R-4	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-4	8/20/2003	10.0	<1.0	<1.0	3.1	13.100	ND	NA
R-4	11/24/2003	6.1	<1.0	<1.0	1.1	7.200	ND	NA
R-4	2/25/2004	<1.0	<1.0	<1.0	<3.0	0.000	ND	NA
R-4	5/19/2004	10.0	<1.0	<1.0	4.2	14.200	ND	NA
R-4	8/17/2004	0.6	<1.0	<1.0	<3.0	0.580	ND	NA
R-4	11/17/2004	14.8	<1.0	0.5	3.1	18.360	ND	NA
R-4	2/22/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-4	5/24/2005	1.1	<1.0	<1.0	<2.0	1.100	ND	NA
R-4	8/29/2005	0.7	<1.0	<1.0	<2.0	0.700	ND	NA
R-4	11/21/2005	1.0	<1.0	<1.0	<2.0	1.000	ND	NA
R-4	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-5	9/7/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	10/4/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	11/10/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	12/15/1993	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	1/12/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	2/9/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA

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Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-5	3/7/1994	<0.5	<0.5	<0.5	<0.5	N/A	ND	NA
R-5	5/17/1994	NO TEST	NO TEST	NO TEST	NO TEST	NO TEST	ND	NA
R-5	6/13/1994	<2.0	<2.0	<2.0	<2.0	N/A	ND	NA
R-5	9/7/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	12/15/1994	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	2/9/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	5/8/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	8/25/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	11/2/1995	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	2/5/1996	<2.5	<2.5	<2.5	<2.5	N/A	ND	NA
R-5	5/28/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
R-5	8/6/1996	<1.0	<1.0	<1.0	<1.0	N/A	ND	NA
R-5	10/28/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
R-5	11/20/1996	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
R-5	2/19/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	NA
R-5	5/28/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
R-5	8/21/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
R-5	11/10/1997	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
R-5	2/18/1998	<1.0	<1.0	<1.0	<3.0	N/A	ND	<1.2
R-5	5/19/1998	<1.0	<1.0	<1.0	<3.0	<6	ND	NA
R-5	5/25/1999	0.5	0.5	0.5	1.5	3	ND	NA
R-5	1/20/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	5/31/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	6/26/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	8/23/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	11/20/2000	<0.5	<0.5	<0.5	0.9	0.9	ND	NA
R-5	2/15/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	6/1/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	7/5/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	8/23/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-5	2/21/2002	<0.5	<1.0	<0.5	<0.5	ND	ND	NA
R-5	5/23/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-5	8/8/2002	<0.5	0.4	0.9	0.9	2.2	ND	NA
R-5	11/6/2002	<0.5	<0.5	<0.5	0.8	0.8	ND	NA

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R-5	2/27/2003	NA	NA	NA	NA	NA	NA	NA
R-5	5/29/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-5	8/20/2003	NA	NA	NA	NA	NA	NA	NA
R-5	11/24/2003	NA	NA	NA	NA	NA	NA	NA
R-5	2/25/2004	NA	NA	NA	NA	NA	ND	NA
R-5	5/19/2004	<1.0	<1.0	<1.0	<3.0	NA	ND	NA
R-5	8/17/2004	NA	NA	NA	NA	NA	NA	NA
R-5	11/17/2004	NA	NA	NA	NA	NA	NA	NA
R-5	2/22/2005	NA	NA	NA	NA	NA	NA	NA
R-5	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-5	8/29/2005	NA	NA	NA	NA	NA	NA	NA
R-5	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-5	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA
R-6	1/20/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	5/31/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	6/26/2000	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	8/23/2000	<0.5	<0.5	2.6	13	15.6	ND	NA
R-6	11/20/2000	<0.5	<0.5	<0.5	0.5	0.5	ND	NA
R-6	2/15/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	6/1/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	7/5/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	8/23/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	11/28/2001	<0.5	<0.5	<0.5	<0.5	ND	ND	NA
R-6	2/21/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-6	5/23/2002	<0.5	<0.5	<0.5	<1.0	ND	ND	NA
R-6	8/8/2002	<0.5	0.4	0.9	1	2.3	ND	NA
R-6	11/6/2002	<0.5	<0.5	<0.5	0.9	0.9	ND	NA
R-6	2/27/2003	NA	NA	NA	NA	NA	NA	NA
R-6	5/28/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-6	8/20/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-6	11/24/2003	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-6	2/25/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-6	5/19/2004	<1.0	<1.0	<1.0	<3.0	ND	ND	NA
R-6	8/17/2004	NA	NA	NA	NA	ND	ND	NA
R-6	11/17/2004	NA	NA	NA	NA	ND	ND	NA

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Sample Location	Date Sampled	Benzene (µg/l)	Toluene (µg /l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	Floating Product (inches)	Nitrates (mg/l)
R-6	2/22/2005	NA	NA	NA	NA	ND	ND	NA
R-6	5/24/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-6	8/29/2005	NA	NA	NA	NA	ND	ND	NA
R-6	11/21/2005	<1.0	<1.0	<1.0	<2.0	ND	ND	NA
R-6	6/10/2010	<2.0	<2.0	<2.0	<6.0	ND	ND	NA

Notes:

MG/L = MILLIGRAMS PER LITER
UG/L = MICROGRAMS PER LITER
NA= NOT AVAILABLE (E.G., WELL WAS NOT SAMPLED ON THAT PARTICULAR DATE OR AN ANALYTE WAS NOT TESTED)
ND = NOT DETECTED
"<" = SPECIFIC ANALYTE NOT DETECTED AT THE REPORTING VALUE SHOWN IS THE RL.
Highlighted values exceed applicable groundwater standard concentrations required for closure.

FIGURES

FIGURES

Figures from the 2011 Excavation Report have been revised to include newer background aerial photos and to show previous additional excavation areas and property lines. No new field data have been collected since the 2010-2011 Excavation Report. Cross-sections included with the 2012 resubmittal are provided as Figures 5, 6, and 7.

Figure 1 Site Location

Figure 2 Jaquez Site Layout

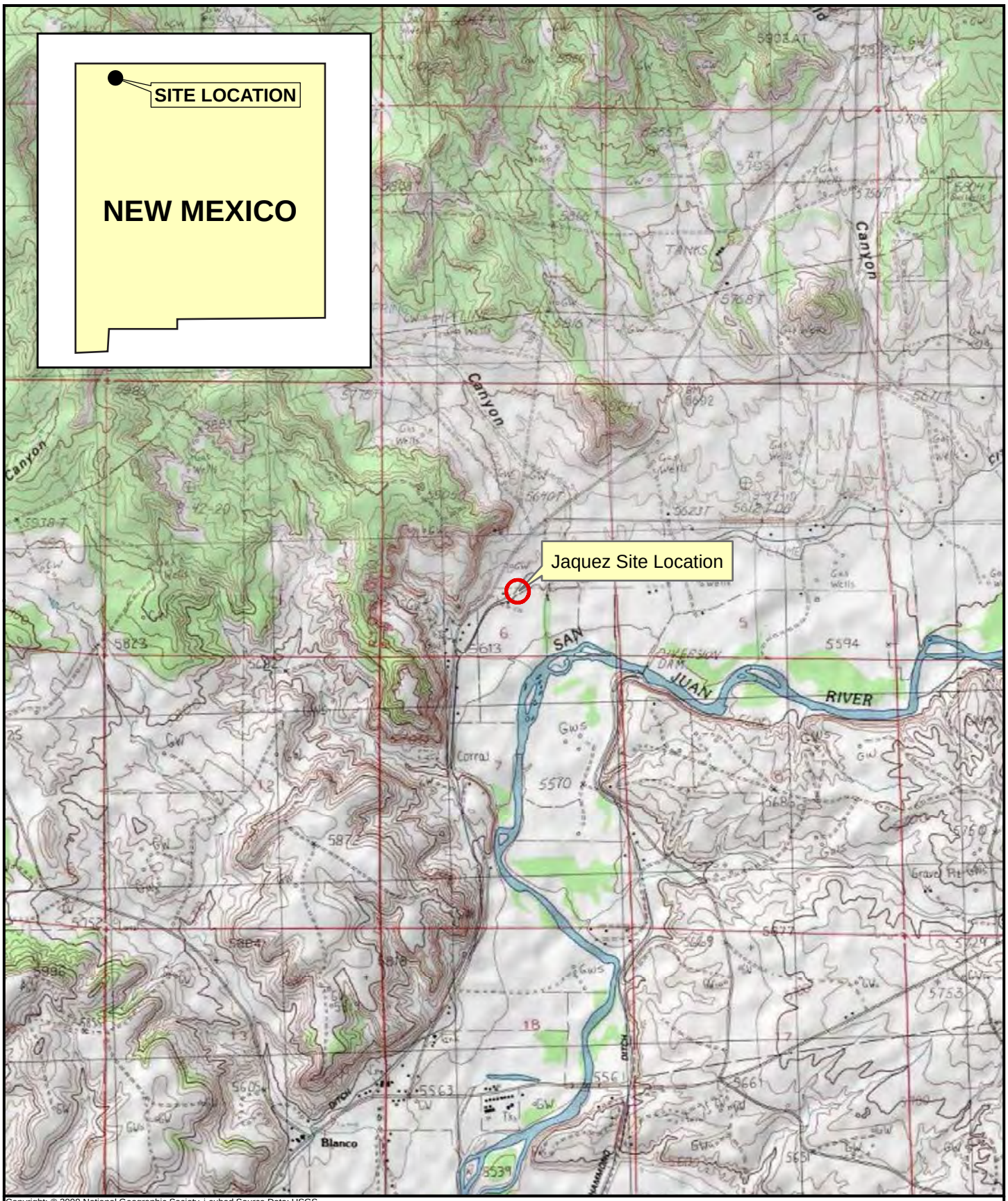
Figure 3 2010-2011 Excavation Area and Sample Locations

Figure 4 Confirmation Samples Exceeding NMOCD/NMWQCC Standards

Figure 5 Cross-Section A-A'

Figure 6 Cross-Section B-B'

Figure 7 Cross-Section C-C'



0 2,000 4,000 Feet

N

MWH

elpaso

PROJECT:	Jaquez Site
TITLE:	Site Location
FIGURE:	1

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\JAQUEZ\JAQUEZ SITE MAP.mxd

LEGEND:

- Monitoring Well
- Production Well
- Soil Boring
- Approximate Property Line
- Fence
- Former Pit
- Pipeline
- Excavation Area (02/28/2011)

NOTE:

Figure shows site features prior to 2010-2011 excavation.

Features shown based on field data and should be considered approximate.

Property lines estimated from San Juan County Assessor's on-line site and field observation of boundary lines.

N

SCALE IN FEET

0 60 120

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/8/2014	CCL	CCL	MA

TITLE:

JAQUEZ
SITE LAYOUT

PROJECT: SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 2

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\JAQUEZ\JAQUEZ_2010-2011 Excv_Areas.mxd

JAQUEZ BH-5
JAQUEZ BH-6
JAQUEZ BH-1
JAQUEZ BH-4
JAQUEZ-67(9)-010511
JAQUEZ BH-3
JAQUEZ-124(9)-021311
JAQUEZ-113(12)-021011
JAQUEZ BH-2
JAQUEZ-111(17)-021011
JAQUEZ-41(13)-122810
JAQUEZ-66(9)-010511
JAQUEZ-GW1-NORTH-121710
JAQUEZ-8(9)-121510
JAQUEZ-55(9)-010411
JAQUEZ-1(14)-121510
JAQUEZ-12(14)-121610
Limits of Previous Excavation
JAQUEZ-19(15)-122110
JAQUEZ-40(7)-010311
JAQUEZ-16(14)-121710
JAQUEZ-39(14)-122810
JAQUEZ-40(14)-122810
JAQUEZ-17(14)-121910
JAQUEZ-279(7)-022811
JAQUEZ-35(14.75)-122710
JAQUEZ-38(18)-122810
JAQUEZ-280(16)-022811
JAQUEZ-49(10)-010411
JAQUEZ-18(14)-122010
JAQUEZ-36(15)-122710
JAQUEZ-249(15)-022411
JAQUEZ-42(10)-010311
JAQUEZ-37(14)-122810
JAQUEZ-254(GW)-022511
JAQUEZ-22(15)-122110
JAQUEZ-248(8)-022411
JAQUEZ-32(11)-122210
JAQUEZ-24(15)-122110
JAQUEZ-232(19)-022311
JAQUEZ-25(20)-122110
JAQUEZ-23(15)-122110
JAQUEZ-247(6)-022411
JAQUEZ-226(13)-022311
JAQUEZ-31(9)-122210
JAQUEZ-33(14)-122210
JAQUEZ-213(20.5)-022211
JAQUEZ-265(12.5)-022511
JAQUEZ-115(4)-021111
JAQUEZ-114(9)-021111
JAQUEZ-264(22)-022511
JAQUEZ-219(17)-022211
JAQUEZ-199(25)-022111
JAQUEZ-132(6)-021411
JAQUEZ-220(10)-022211
JAQUEZ-179(10)-021811
JAQUEZ-148(12)-021711
JAQUEZ-138(6)-021611
JAQUEZ-143(7)-021611
JAQUEZ-169(6.5)-021811
JAQUEZ-178(5.5)-021811
JAQUEZ-157(7)-021811
JAQUEZ-133(GW)-021611
JAQUEZ-174(5)-021811
Limits of 2010-2011 Excavation
Limits of Previous Excavation
AERIAL IMAGE FROM GOOGLE EARTH, DATED 11/17/2013

LEGEND:

EXCAVATION AREA AND SAMPLE LOCS

- Borehole Soil Sample
- Sidewall Sample Later Overexcavated
- Floor or Sidewall Soil Sample
- Groundwater Sample
- Excavation Area (02/28/2011)

PREVIOUS SITE FEATURES

- Abandoned Monitoring Well
- Monitoring Well
- Fence
- Former Citizen's Ditch
- Former Pit
- Pipeline

NOTE:

Features shown based on field data and should be considered approximate

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/8/2014	CCL	CCL	MA

TITLE:

2010-2011 EXCAVATION AREA AND SAMPLE LOCATIONS

PROJECT: *SAN JUAN RIVER BASIN MONITORING AND REMEDIATION SAN JUAN COUNTY, NEW MEXICO*

MWH

Figure No.: 3

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\JAQUEZ\JAQUEZ_Confirmation_Exceeds.mxd

JAQUEZ-111(17)-02011 (Soil)		
Analyte	*Result*	*NMOCD Std.*
Total BTEX (µg/kg)	62,220.0	50,000
TPH-GRO (C6-C10)(mg/kg)	1,230.0	100
TPH (C10-C28)(mg/kg)	1,740.0	100
TPH (>C28-C40)(mg/kg)	506.0	100
Total TPH (mg/kg)	3,476.0	100

JAQUEZ-GW1-NORTH-121710 (Groundwater)		
Analyte	*Result*	*NMWQCC Std.*
Benzene (µg/l)	32.4	10

JAQUEZ-113(12)-02011 (Soil)		
Analyte	*Result*	*NMOCD Std.*
TPH (C10-C28) (mg/kg)	253.0	100
Total TPH (mg/kg)	471.9	100

JAQUEZ-66(9)-010511 (Soil)		
Analyte	*Result*	*NMOCD Std.*
Total BTEX µg/kg	57,400.0	50,000
TPH-GRO (C6-C10)(mg/kg)	600.0	100
TPH (C10-C28)(mg/kg)	286.0	100
Total TPH (mg/kg)	924.0	100

Limits of Previous Excavation

JAQUEZ-143(7)-021611 (Soil)		
Analyte	*Result*	*NMOCD Std.*
TPH-GRO (C6-C10) (mg/kg)	844.0	100
Total TPH (mg/kg)	911	100

JAQUEZ-133(GW)-021611 (Groundwater)		
Analyte	*Result*	*NMOCD Std.*
Benzene (µg/l)	301.0	10
Total Xylenes	1,560	620

Limits of Previous Excavation

Limits of 2010-2011 Excavation

AERIAL IMAGE FROM GOOGLE EARTH, DATED 11/17/2013

LEGEND:

EXCAVATION AREA AND SAMPLE LOCS

- Borehole Soil Sample
- Sidewall Sample Later Overexcavated
- Floor or Sidewall Soil Sample
- Groundwater Sample
- Excavation Area (02/28/2011)

PREVIOUS SITE FEATURES

- Abandoned Monitoring Well
- Monitoring Well
- Fence
- Former Citizen's Ditch
- Former Pit
- Pipeline

NOTE:

Features shown based on field data and should be considered approximate

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/8/2014	CCL	CCL	MA

TITLE:

CONFIRMATION SAMPLES EXCEEDING NMOCD/NMWQCC STANDARDS

PROJECT: SAN JUAN RIVER BASIN MONITORING AND REMEDIATION SAN JUAN COUNTY, NEW MEXICO

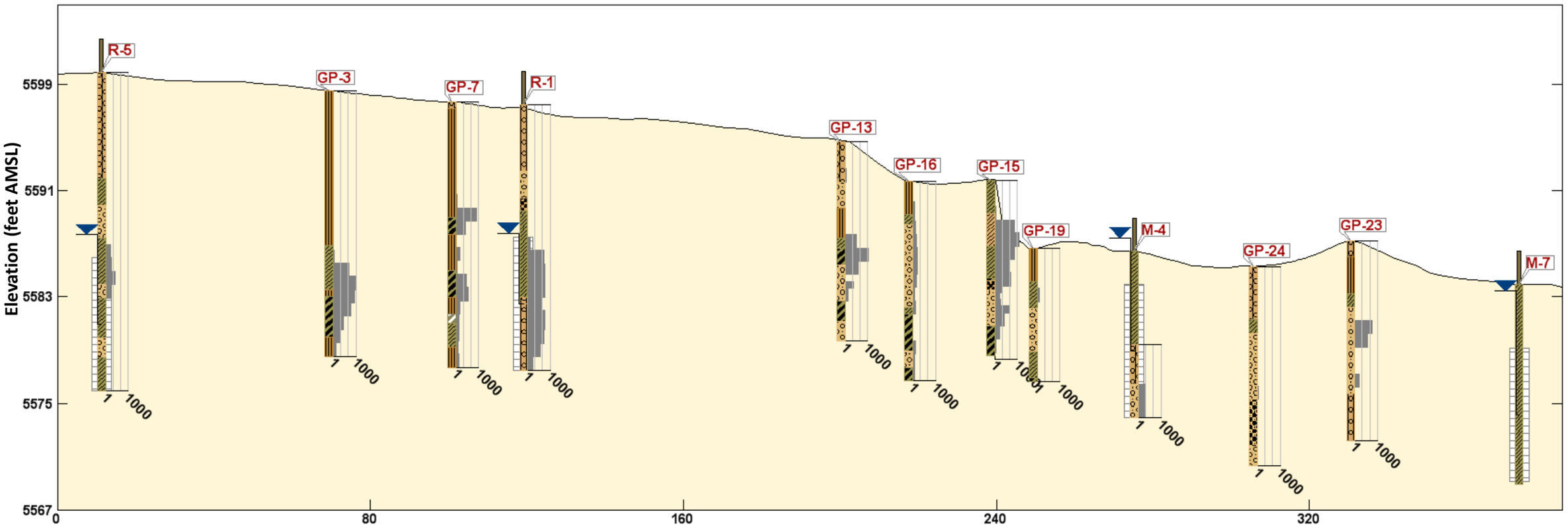
MWH

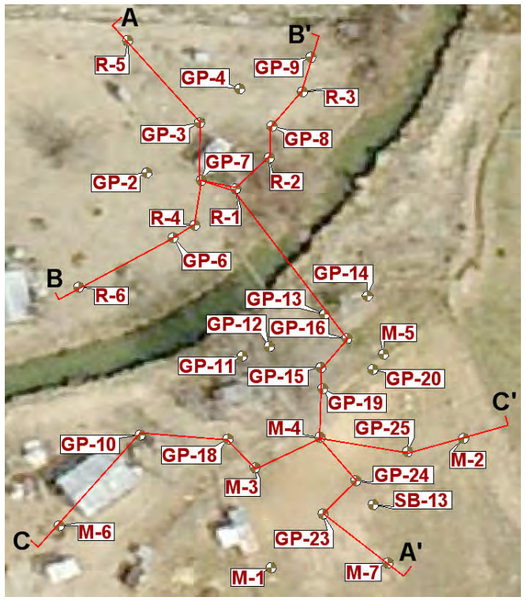
Figure No.: 4

FILENAME: Jaquez wells.pptx DATE: 02/16/2012

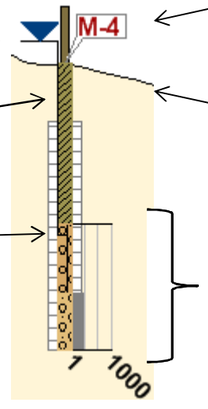
A

A'





LEGEND:



- WELL/BOREHOLE ID
- APPROXIMATE GW ELEVATION JUNE 2010
- APPROXIMATE GROUND SURFACE ELEVATION
- USCS GROUP
- WELL SCREEN
- HEADSPACE GAS PID READING (PPMV) SHOWN ON A LOG SCALE

USCS GROUP

- SW
- SP/SM
- SM
- SC
- SC/CL
- ML
- CL
- CH
- CH/CL

NOTES:

- AERIAL PHOTOGRAPH BY PICTOMETRY; FLOWN FEBRUARY 2009
- PID DATA SHOWN IN UNITS OF PPMV, OR PARTS PER MILLION BY VOLUME IN THE SOIL HEADSPACE VAPOR. BAR CHART NOT SHOWN IF DATA WERE NOT AVAILABLE.
- GROUND SURFACE IS APPROXIMATE
- CITIZENS DITCH NOT SHOWN IN ABOVE PROFILE
- FT AMSL – FEET ABOVE MEAN SEA LEVEL
- NO PID SCREENING WAS DOCUMENTED AT M-7.

TITLE

CROSS-SECTION A-A'

PROJECT

JAQUEZ SITE
EL PASO CORPORATION

elpaso MWH

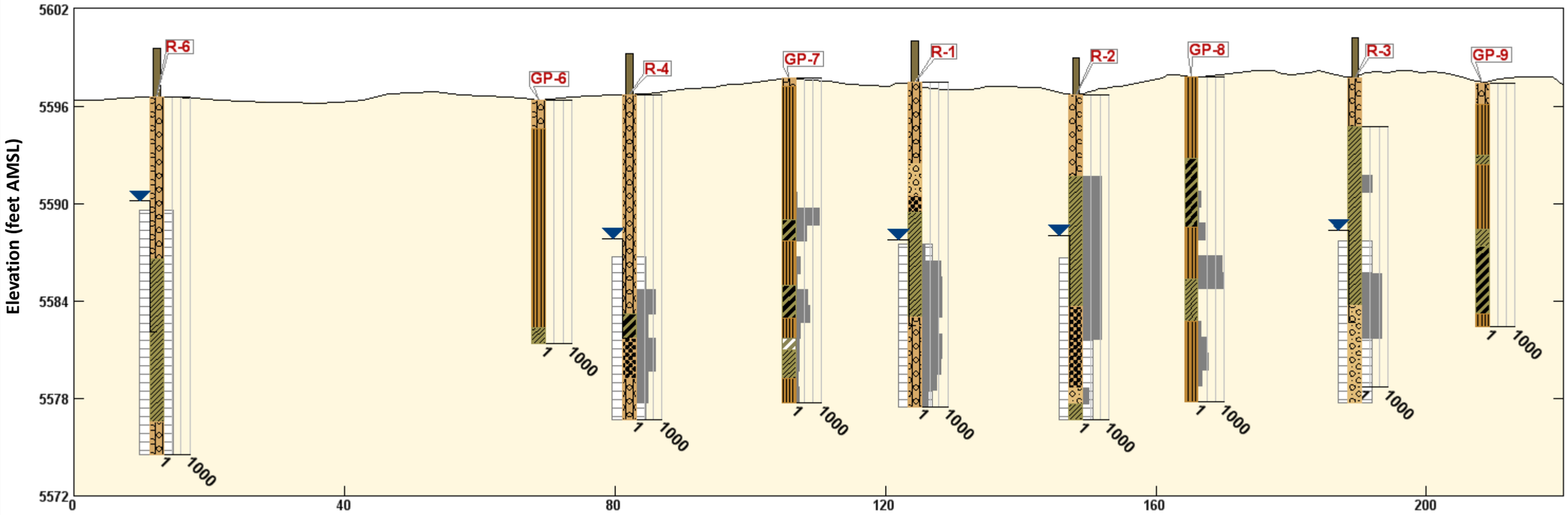
FIGURE

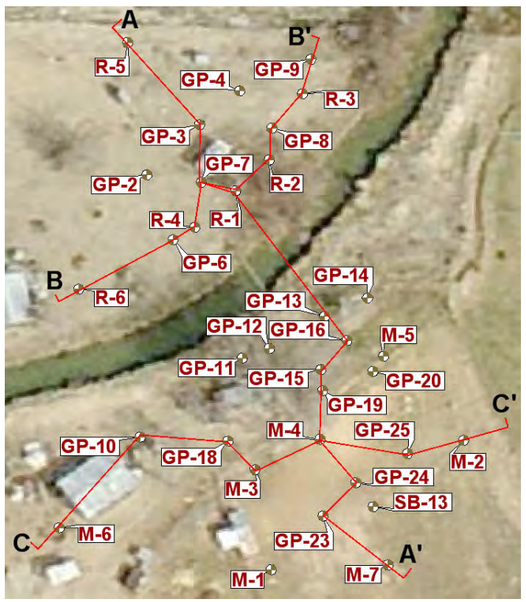
5

FILENAME: Jaquez wells.pptx DATE: 02/16/2012

B

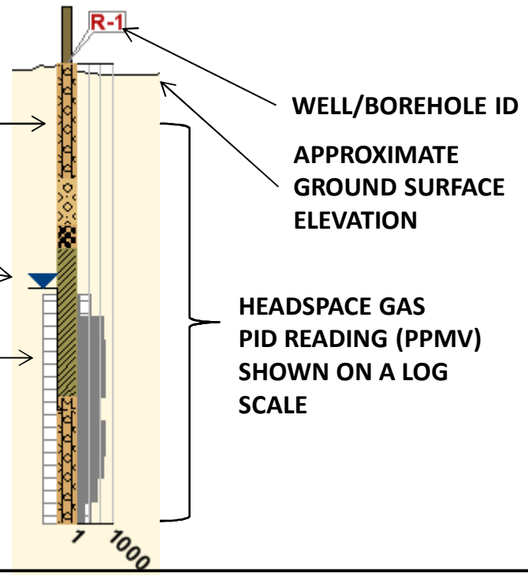
B'





Horizontal Distance (feet)

LEGEND:



USCS GROUP →

APPROXIMATE GW ELEVATION JUNE 2010 →

WELL SCREEN →

WELL/BOREHOLE ID

APPROXIMATE GROUND SURFACE ELEVATION

HEADSPACE GAS PID READING (PPMV) SHOWN ON A LOG SCALE

USCS GROUP
SW
SM
SC
ML
CL
CH
CH/CL

NOTES:

- AERIAL PHOTOGRAPH BY PICTOMETRY; FLOWN FEBRUARY 2009
- PID DATA SHOWN IN UNITS OF PPMV, OR PARTS PER MILLION BY VOLUME IN THE SOIL HEADSPACE VAPOR
- GROUND SURFACE IS APPROXIMATE
- CITIZENS DITCH NOT SHOWN IN ABOVE PROFILE
- FT AMSL – FEET ABOVE MEAN SEA LEVEL

TITLE

CROSS-SECTION B-B'

PROJECT

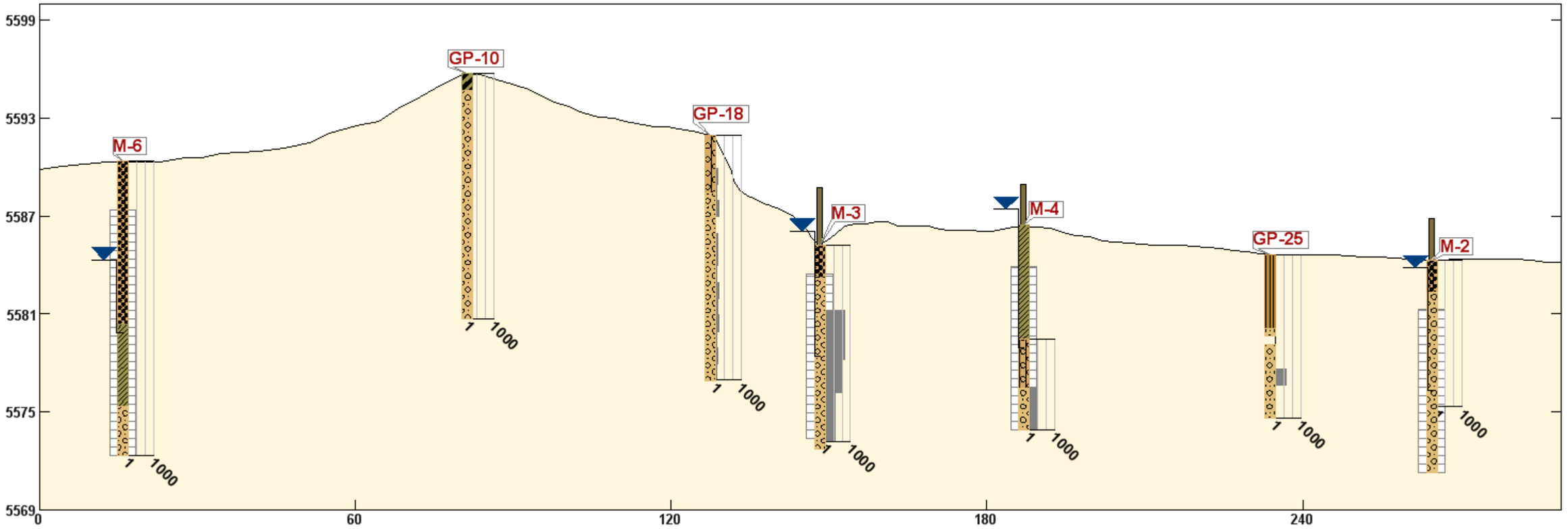
JAQUEZ SITE
EL PASO CORPORATION

elpaso MWH

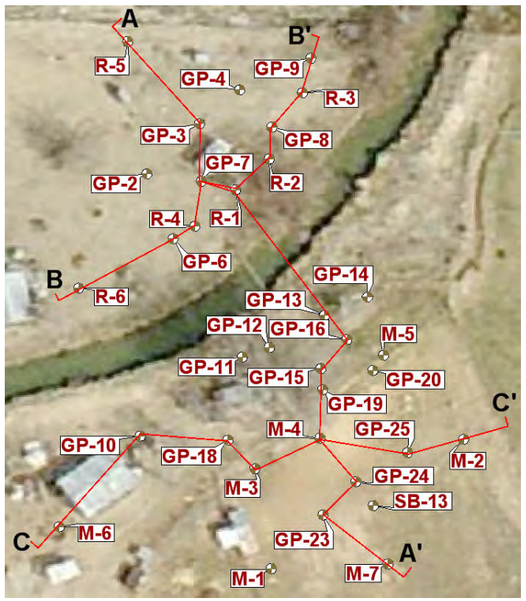
FIGURE 6

C

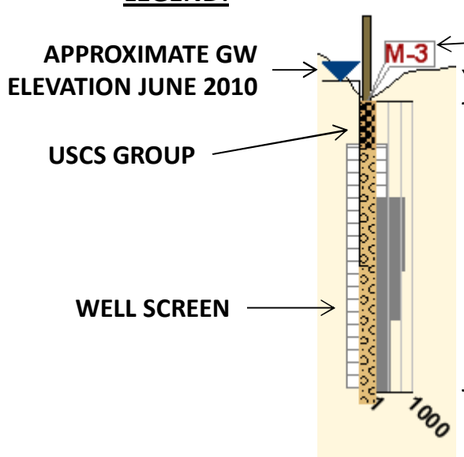
C'



Horizontal Distance (feet)



LEGEND:



USCS GROUP
SW
SM
SC
ML
CL
CH

NOTES:

- AERIAL PHOTOGRAPH BY PICTOMETRY; FLOWN FEBRUARY 2009
- PID DATA SHOWN IN UNITS OF PPMV, OR PARTS PER MILLION BY VOLUME IN THE SOIL HEADSPACE VAPOR
- GROUND SURFACE IS APPROXIMATE
- CITIZENS DITCH NOT SHOWN IN ABOVE PROFILE
- FT AMSL – FEET ABOVE MEAN SEA LEVEL

TITLE

CROSS-SECTION C-C'

PROJECT

JAQUEZ SITE
EL PASO CORPORATION

elpaso MWH

FIGURE 7

APPENDIX A

APPENDIX A

SUMMARY OF SITE REMEDIAL ACTIVITIES

November and December 1992 – In November 1992, the Jaquez Gas Com C#1 & E#1 site (Site) landowner, Mr. John Jaquez, expressed concern regarding potential petroleum-related impacts based on discolored soil in a cornfield south of Bloomfield Citizens' Irrigation Ditch (Citizens' Ditch). El Paso Natural Gas Company (EPNG) collected soil samples and performed a pressure test on the two underground pipelines running through the cornfield. No pressure loss was noted during the 16-hour test. Impacts were detected in a soil sample collected in the southeast corner of the cornfield. However, the sample collected closest to EPNG facilities was not impacted. For this reason, and because the EPNG pipelines passed the pressure test, EPNG stated the impacts were not due to their operations or equipment and planned no further actions. A minor excavation was conducted in December 1992; however, no map of this excavation was located.

March 1993 – A March 15, 1993 letter from the New Mexico Oil Conservation District (NMOCD) to EPNG stated the soil samples collected in the garden area had benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations above state standards and the abandoned dehydrator pits, which serviced meter runs for Jaquez C#1 and E#1, apparently were the source. The letter stated excavation in the area by EPNG crews on December 11, 1992 proved the presence of residual hydrocarbons near the abandoned dehydrator pits and directed EPNG to define the extent of – and remediate – the impacts. The letter also directed EPNG to address groundwater, given the proximity to Citizens' Ditch. The letter named EPNG as the responsible party for the remediation.

A preliminary soil and groundwater investigation was conducted in March 1993. Soil and groundwater samples were collected at various depths from 37 probe holes (10 probe holes were located on the north side and 27 probe holes were located on the south side of Citizens' Ditch) and analyzed for BTEX and total petroleum hydrocarbons (TPH). The soil benzene regulatory limit (10 parts per million [ppm]) was not exceeded by any soil sample collected during the investigation. The soil TPH regulatory limit (100 ppm) was exceeded at six locations on the north side of Citizens' Ditch at depths ranging from 8 to 20 feet below ground surface (bgs), and at seven locations in the cornfield area south of Citizens' Ditch at depths ranging from 2 to 7 feet bgs. The soil total BTEX regulatory limit (50 ppm) was also exceeded south of Citizens' Ditch at one location.

The groundwater benzene regulatory limit (10 parts per billion [ppb]) was exceeded on the north side of Citizens' Ditch at four locations at concentrations ranging from 11 to 538 ppb, and in the cornfield south of Citizens' Ditch at three locations at concentrations ranging from 148 to 1,100 ppb. Also noteworthy, the groundwater toluene regulatory limit (750 ppb) was exceeded on the north side of Citizens' Ditch at one location with a concentration of 846 ppb.

Areas of impact identified by the investigation included the southwest corner of the cornfield which was attributed to a tank vent anchored in that area, an anomalous area in the southeast

corner of the cornfield deemed to be from a separate source from that found on the north side of the field (two corroded underground pipelines were subsequently found in this corner during excavation), an area of free product on the north side of Citizens' Ditch at probe holes PH-9 and PH-10, and groundwater impacts which appeared to be relatively localized.

May 1993 – Results of the preliminary investigation were discussed with the NMOCD at a May 18, 1993 meeting.

June 1993 – On June 25, 1993, EPNG submitted a remedial plan to the NMOCD. The major components of the plan included excavation, installation of recovery/monitoring wells to provide information about the groundwater flow direction and hydraulic gradient, and installation of a passive interceptor trench. The remedial goal for the north side of Citizens' Ditch was to remove as much of the impact from the old pit as practical. The remedial goal for the cornfield area south of Citizens' Ditch was to remove as much impacted soil and groundwater as practical. The accompanying remedial plan cover letter indicated that if EPNG did not immediately initiate and complete remedial action, it should not be construed as a waiver of its rights to contribution from any other responsible party.

July 1993 – In a July 2, 1993 letter, the NMOCD approved the remediation plan with conditions. The main condition being that following excavation, final soil samples would be collected to confirm compliance with recommended remediation levels as contained in the NMOCD's February 1993 Unlined Surface Impoundment Closure Guidelines.

August and September 1993 – Remediation activities were completed between August 9 and September 10, 1993 and were documented in the 1993 Completion Report received by the NMOCD in October 1993.

Remediation of the north side of Citizens' Ditch: Approximately 1,000 cubic yards (CY) were excavated north of Citizens' Ditch. All impacted soil was removed from the Site. The majority of this excavation was completed to a depth of 16 feet where groundwater began to enter the excavation. The southern edge of the excavation was excavated to 13 feet due to shallow groundwater. The southern boundary of the excavation was a staked line 30 feet north of the north bank of Citizens' Ditch. Free product was observed seeping into the southeastern corner of the excavation at approximately 12 feet bgs.

Excavation sample analysis indicated the north wall (at PH-7), the floor of the excavation on the north side at 16 feet, and the south end of the west wall were characterized as clean. Based on visual inspection, soil staining and odor, the south end of the east wall, the floor of the excavation along the south end, and the south wall were "highly contaminated." The extent of this excavation was defined by the Jaquez C#1 and E#1 meter runs on the west and east, respectively, probe hole PH-7 on the north, and the 30-foot offset from Citizens' Ditch.

Five 4-inch monitoring wells (R-1 through R-5) were installed following the excavation, with R-1 and R-2, respectively, installed where free product was noted at PH-9 and PH-10. The wells were sampled on September 7 and 8, 1993. No free product was present. R-1 (991 ppb), R-2 (278 ppb), and R-4 (104 ppb) exceeded the benzene regulatory limit. Groundwater depth in the

five wells ranged from approximately 12 feet bgs (R-2) to 15.5 feet bgs (R-5), with an average depth to water of 13.2 feet bgs north of Citizens' Ditch.

Remediation of the cornfield area south of Citizens' Ditch: Approximately 2,950 CY of soil were excavated from the cornfield area and 3,200 barrels (130,000 gallons) of groundwater were removed from the excavation over a two-week period. All impacted soil and groundwater was removed from the Site. The excavation was completed to a depth of 7 feet with groundwater encountered at 4 feet. Impacted soil was observed near the surface at the north end of the excavation and increased to a depth of approximately 3 to 4 feet bgs as the excavation moved south. In the southeastern corner of the excavation, two 2-inch-diameter, underground, open-ended pipelines showing holes and signs of significant corrosion were discovered. Pieces of what appeared to be a drum were also found near the end of one of the pipelines. One pipeline was traced back to a nearby Amoco drip tank, stopping at the base of the tank. The other pipeline was traced back to the area near the Jaquez C#1 wellhead. EPNG stated it believed the lines were the source of the anomalous plume identified in this area during the March 1993 investigation.

Excavation soil sample analysis indicated the north wall remained impacted due to the practical limits of the excavation, the east half of the south wall exceeded the TPH limit, and a relatively small area on the floor in the southeastern corner (coinciding with the discovered underground pipelines) remained impacted. The east and west walls were characterized as clean. However, verification resampling of a small area of impact near the north end of the east wall after additional excavation was inadvertently omitted, and two isolated areas on the west wall appeared to remain impacted. For these walls, the report stated, "soil samples/information from the investigation indicate these areas to be at the edge of the plume." Samples were collected at various locations on the floor of the excavation at depths ranging from 3 to 5 feet bgs. The extent of this excavation was defined on the north by a fence at the toe of the south bank of Citizens' Ditch, on the south by the north edge of the Jaquez C#1 well pad, on the east by probe hole PH-12, and on the west by probe hole PH-22.

A passive interceptor trench was installed along the fence at the toe of the south bank of Citizens' Ditch to prevent migration of impacts from the north. The system consisted of two 4-inch slotted pipes in gravel installed just above the water table. The system was driven by five rotary wind turbines. Per the December 2000 System Evaluation Report, the trench pipes were installed at approximately 4 feet bgs.

Five 4-inch monitoring wells (M-1 through M-5) were installed following the excavation. Three of the wells were installed downgradient of the interceptor trench, and a control well was installed on each side of the cornfield. The wells were sampled on September 7 and 8, 1993. No free product was present. M-3 (116 ppb) and M-4 (213 ppb) exceeded the benzene regulatory limit. Groundwater depth in the five wells ranged from approximately 2.7 feet bgs (M-4) to 4.3 feet bgs (M-3), with an average depth of 3.5 feet bgs.

The 1993 Completion Report noted the base of Citizens' Ditch was approximately 3.5 to 4.5 feet lower than water levels north of Citizens' Ditch, and 4.5 to 6.5 feet lower than water levels south of Citizens' Ditch, indicating a possible discharge from Citizens' Ditch. The groundwater

gradient north of Citizens' Ditch was shown as gradual, while the gradient was much steeper south of Citizens' Ditch. The 1993 Completion Report concluded excavation on the north side of Citizens' Ditch and in the cornfield/garden area removed the majority of the impacted soil. Impacted soil left on the north side was minimal and within 10 feet of the edge of the plume on the west and east sides of the excavation. In the cornfield/garden area, excavation was beyond or at the edge of impacts in all areas except for the northern wall. The report stated the two underground pipelines were the source of the isolated impacts in the southeastern corner of the field and directly related to the wellhead facilities.

October 1993 to October 1996 – Free product was observed in monitoring wells R-1 and R-2 during the months of seasonally low groundwater levels (i.e., January through May). Passive skimmer systems were installed to remove free product during periods of accumulation from October 1993 to October 1996.

September 1996 – In September 1996, a semi-annual report for the Site recommended adding oxygenates and nutrients via the passive trench to enhance bioremediation and stabilize benzene concentrations at M-3 and keep benzene concentrations at M-4 below the regulatory level. The report also recommended a pump test be conducted in and around R-1 and R-2 to depress the water table in an effort to remove free product. The report described the lithology on the north side of Citizens' Ditch as fine to coarse-grained unconsolidated sand to a depth of 8 feet bgs, underlain by a clay unit to a depth of 14 feet bgs, underlain by a coarse-grained unconsolidated sand unit to 20 feet bgs. South of Citizens' Ditch, the clay is absent and the subsurface is an unconsolidated medium to coarse-grained sand. Monitoring wells R-1 and R-2 were screened across the lower coarse-grained sand and up into the clay unit. Free product was first encountered at the top of the lower coarse-grained sand, indicating the sand is a secondary source of free product. When the water table is high (summer/irrigation season), it is well into the clay unit, locally semi-confined, and free product does not migrate into the clay but remains trapped beneath it. When the water table is low (fall/non-irrigation) and the aquifer is unconfined, the water level is within the coarse-grained sand unit and free product accumulates.

November 1996 – On November 5, 1996, a pumping test was initiated at R-1 and lasted for ten days. Despite the distance from R-1, a significant influence was noted in the monitoring wells south of Citizens' Ditch. The water level in most wells was depressed 1 foot which indicated hydraulic communication across Citizens' Ditch was occurring. Likewise, monitoring wells north of Citizens' Ditch were affected, with R-3 and R-4 showing a greater than 1-foot depression in water level. However, recovery of free product was limited on the north side of Citizens' Ditch due to the low permeability of the clay unit and BTEX compounds remaining in the saturated zone on the south side of Citizens' Ditch were probably bound in clay particles within the saturated zone. In summary, a "waiting to see" approach was recommended to see if free product returned with seasonal low water levels. If free product did return, the installation of passive skimmers was recommended. Approximately 15,000 gallons of water were removed from R-1 during the pumping test.

December 1996 – On December 19, 1996, approximately 500 gallons of urea nitrate solution was injected into the passive trench and magnesium peroxide socks were installed in monitoring wells M-3 and M-4 to supply oxygen to enhance natural biodegradation.

February and April 1997 – Belt skimmers were installed in R-1 and R-2 to remove free product in February and April 1997. The skimmers were periodically shut down over the next year due to the seasonal reduction in product thickness caused by local irrigation and high groundwater.

November 1997 – On November 4, 1997, two temporary monitoring wells were installed inside the excavated area north of R-1 to test for the presence of free product. The first boring was advanced 10 feet north of R-1 and unexpectedly did not appear to be in the excavation backfill based on soils encountered. The second boring was drilled 10 feet north of the first boring and encountered what appeared to be backfill material. No free product was noted during drilling. On November 19, 1997, the two temporary wells were plugged and abandoned.

March 1998 – In March 1998, an annual report recommended annual instead of quarterly sampling of M-1, M-2, M-5, and R-5, since their BTEX levels had remained below standards since sampling was initiated; and to continue sampling M-3 and M-4 quarterly for BTEX and nitrate. Quarterly nitrate sampling had been implemented to help determine the effects of nutrient injection on the south side of Citizens' Ditch. Annual groundwater polynuclear aromatic hydrocarbon (PAH) analysis would continue.

July 1998 – Five-hundred gallons of urea nitrate solution were injected into the passive vent system and fresh magnesium peroxide socks were installed in monitoring wells M-3, M-4, R-3, and R-4 in July 1998.

November 1998 – In November 1998, El Paso Field Services (EPFS) conducted an investigation of a possible hydrocarbon seep into the surface water of an arroyo to the south of the property. No hydrocarbons were found during this investigation and no map of the area of concern was located.

March 1999 – In March 1999, an annual report recommended sampling R-3 and R-4 annually since BTEX levels had remained below limits since sampling was initiated. Quarterly sampling of R-4 was recommended once BTEX concentrations were below standards. R-1 and R-2 were recommended not to be sampled until free product was removed. The annual report also recommended evaluating the feasibility of using AS and bioventing technology on the north side of the Site.

June 1999 – On June 25, 1999, EPFS submitted a soil and groundwater remediation work plan to the NMOCD for a pilot study of AS on the north side of Citizens' Ditch. Also, on June 25, 1999, the landowner encountered discolored soils at a depth of 8 to 12 inches, south of Citizens' Ditch while plowing. On June 30, 1999, EPFS and the NMOCD were on site to collect soil and groundwater samples from the east-central portion of the cornfield (west and north of M-2). Soil samples were collected at 4 feet bgs, as depth to groundwater was 4.5 feet bgs, and a groundwater sample was collected at approximately 7.5 feet bgs. All of these samples were below laboratory detection limits. Samples were also collected north of the cornfield excavation area at 4 feet bgs. Soil samples collected between M-3 and M-4 had BTEX and TPH concentrations exceeding NMOCD levels. The area west of M-3, pointed out by Mrs. Jaquez as having discolored soils, was below laboratory detection limits. A soil and groundwater sample

collected midway between M-1 and M-4 showed the soil was below laboratory detection limits, but the groundwater sample exceeded the benzene and total BTEX regulatory limits.

July 1999 – A July 22, 1999 letter from the NMOCD to EPFS approved the June 1999 pilot study work plan. The letter also directed EPFS to submit a work plan for investigation of potential soil impacts identified by the landowner (June 25, 1999 discovery), and install additional monitoring wells downgradient of monitoring wells R-4 and M-3.

August 1999 – On August 13, 1999, EPFS submitted a report summarizing the June 30, 1999 activities in response to the landowner's discovery. The submittal also included a Work Plan for Potential Soil Contamination Investigation and Monitoring Well Installation which was prompted by the landowner's discovery. The work plan indicated a monitoring well would be installed 25 to 35 feet southwest of R-4 at a location assumed to be out of the impacted area. With respect to the approved pilot test, one air sparge (AS) well, one soil vapor extraction (SVE) point, and three monitoring points were installed, and an AS/SVE pilot test was performed north of Citizens' Ditch.

September 1999 – In a September 22, 1999 letter, the NMOCD approved the August 13, 1999 work plan.

October 1999 – On October 13, 1999, EPFS submitted a soil and groundwater remediation pilot test report to the NMOCD. Based on the results of the pilot study, EPFS stated it appeared SVE would be a viable remediation technology for the Site. The final system design included two additional sparge wells, two monitoring wells, three shallow soil borings, and five well points for obtaining soil gas information.

November 1999 – A November 29, 1999 facsimile from the landowner to the NMOCD stated that on November 24, 1999, at the landowner's request, EPFS excavated a 100-foot long, 3-foot wide, by 3.5 to 6-foot deep test trench across the garden area south of Citizens' Ditch. Six soil samples were collected from the trench just above the groundwater. All six samples were below laboratory detection levels. One sample, TT-03, located on the western end of the trench in an area not remediated because of a nearby drain field (septic) line did have a photoionization detector (PID) reading of 423 ppm. The trench was backfilled with the excavated material.

December 1999 – A December 21, 1999 letter from the NMOCD to EPFS approved the October remediation pilot test report and August 1999 work plan for installation of an AS/SVE system. On December 22, 1999, the trench previously excavated on November 24, 1999 was extended to the west and four additional soil samples were collected. Four additional trenches were also excavated on the north side of Citizens' Ditch, west and northwest of R-4, because Mr. Jaquez was concerned that in the past, an old pit had been located outside of the previously remediated area. These four trenches were 21 to 53 feet long and 9.5 to 10 feet deep. Six soil samples were collected from the trenches. Analytical results for the extended trench south of Citizens' Ditch showed that BTEX and TPH were below detection limits except for a re-sample of TT-03, which had exhibited a TPH concentration of 2,180 ppm, exceeding the NMOCD limit. A 10-foot strip of impacted soil in the northwest corner of the garden area appeared to remain on site at the western end of the November 24, 1999 trench near the "small orchard." All

analytical results for samples collected from the trenches north of Citizens' Ditch were below detection levels. No evidence of a former pit was observed during the exploratory trenching. All trenches were backfilled with the excavated material.

January 2000 – On January 11 and 12, 2000, EPFS installed two additional downgradient monitoring wells (R-6 and M-6) as requested by the landowner and the NMOCD. On January 13, 2000, EPFS submitted recent soil investigation results and an amended Work Plan for Potential Soil Contamination Investigation and Monitoring Well Installation. The original work plan of August 13, 1999, and approved on September 22, 1999, was amended based on observations and sample analysis from the test trenches excavated north and south of Citizens' Ditch. The amended work plan called for the installation of two monitoring wells to observe potential impacts to groundwater that might be the result of impacted soil left in place under the Amoco pipeline, and stated EPFS had contacted Amoco for pressure testing of the Amoco lines. The work plan also included sampling an on-site irrigation well. Also in January 2000, EPFS began AS north of Citizens' Ditch.

February 2000 – On February 3, 2000, EPFS sampled the existing 6-inch irrigation well, as requested by the landowner and the NMOCD. Citizens' Ditch sediment sampling was conducted on February 18, 2000.

February 2000 – Free product was detected for the last time at the Site in R-1 (0.09 foot thick) and R-2 (0.07 foot thick) in February 2000.

April 2000 – In an April 5, 2000 letter from EPFS to the NMOCD, the results of Citizens' Ditch sediment sampling were relayed. All six sediment samples, collected along Citizens' Ditch when it had been drained for maintenance, were below laboratory detection levels.

May 2000 – In a letter dated May 15, 2000, the NMOCD approved the recent soil investigation results and amended work plan with conditions. The conditions required EPFS to sample surface water in Citizens' Ditch upgradient and downgradient of the Site quarterly for BTEX. Vapor extraction also began in May 2000 on the north side of Citizens' Ditch.

June 2000 – In June 2000, El Paso Tennessee Pipeline Company (EPTPC) collected a series of air samples from the effluent of the SVE system for calculating the total estimated emissions, sampled surface water from Citizens' Ditch, removed approximately 204 CY of soil from a 6-foot deep excavation in the northwestern corner of the garden area, and injected 70 gallons of urea nitrate mixed with 600 gallons of potable water into the passive vent system south of Citizens' Ditch. During excavation, the areas north and east of M-3 were observed as being impacted from 3.5 to 5.5 feet bgs. Backfilling of the excavation included placing approximately 100 tons of 3-inch minus aggregate rock at the base of the excavation as requested by the landowner.

July 2000 – On July 21, 2000, EPFS submitted amended work plan results to the NMOCD. The report stated that on July 7, 2000, two shallow (6-foot) temporary monitoring wells (TMW-1 and TMW-2) were installed in the garden area; groundwater analytical results for R-6 and M-6 installed near the Jaquez residence were below New Mexico Water Quality Control Commission (NMWQCC) standards; groundwater from the 6-inch irrigation well was below NMWQCC

standards; surface water collected from Citizens' Ditch indicated no surface water quality violations; groundwater at the two temporary wells was free of BTEX; and soil excavation samples showed levels of BTEX and TPH below recommended remediation levels. The report stated that to date, the garden area had been completely excavated with the eastern and western boundaries defined as not being impacted. The area north of M-3 and M-4 remained impacted.

August 2000 – In a facsimile dated August 24, 2000, EPFS notified the NMOCD of an investigation that had been completed for a seep that had developed at the toe of Citizens' Ditch embankment on the south side of Citizens' Ditch. The investigation was in response to the landowner notifying EPFS of the seep. A sample of the seep water was collected near monitoring well M-4. In a follow-up letter to NMOCD dated October 3, 2000, EPFS notified the NMOCD that no BTEX compounds were detected in the sample.

December 2000 – A Remediation System Evaluation report submitted in December 2000 stated the remediation system for the north side of Citizens' Ditch was performing efficiently but affecting slow and somewhat erratic progress in reducing contaminant levels in groundwater north of Citizens' Ditch. The report offered three recommendations to enhance the north (AS/SVE) system. The monitoring wells south of Citizens' Ditch showed a downward trend in groundwater concentrations. The report offered two recommendations to enhance the south (passive vent) system.

March 2001 – On March 21, 2001, the AS/SVE system was expanded by adding two new AS wells (SW-4 and SW-5) and one SVE well (VW2).

June 2001 – A June 21, 2001 letter from EPFS to NMOCD requested the frequency of surface water sampling of Citizens' Ditch be reduced from quarterly to semi-annually. Samples collected in June and September 2000, and January 2001 showed no BTEX compounds above laboratory detection limits. The May 2001 upgradient sample showed levels of toluene, ethylbenzene, and xylenes well below standards. The letter also requested re-evaluating and possibly discontinuing the surface water sampling since free product was no longer present at the Site.

October 2001 – EPFS injected 205 gallons of urea nitrate solution into the passive vent system located on the south side of Citizens' Ditch in October 2001.

April 2002 – The 2001 annual report (issued April of 2002) stated groundwater benzene concentrations at M-4, R-1, R-2, and R-4 throughout the year regularly exceeded the NMWQCC standard. However, significant reductions over previous years' concentration levels were noted and attributed to the expansion of the AS/SVE system. The report stated the remediation system was operating at optimal levels; however, even though AS and SVE had reduced concentrations on the north side of Citizens' Ditch, additional remediation of the plume underneath Citizens' Ditch and in the area between M-4 and Citizens' Ditch was needed. The report also concluded surface water in Citizens' Ditch was not impacted by soil or groundwater at the Site. The report recommended discontinuing the addition of nutrients to the passive vent system and sampling for nitrate/nitrite, and discontinuing Citizens' Ditch surface water sampling.

September 2002 – The Work Plan to Address Groundwater above Standards on the South Side of Citizens' Ditch was submitted to the NMOCD on September 26, 2002. The work plan included installation and monitoring of four Oxygen Release Compound (ORC®) injection points to address groundwater south of Citizens' Ditch. The work plan showed that monitoring well M-4 still exceeded the benzene regulatory limit, but all other wells were below the benzene laboratory detection limit in May 2002.

November 2002 – In a letter dated November 6, 2002, the NMOCD approved the September 26, 2002 Work Plan to Address Groundwater above Standards on the South Side of Citizens' Ditch. Conditions required the inclusion of monitoring wells M-1 and M-3 in the quarterly monitoring plan, and the installation of a permanent monitoring well near the former TMW-2 location in the garden area because M-4 had benzene levels above standards and there was no well downgradient of M-4. Also in November 2011, two new AS points (SP-1 and SP-2) and four ORC® injection points were installed immediately north of monitoring well M-4. The new AS points were installed as a backup remedial alternative in case ORC® injections were not effective.

December 2002 – Temporary wells TMW-1 and TMW-2 were abandoned on December 20, 2002, and a new monitoring well, M-7, was installed at the approximate location of former TMW-2.

March 2003 – The March 31, 2003 Annual Report for 2002 stated benzene levels at R-1 and R-2 were approaching cleanup standards; and slight concentrations of toluene, ethylbenzene, and xylenes detected in Citizens' Ditch surface water samples collected upgradient and downgradient of the Site were attributable to laboratory artifact or a source other than the Site. EPFS proposed sampling modifications and formally requested no further sampling of Citizens' Ditch.

April 2003 – In a letter dated April 23, 2003, the NMOCD approved proposed sampling modifications presented in the 2002 Annual Report for the Site and required the inclusion of monitoring wells M-1 and R-6 in the quarterly monitoring plan, and annual nitrate sampling at monitoring wells M-1, M-2, M-3, M-4, and M-5.

June through September 2003 – Following February and May 2003 groundwater sampling which showed benzene concentrations at all wells were below 10 ppb, the SVE system was temporarily shut down in June 2003. Following August 2003 rebounds of benzene at R-1 and R-4, the system was turned back on for six weeks in September and October 2003. In September 2003, the SVE system was reconfigured to focus air flow to monitoring wells R-1 and R-4.

February through May 2004 – The remediation systems were shut down during this period as groundwater concentrations were below closure criteria during the February 2004 sampling event.

March 2004 – The March 23, 2004 Annual Report for 2003 stated that based on a decline in benzene and an increase in dissolved oxygen noted at M-4 in 2003, the November 2002 ORC® injections had successfully affected biodegradation processes. For the first half of 2003, benzene concentrations in all wells at the Site were below the NMWQCC standard, total BTEX concentrations in wells south of Citizens' Ditch were below closure standards, and groundwater nitrate samples from wells south of Citizens' Ditch were below the NMWQCC standard.

June 2004 – The remediation systems were restarted in June 2004 due to a rebound in benzene concentrations at two wells (R-1 and R-4) during the May 2004 sampling event.

August through November 2004 – The remediation systems were again shut down as groundwater concentrations were below closure criteria during the August 2004 sampling event.

October 2004 – In a letter dated October 1, 2004, the NMOCD approved a recommendation in the 2003 Annual Report to cease nitrate sampling until the final round of closure sampling was approved.

December 2004 – On December 7, 2004, the remediation systems were restarted in response to benzene concentrations above standards in two wells (R-1 and R-4) during the November 2004 sampling event.

January 2005 – The remediation systems were shut down during the holidays, and then restarted on January 4, 2005. The vent blower was not operational, but the AS system was running.

February 2005 – The SVE system was shut down on February 3, 2005.

March 2005 – The March 5, 2005 Annual Report for 2004 stated that the February 2004 groundwater sampling showed all site wells were below closure criteria, the May 2004 sampling event showed benzene at R-1 (13 ppb) and R-4 (10 ppb) exceeded the NMWQCC standard, the August 2004 sampling event showed contaminant concentrations were below closure criteria, and the November 2004 sampling event showed contaminant concentrations were below closure criteria except for benzene at R-1 (20.6 ppb) and R-4 (14.8 ppb). With the exception of R-2, the remaining wells north of Citizens' Ditch did not contain detectable benzene in 2004, which was consistent with results from 2001, 2002, and 2003. The remediation system was generally operated in 2004 in response to the results of the sampling events. There were no detections of BTEX concentrations above NMWQCC standards in any wells located south of Citizens' Ditch in 2004.

November 2005 – In November 2005, nitrate was analyzed in groundwater samples to evaluate whether nutrient additions to the passive vent system in October 2001 caused exceedances of the nitrate standard.

January 2006 – On January 27, 2006, the Final 2005 Annual and Closure Report for the Site was submitted by EPTPC to the NMOCD. The report stated BTEX concentrations in all wells at the Site and nitrate concentrations in M-4 and M-5 were below closure standards for four

consecutive quarters during 2005. Therefore, site closure was requested. Monitoring wells R-1 and R-4, located north of Citizens' Ditch, did have detectable concentrations of benzene in 2005, however (6 and 0.7 ppb in May 2005, respectively, and 9.8 and 1.1 ppb in November 2005, respectively). There were no detectable concentrations of BTEX in 2005 in any of the wells located south of Citizens' Ditch. Apart from M-4 and M-5, no other wells were sampled for nitrate in 2005. A summary of historical groundwater data was included in the report. The report stated following approval for closure, the AS/SVE system would be removed and all monitoring wells would be abandoned in accordance with the approved Monitoring Well Abandonment Plan.

2006 through 2009 – No activities appear to have been conducted at the Site pending a NMOCD response to the January 2006 Final Closure Report.

July 2008 – A July 18, 2008 EPTPC letter to the NMOCD followed up on the 2005 Closure Report submittal. The letter re-stated the results presented in the closure report had met closure criteria set forth in EPTPC's NMOCD-approved Remediation Plan for Groundwater Encountered during Pit Closure Activities. Lastly, the letter indicated that in addition to monitoring well abandonment and removal of the remediation system, site restoration activities would be conducted upon approval of site closure.

March 2010 – A release reportedly occurred at the western flow line (i.e., from the Jaquez C#1 wellhead) where it passed through the southern embankment of Citizens' Ditch in March 2010. The Site operator at the time was BP American Production Company (BP), which completed initial emergency response activities.

June 2010 – A work plan for site characterization was developed in June 2010. Groundwater was to be collected from thirteen monitoring wells, vapor samples were to be collected from the five passive vents in the garden area, ambient air at various points around the Site was to be field-screened with a PID, and soil screening was to be conducted at twelve locations between Citizens' Ditch and the areas excavated in 1993 to provide screening data for potentially impacted soil that was not excavated due to the proximity of Citizens' Ditch. The Bloomfield Irrigation District (BID) subsequently specified that soil borings be placed no closer than 3 to 4 feet from Citizens' Ditch water's edge.

July 2010 – The proposed site activities were conducted on June 10 and 11, 2010. A July 19, 2010 memorandum summarized the field activities and analytical results. Groundwater BTEX levels were below detection limits at all wells except for M-4 which had a concentration of 147 ppb benzene, exceeding the NMWQCC limit. Groundwater had last been sampled in November 2005, and at that time M-4 had a concentration of 3.3 ppb benzene. The June 2010 M-4 sample was therefore a sharp increase and the cause was not immediately understood. A possible explanation was impact related to the recent BP release. Monitoring well M-4 was the closest monitoring well to that release. Potential residual upgradient source material was also given as a possibility.

The July 19, 2010 memorandum represents the first time the BP release was mentioned in the files reviewed by MWH. Soil boring SB-8, which had a PID reading of 230 parts per million by

volume (ppmv) at a depth of 1 foot bgs, was the soil boring closest to the 2010 BP release. Soil boring SB-7, which had an elevated shallow PID reading of 106 ppmv, was also proximal to the release. Soil boring SB-12 displayed evidence of significant impact at approximately 3 to 4 feet bgs. Since this boring was located well within the documented footprint of the former excavation, it appeared the impacts were the result of recontamination. Additional investigation was recommended. Laboratory analytical results of vapor samples collected from the five passive vents in the garden area and ambient air screened at the Site were all below detection limits.

November 2010 – In November 2010, MWH presented the results of sampling activities for June (groundwater, soil, and air sampling), August, and September (supplemental soil delineation) 2010, conducted to assess both new and historic impacts at the Site in the 2010 Characterization Report.

All groundwater samples were non-detect for BTEX constituents with the exception of M-4 which had a benzene concentration of 147 ppb, above the NMWQCC standard. The report stated M-4 had met closure standards since November 2002, representing three full years of compliance by the time closure was requested in January 2006. The cause of the spike in concentration at M-4 was attributed to the March 2010 BP gathering line release.

The June 2010 soil sampling revealed three clear areas of impact: SB-8 (installed north of M-4 and nearest to the recent release), SB-7 (installed northwest of M-4), and SB-12 (installed south of M-4 in what was intended to be the 1993 excavation footprint). The remaining borings exhibited minimal to no impacts. Groundwater during the soil sampling was at the high end of seasonal fluctuation such that the smear zone was submerged and could not be sampled. This limitation led to the additional soil sampling/delineation conducted in August and September 2010. This additional sampling indicated the TPH limit was exceeded at four locations on the north side of Citizens' Ditch and at five locations south of Citizens' Ditch, one of which also exceeded the BTEX limit.

The soil impacts were essentially located in the central portion of the Site extending from the former EPTPC pit south to the garden area. The greatest soil concentrations were located immediately down-slope of the recent BP release and above the water table indicating a shallow soil impact. A sample collected from 4 to 5 feet bgs at GP-15, located approximately 35 feet north of M-4 and south of Citizens' Ditch, had the highest concentrations of benzene (9.59 ppm), ethylbenzene (18 ppm), xylenes (143 ppm), and total BTEX (170.7 ppm, exceeding the NMOCD standard) observed for the sampling event. Additionally, toluene, generally the quickest-attenuating BTEX component, was elevated in the sample collected from 8 to 9 feet bgs at GP-13, located approximately 25 feet north of GP-15 and south of Citizens' Ditch, further implicating the recent BP release as the source.

Lastly, impacted soils were encountered underneath (1 to 3 feet) the original 1993 excavation on the north side of Citizens' Ditch. The approximate area of the delineated impact was estimated to be 13,000 square feet. The report concluded more data regarding the BP release was required and a stakeholder meeting would need to be held.

December 2010 – A December 9, 2010 letter from El Paso Corporation (EPC) to BP: stated EPC had addressed historical impacts at the Site in accordance with an approved work plan and had requested site closure; discussed the March 2010 BP pipeline condensate release and its impacts to the Site as presented in the 2010 Characterization Report; and stated BP had reviewed the November 23, 2010 work plan and had requested EPC take the lead to excavate soils impacted by historical releases and by the BP release. BP agreed to pay a portion of the costs for the work, which was presented in itemized detail. BP would solely bear the cost for excavation of Citizens' Ditch embankment soils down to historic impacts, and reconstruction of Citizens' Ditch to grade from the level of the soils historically impacted. The BP operation site manager signed the letter on December 9, 2010 signifying acceptance of the terms. On December 10, 2010, EPTPC submitted a Soil Excavation Work Plan to NMOCD. The plan included excavation of approximately 4,000 CY of impacted soil, backfilling, and reconstruction of the affected segment of Citizens' Ditch under the direction of the BID. Excavation was to be completed from the south to the north to a depth of 7 feet in the garden area, 14 feet within the southern embankment of Citizens' Ditch, 8 feet beneath Citizens' Ditch, and up to 15 feet in the area north of Citizens' Ditch. Five-point soil composite samples were to be collected approximately every 50 lineal feet along the exposed sidewalls and the floor of the excavation area. Groundwater samples were to be collected only if significant seepage into the excavation precluded floor sampling.

September 2011 – On September 2, 2011, EPTPC submitted a Soil Excavation Report to the NMOCD to describe excavation and site restoration conducted at the Site between December 15, 2010 and March 2011. Approximately 16,231 CY of impacted soil was ultimately removed and land farmed for treatment. Over 200 locations on the excavation sidewalls and floor were sampled and screened. The use of vacuum trucks to remove approximately 715 gallons of groundwater in areas containing significant impacts allowed for deeper excavation where needed. The BID monitored and directed the reconstruction of Citizens' Ditch. Of the forty-two soil samples submitted for laboratory analysis, four samples had exceedances. Of the four groundwater samples submitted, two had exceedances.

Soil impacts were observed along a 50-foot long portion of the excavation sidewall north of the Site property boundary and extended off site to the north where the presence of an old trailer/mobile home prevented further excavation. The property owner stated a desire for the trailer not to be moved. Two impacted soil lenses were visible in the north wall. One of the lenses was small and about 1 foot thick, while the other lens was approximately 25 feet long and 3.5 feet thick at its maximum. The depth of this lens was between 16 and 20 feet bgs. A PID reading on soil from the 3.5-foot thick lens showed 3,815 ppmv. Four soil borings (BH-3 through BH-6) were hand-augered in locations surrounding the trailer to delineate the extent of left-in-place impacted soil. Borings BH-3 (south of the trailer), BH-5 (southwest corner of the trailer), and BH-6 (north of the trailer) showed no evidence of impacts. Boring BH-4, (south of the trailer), appeared to have slightly impacted soil at 12 feet bgs but the sample was analyzed and met cleanup standards. Field screening of the deeper saturated soil at BH-4 showed minimal impact evidenced by low to very low PID readings, and a sample was not collected. These four soil borings provided the intended delineation of the remaining impacts that could not be physically excavated. Based on the excavation data and borehole results, the left-in-place soil beyond the north excavation wall was estimated to be 30 CY.

A benzene groundwater exceedance at the Jaquez-GW1-North-121710 location was likely the result of seepage from impacted soils later removed. It was expected the potential groundwater BTEX impacts associated with the remaining 30 CY of soil would be minimal and localized. Groundwater data from the north area in June 2010, prior to the 2010-2011 excavation, did not show BTEX detections. This was consistent with other historic groundwater results in the north area. The report concluded the re-emergence of groundwater impacts in the garden area following the 2010 BP release should be addressed by BP under a new NMOCD case number. As justification, EPTPC had demonstrated the achievement of groundwater closure criteria as of the end of 2005. Also, it was EPTCP's opinion that after conducting two major excavations, implementing various remediation technologies, and monitoring the Site for nearly 20 years, EPTCP had mitigated soil and groundwater impacts related to its former pit to the greatest extent possible. The Soil Excavation Report requested closure of the case.

March 2012 – On March 2, 2012, MWH submitted a supplemental information letter to the NMOCD in order to facilitate a review of the Site's case closure request. The letter addressed additional points, including that various affected gathering lines were temporarily removed and/or excavated beneath, and the groundwater at the time of excavation was at the seasonal low. The letter included a copy of the November 2010 Groundwater, Soil, and Air Sampling Report and a copy of the September 2011 Soil Excavation Report and closure request. In summary, the supplemental information letter stated EPC's position that any remaining groundwater concerns in the M-4 area should be the responsibility of BP to address.

DOCUMENTS REVIEWED

November 13, 1992 Letter from EPNG to the NMOCD
March 15, 1993 Letter from the NMOCD to EPNG
June 25, 1993 Letter and Remedial Plan from EPNG to the NMOCD
July 2, 1993 Letter from the NMOCD to EPNG
August 27, 1993 Letter from EPNG to the NMOCD
September 2, 1993 Letter from the NMOCD to EPNG
September 30, 1993 Letter and Final Closure Report from EPNG to the NMOCD
September 1996 Semi-Annual Report for Soil and Groundwater Remediation
December 1996 Report for Total Fluids Pump Test
March 1998 Annual Report for Soil and Groundwater Remediation
March 1999 Annual Report for Soil and Groundwater Remediation
June 25, 1999 Letter from EPFS to the NMOCD
June 25, 1999 Facsimile from John Jaquez to EPNG
June 25, 1999 Soil and Groundwater Remediation Work Plan
July 22, 1999 Letter from the NMOCD to EPFS
August 13, 1999 Work Plan for Potential Soil Contamination Investigation and Monitoring Well Installation
September 22, 1999 Letter from the NMOCD to EPFS
October 13, 1999 Soil and Groundwater Remediation Pilot Test Report/Air Sparging Remediation Work Plan
October 13, 1999 Letter from EPFS to the NMOCD
November 29, 1999 Facsimile from John Jaquez to the NMOCD
December 21, 1999 Letter from the NMOCD to EPFS
January 12, 2000 Recent Soil Investigation Results and Amended Work Plan
January 13, 2000 Letter from EPFS to the NMOCD
April 5, 2000 Letter from EPFS to the NMOCD
May 15, 2000 Letter from the NMOCD to EPFS
July 21, 2000 Amended Work Plan Results
August 24, 2000 Letter/facsimile from EPFS to the NMOCD
September 1, 2000 Letter from the NMOCD to EPFS
December 2000 Remediation System Evaluation
June 21, 2001 Request to Reduce Surface Water Sample Frequency
April 1, 2002 2001 Annual Groundwater Report
September 26, 2002 Work Plan to Address Groundwater above Standards on the South Side of Citizens' Ditch
September 2002 Final Work Plan
November 6, 2002 Letter from the NMOCD to EPFS
March 31, 2003 2002 Annual Report
April 23, 2003 Letter from the NMOCD to EPFS
March 23, 2004 2003 Annual Report
October 1, 2004 Letter from the NMOCD to EPFS
March 2005 2004 Annual Report
January 2006 Final 2005 Annual and Closure Report
July 18, 2008 Letter from EPTPC to the NMOCD

July 9, 2010 Letter from LTE to MWH
July 19, 2010 Memorandum from MWH to EPC
November 2010 2010 Groundwater, Soil, and Air Sampling Report
December 9, 2010 Letter from EPTPC to BP
December 10, 2010 Soil Excavation Work Plan
September 2011 Soil Excavation Report
March 2, 2012 Supplemental Information Letter from MWH to the NMOCD