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ANNUAL MONITORING REPORT

2/28/2009



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February 28, 2009

Mr. Glenn von Gonten New Mexico Oil Conservation Division (NMOCD) 1220 South St., Francis Drive Santa Fe, New Mexico 87505

RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites 2008 Annual Reports

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2008 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation Sites. The reports present the 2008 sampling and product recovery data and include recommendations for 2009 activities at these Sites.

The 2008 Annual Reports are divided into three volumes based on location type. The volumes are as follows:

Volume Location Type

1 Federal Land

2 Non-Federal Land (Excl. Navajo Nation)

3 Navajo Nation

If you have any questions concerning the enclosed reports, please call either Doug Stavinoha of EPTPC (713-420-5150) or me (303-291-2276).

Sincerely,

Sed

Jed Smith Project Manager

encl.

cc:

Bill Freeman – NNEPA, Shiprock, NM (Volume 3 Only) Bill Liese – BLM, Farmington, NM (Volume 1 Only) Brandon Powell – NMOCD, Aztec, NM (Volumes 1, 2, and 3) Doug Stavinoha – EPTPC (Volumes 1, 2, and 3)

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2008 ANNUAL GROUNDWATER REPORT FEDERAL SITES VOLUME I

EL PASO TENNESSEE PIPELINE COMPANY

METER or LINE ID	NMOCD CASE NO.	SITENAME	TOWNSHIP	RANGE	SECTION	UNIT.
87640	3RP-155-0	Canada Mesa #2	24N	06Ŵ	• 24	Ι
89961	3RP-170-0	Fields A#7A	32N -	11W	34	E
73220	3RP-068-0	Fogelson 4-1 Com. #14	29N	11W	4	Р
89894	3RP-186-0	Hammond #41A	27N	08W	. 25	0
97213	3RP-190-0	Hamner #9	29N	09W	20 .	A
94715	3RP-196-0	James F. Bell #1E	30N	13W	10	Р
70194	3RP-201-0	Johnston Fed #4	31N	09W	33	Η
89232	3RP-202-0	Johnston Fed #6A	31N	09W	35	F
LD072	3RP-204-0	K27 LD072	25N	06W	4	Е
· LD174	3RP-212-0	LAT L 40	28N	04W	13	Н
LD151	3RP-213-0	Lat 0-21 Line Drip	30N	09W	12	0
94810	3RP-223-0	Miles Fed 1A	26N	07W	5	F
89620	3RP-235-0	Sandoval GC A #1A	30N	09Ŵ	35	С

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2008 ANNUAL GROUNDWATER REPORT NON-FEDERAL SITES VOLUME II

EL PASO TENNESSEE PIPELINE COMPANY

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METER or LINE ID	NMOCD CASE NO.	-SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
03906	3RP-179-0	GCU Com A #142E	29N	12W	25	G
93388	3RP-192-0	Horton #1E	31N	09W	28	Н
LD087	3RP-205-0	K-31 Line Drip	25N	06W	16	N
72556	3RP-207-0	Knight #1	30N	13W	5	A
94967	3RP-214-0	*Lindrith B #24	24N	03W	9	N
70445	3RP-074-0	Standard Oil Com #1	29N	09W	. 36	N
71669	3RP-239-0	State Gas Com N #1	31N	12W	16	H

* Lindrith B#24 Site was submitted for closure in 2006, and is pending approval from NMOCD. There were no activites for this site in 2008.





State Gas Com N #1 Meter Code: 71669

SITE DETAILS

Legal Description:	Том	n: 31N	Range	: 12W	Sec: 16	Unit: H			
NMOCD Haz Ranking	g: 30	Land Type:	State	Operator:	BP / Amoco Produc	ction Company			
PREVIOUS ACTIVITIES									
Site Assessment:	3/94	Excavation:		5/94 (80 cy)	Soil Boring:	10/95			
Monitor Well:	10/95	Geoprobe:		NA	Additional MWs:	11/06			
Downgradient MWs:	11/95	Replace MW:	:	NA	Quarterly Initiated:	NA			
ORC Nutrient Injection:	NA	Re-Excavatio	n:	NA	PSH Removal Initiated:	7/97			
Annual Initiated:	NA	Quarterly Resumed:		NA	PSH Removal in 2008?	Yes			

SUMMARY OF 2008 ACTIVITIES

- **MW-1:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2008.
- **MW-2:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2008.
- **MW-3:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2008.
- **MW-4:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2008.
- **MW-5:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2008.
- **MW-6:** Monthly free-product recovery and water level monitoring were performed during 2008.
- **MW-7:** Annual groundwater sampling (April) and quarterly water level monitoring were performed during 2008. Free-product recovery was performed in December 2008.
- **MW-8:** This well has been dry since its installation in November 2006. The well was damaged during the summer of 2008.

State Gas Com N #1 Meter Code: 71669

MW-9: Groundwater sampling (April and September) and quarterly water level monitoring were performed during 2008.

Site-Wide Activities: No other activities were performed at this Site during 2008.

SITE MAP

A Site map (September) is attached as Figure 1.

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 7. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).
- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 8 through 11.
- The 2008 laboratory reports are presented in Attachment 1 (included on CD).
- The 2008 field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2008.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station. Spent absorbent socks were disposed of as non-hazardous solid waste.

ISOCONCENTRATION MAPS

No isoconcentration maps were generated for this Site; however, the attached Site map presents the analytical data collected during the September 2008 annual sampling event.

RESULTS

- The groundwater flow direction at this Site trends toward the south.
- MW-1 has not contained measurable free-product since 2003, and no significant recovery has been possible since 2001. Laboratory results from the annual groundwater sample collected from MW-1 indicated that BTEX concentrations remain elevated at this well. The benzene concentration was 11,700 µg/L. Toluene (7,560 µg/L), ethylbenzene (815 µg/L), and total xylenes (7,740 µg/L) also exceeded their respective NMWQCC standards. As a long-term trend, the BTEX concentrations in this well appear to be gradually attenuating.

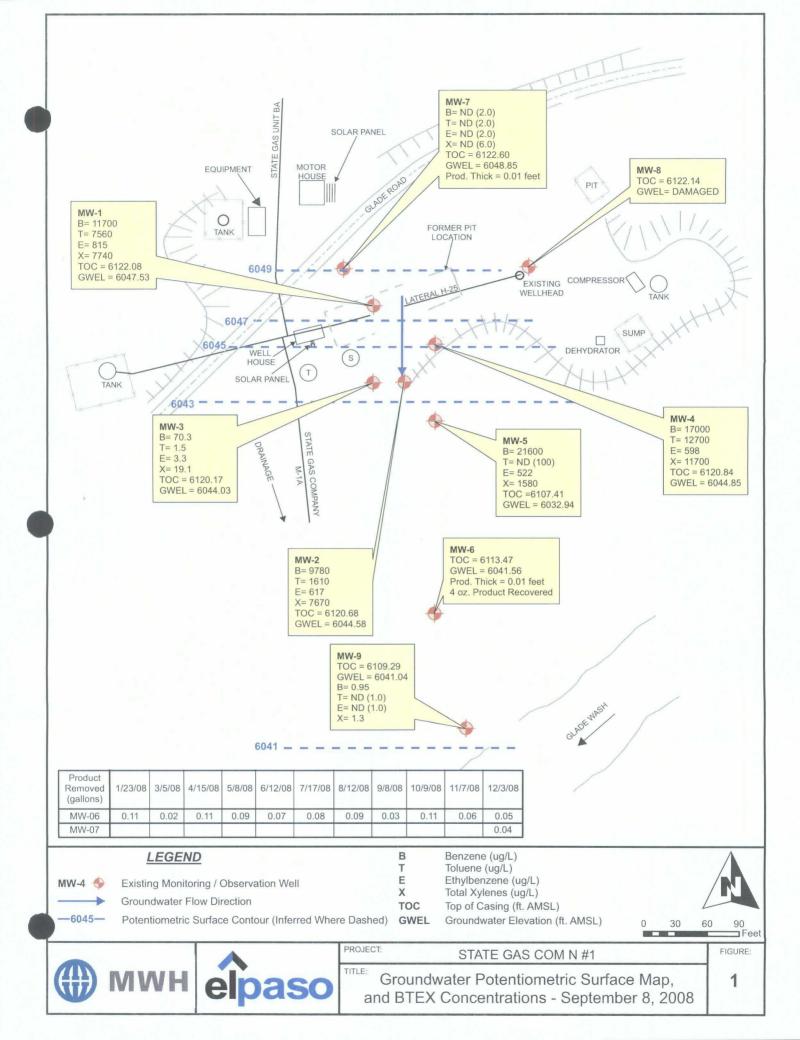
State Gas Com N #1 Meter Code: 71669

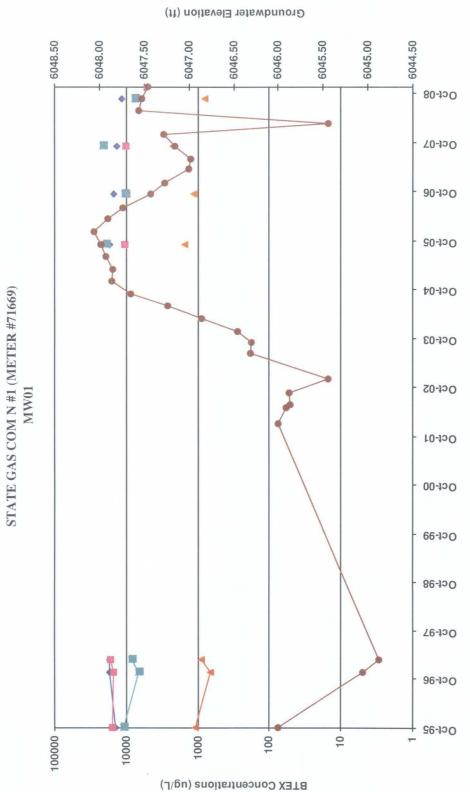
- Free-product was not observed in MW-2 during 2008. This well has not contained significant amounts of free-product since 2001. Laboratory results from the annual groundwater sample collected from MW-2 indicated that BTEX concentrations remain elevated at this well. The benzene concentration was 9,780 µg/L. Toluene (1,610 µg/L) and total xylenes (7,670 µg/L) also exceeded their respective NMWQCC standards. BTEX concentrations in this well appear to be stable.
- Free-product was not observed in MW-3 during 2008. Product recovery activities were suspended in September 2005. Per previous annual report recommendations, MW-3 was added to the annual sampling list in 2008. Benzene (70.3 μ g/L) was the only parameter to exceed its NMWQCC standard in 2008. This represents a significant attenuation from the high benzene concentration of 18,000 μ g/L in 1995, prior to product recovery activities.
- Laboratory results from the annual groundwater sample collected from MW-4 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicated a concentration of 17,000 μ g/L. The toluene (12,700 μ g/L) and total xylenes (11,700 μ g/L) concentrations also exceeded their respective NMWQCC standards. The BTEX concentrations in this well appear to be stable. Free-product (0.04 ft. thickness) was observed during the December 2008 quarterly gauging event, and a sorbent sock was installed.
- Laboratory results from the annual groundwater sample collected from MW-5 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicate a concentration of 21,600 μ g/L. The total xylenes concentration (1,580 μ g/L) also exceeded its NMWQCC standard. BTEX concentrations in this well appear to be gradually attenuating.
- Free-product recovery efforts at MW-6 resulted in removal of approximately 0.82 gallons of free-phase hydrocarbons during 2008, bringing the cumulative total volume removed to 7.46 gallons. Based on the observed steady product recovery rate at MW-6, it was concluded that monthly product recovery was warranted, and this frequency was implemented in June 2006.
- Monitor well MW-7 was first sampled in April 2008. BTEX constituents were not detected. During the September 2008 sitewide annual sampling event, a thin accumulation of free-product (i.e., 0.01 feet) was measured in this well; therefore, the well was not sampled. Rather, a product-absorbing sock was installed. 5 ounces of product were removed from this sock in December 2008, and the sock was replaced for continued product recovery.
- Monitor well MW-9 was sampled in April and September 2008. BTEX constituents were only detected in September, at levels just above the laboratory reporting limits. This well appears to be clean.

State Gas Com N #1 Meter Code: 71669

RECOMMENDATIONS

- EPTPC recommends annual groundwater sampling at MW-1, MW-2, and MW-3 if free-product continues to be absent from these wells.
- Measurable free-product was observed in MW-4 during the December 2008 gauging event. A product-absorbing sock will be placed in the well. Once free-product subsides, this well will be returned to the annual sampling list.
- EPTPC recommends annual sampling at MW-5.
- EPTPC recommends continuing free-product recovery efforts at MW-6. EPTPC will generally maintain the monthly frequency; however, the frequency of monitoring may be adjusted based on the amount of product recovered during the monitoring visits.
- Measurable free-product was observed in MW-7 during the September 2008 gauging event. A product-absorbing sock was placed in the well, and EPTPC recommends continuing these free-product recovery efforts. Once free-product subsides, this well will be returned to the annual sampling list.
- EPTPC recommends that MW-8 be plugged and abandoned. This upgradient well was dry, and the surface completion has been destroyed.
- EPTPC recommends annual sampling at MW-9.
- EPTPC recommends quarterly water level measurements at all wells.





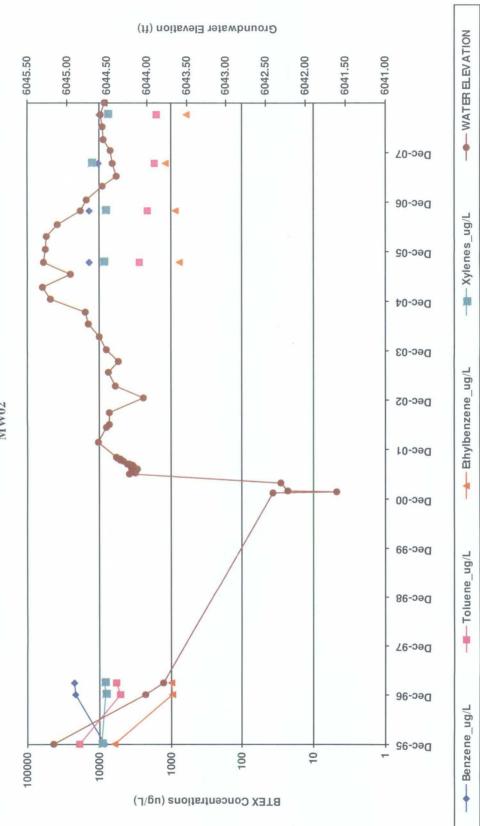
Benzene_ug/L

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FIGURE 2 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES STATE GAS COM N #1 (METER #71669)

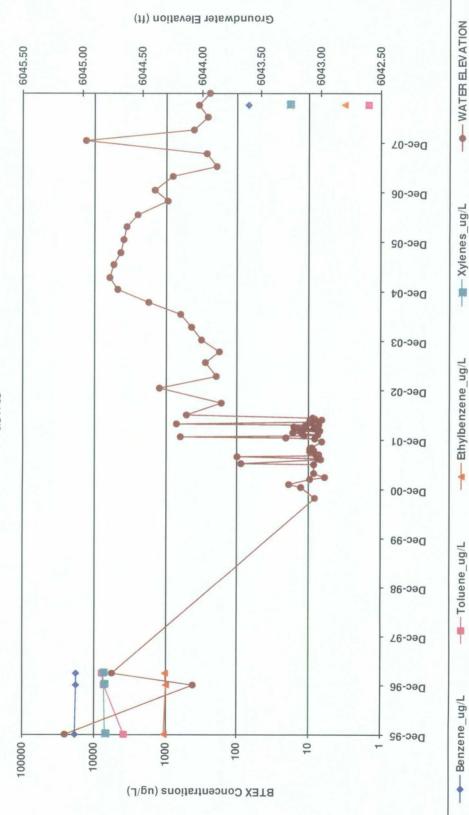


FIGURE 3 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES STATE GAS COM N #1 (METER #71669) MW02



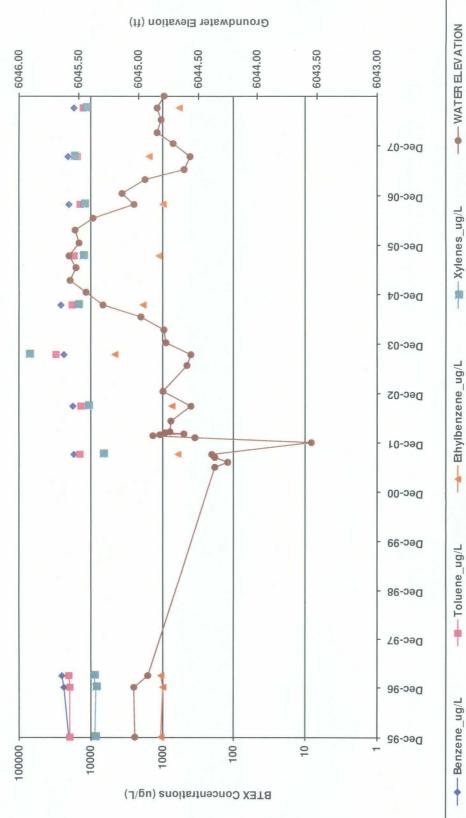






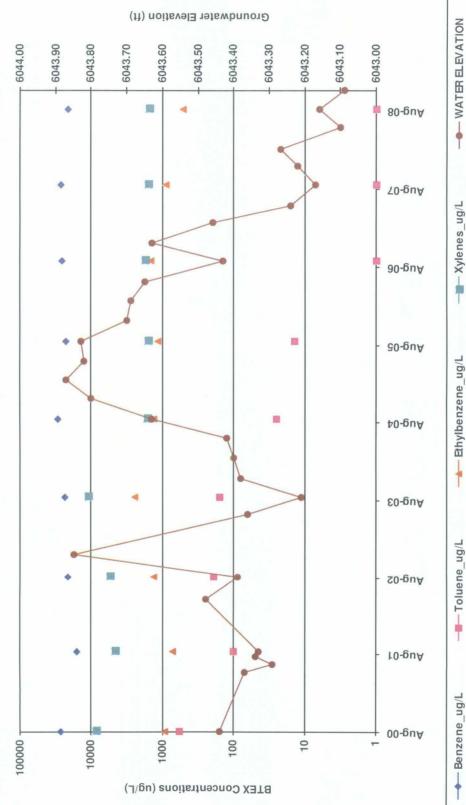






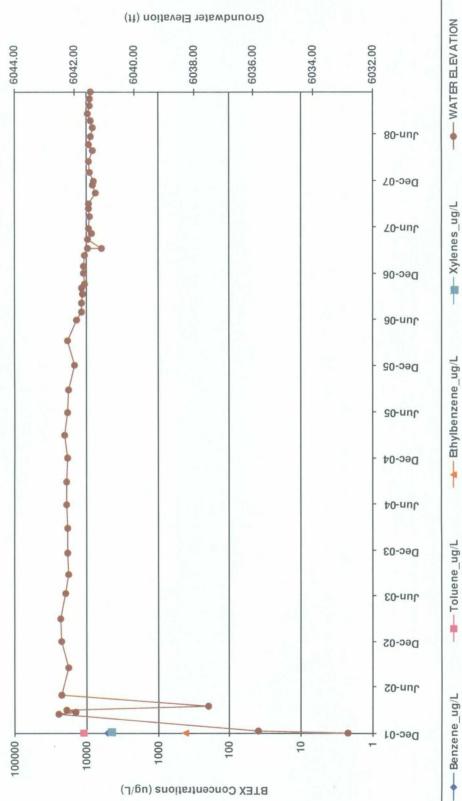












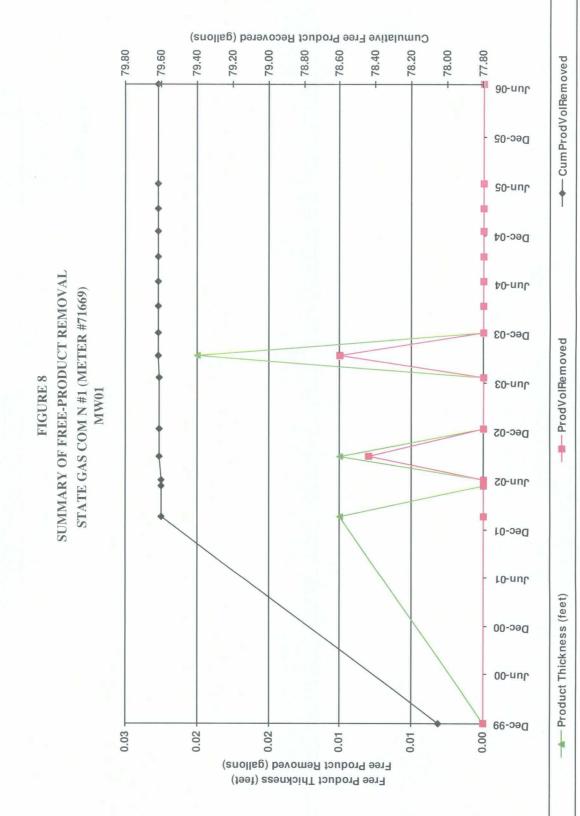
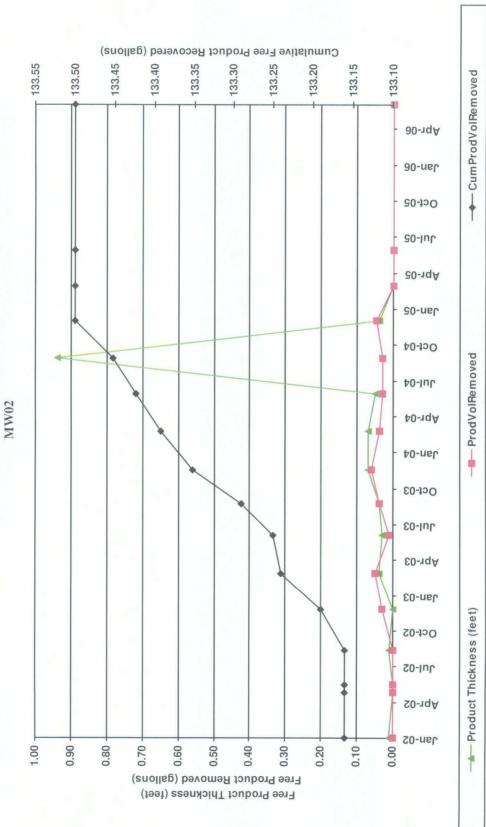


FIGURE 9 SUMMARY OF FREE-PRODUCT REMOVAL STATE GAS COM N #1 (METER #71669)

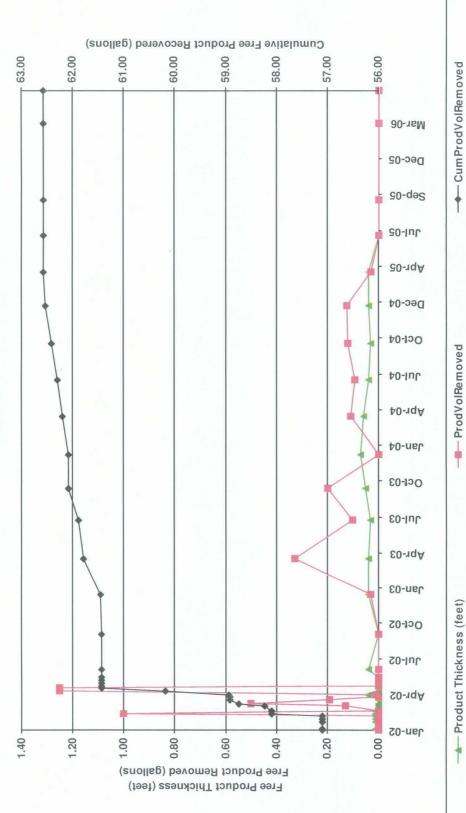


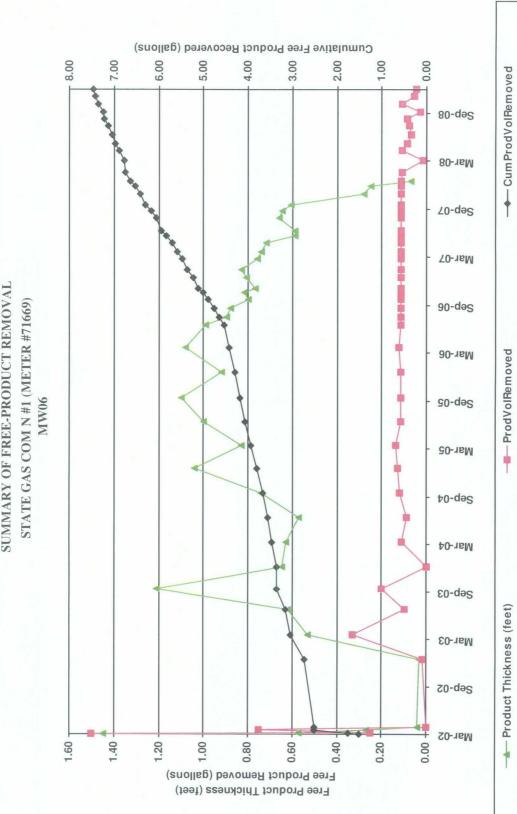
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SUMMARY OF FREE-PRODUCT REMOVAL FIGURE 11

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	10/17/1995	14200	15600	1090	11000	76.08
-	12/3/1996	17200	15200	673	6670	77.02
	3/7/1997	16900	16600	904	8420	77.20
	9/15/2005	17300	10700	1560	. 19600	74.09
· ·	9/27/2006	15100	9990	1150	10700	74.65
	9/18/2007	13800	10100	2260	21200	74.92
	9/8/2008	11700	7560	815	7740	74.55
MW02	12/7/1995	8540	18900	6230	9240	75.50
	12/3/1996	21700	5000	967	8310	76.66
	3/7/1997	22100.	5680	992	8360	76.88
-	9/15/2005	13700	2770	762	8610	75.38
· · ·	9/27/2006	13800	2150	880	8130	75.85
	9/18/2007	10100	1730	1200	12700	76.24
	9/8/2008	9780	1610	617	7670	76.10
MW03	12/7/1995	18000	3760	1050	7070	75.03
	12/3/1996	17700	7310	983	7200	76.10
	3/7/1997	17700	7780	1020	7550	75.42
	9/8/2008	70.3	1.5	3.3	19.1	76.14
MW04	12/7/1995	20300	19600	1040	8880	75.81
	12/3/1996	23600	19600	1000	8600	75.80
·	3/7/1997	24800	20100	1040	9080	75.92
	9/10/2001	17000	14000	610	6700	76.45
	9/4/2002	17800	13900	750	10870	76.28
	9/14/2003	24000	30800	4670	73200	76.28
	9/16/2004	26300	18500	1870	15200	75.54
i.	9/15/2005	18600	16900	1120	12800	75.26
	9/27/2006	19800	14200	978	12500	75.80
	9/18/2007	21100	15400	1560	° . 17000 .	76.27
· • •	9/8/2008	17000	12700	598	11700	75.99
MW05	8/30/2000	27000	570	. 930	8600	74.19
	9/10/2001	16000	100	720	4600	74.30
	9/4/2002	21100	190	1310	5560	. 74.24
	9/14/2003	23100	157	2480	11300	74.42
	9/16/2004	29400	25	1320	1690	74.00

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES STATE GAS COM N #1 (METER #71669)

Note: Non Detects are represented by a value of 1.

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	
MW05	9/15/2005	22800	14	1160	1620	73.80	
	9/27/2006	26000	1	1440	1800	74.20	
	9/18/2007	26300	1	914	1590	74.46	
	9/8/2008	21600	1	522	1580	74.47	
MW06	12/20/2001	5000	11000	420	4600	80.63	
MW07	4/15/2008	1	ł	1	1	72.82	
MW09	4/15/2008	· 1	1	. 1	· · · · · · · · · · · · · · · · · · ·	68.03	
-	9/8/2008	0.95	1	1	1.3	68.25	

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES STATE GAS COM N #1 (METER #71669)

Note: Non Detects are represented by a value of 1.

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SUMMARY OF FREE-PRODUCT REMOVAL STATE GAS COM N #1 (METER #71669)

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW01	12/8/1999	0.00	0.00	0.00	0.00	78.05
	1/23/2002	76.07	76.08	0.01	0.00	79.60
. * .	5/17/2002	0.00	76.17	0.00	0.00	79.60
· •	6/7/2002	0.00	76.21	0.00	0.00	79.60
	9/4/2002	76.20	76.21	0.01	0.01	79.61
	12/17/2002	0.00	76.63	0.00	0.00	79.61
•	6/26/2003	0.00	75.76	0.00	0.00	79.61
	9/14/2003	75.77	75.79	0.02	0.01	79.62
	12/9/2003	0.00	75.62	0.00	0.00	79.62
	3/15/2004	0.00	75.22	0.00	0.00	79.62
•	6/17/2004	0.00	74.84	0.00	0.00	79.62
	9/16/2004	0.00	74.43	0.00	0.00	79.62
2 · · · ·	12/20/2004	0.00	74.21	0.00	0.00	79.62
	3/17/2005	0.00	74.22	0.00	0.00	79.62
	6/17/2005	0.00	74.15	0.00	0.00	79.62
	6/19/2006	0.00	74.34	0.00	0.00	79.62
MW02	1/23/2002	76.07	76.08	0.01	0.00	133.16
	5/17/2002	0.00	76.17	0.00	0.00	133.16
	6/7/2002	0.00	76.21	0.00	0.00	133.16
	9/4/2002	76.20	76.21	0.01	0.00	133.16
	12/17/2002	0.00	76.63	0.00	0.03	133.19
•	3/20/2003	76.28	76.32	0.04	0.05	133.24
	6/26/2003	76.19	76.22	0.03	0.01	133.25
	9/14/2003	76.31	76.35	0.04	0.04	133.29
	12/9/2003	76.15	76.22	0.07	0.06	133.35
	3/15/2004	76.07	76.14	0.07	0.04	133.39
	6/17/2004	75.93	75.98	0.05	0.03	133.42
	9/16/2004	75.72	76.66	0.94	0.03	133.45
	12/20/2004	75.46	75.50	0.04	0.05	133.50
	3/17/2005	0.00	75.37	0.00	0.00	133.50
	6/17/2005	0.00	75.72	0.00	0.00	133.50
	6/19/2006	0.00	75.56	0.00	0.00	133.50
MW03	1/4/2002	0.00	77.03	0.00	0.00	57.10
	1/7/2002	77.14	77.15	0.01	0.00	57.10
· ·	1/23/2002	76.93	76.94	0.01	0.00	57.10
	1/31/2002	77.00	77.01	0.01	0.00	57.10
2 - i	2/7/2002	77.16	77.17	0.01	0.00	57.10
1	2/14/2002	77.02	77.03	0.01	1.00	58.10

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SUMMARY OF FREE-PRODUCT REMOVAL STATE GAS COM N #1 (METER #71669)

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW03	· 2/20/2002	77.11	77.12	0.01	0.00	58.10
	3/6/2002	0.00	76.97	0.00	0.13	.58.23
	3/11/2002	0.00	76.94	0.00	0.50	58.73
	3/21/2002	0.00	77.15	0.00	0.19	58.92
	3/28/2002	0.00	77.04	0.00	0.00	58.92
·	4/3/2002	75.95	75.99	0.04	0.01	58.93
	4/12/2002	0.00	77.15	0.00	1.25	60.18
	4/19/2002	0.00	77.09	0.00	1.25	61.43
	4/25/2002	0.00	77.08	0.00	0.00	61.43
	5/3/2002	0.00	77.18	0.00	0.00	61.43
	5/10/2002	0.00	77.12	0.00	0.00	61.43
	5/17/2002	0.00	77.10	0.00	0.00	61.43
	6/7/2002	76.03	76.07	0.04	0.00	61.43
	9/4/2002	0.00	76.33	0.00	0.00	61.43
· ·	12/17/2002	75.81	75.85	0.04	0.03	61.46
	3/20/2003	76.28	76.32	0.04	0.33	61.79
	6/26/2003	76.19	76.22	0.03	0.10	61.89
	9/14/2003	76.31	76.36	0.05	0.20	62.09
	12/9/2003	76.15	76.22	0.07	0.00	62.09
	3/15/2004	76.07	76.13	0.06	0.11	62.20
	6/17/2004	75.98	76.02	0.04	0.09	62.29
	9/16/2004	75.72	75.75	0.03	0.12	62.41
	12/20/2004	75.46	75.50	0.04	0.13	62.54
	3/17/2005	75.39	75.43	0.04	0.03	62.57
	6/17/2005	0.00	75.43	0.00	0.00	62.57
	9/15/2005	0.00	75.49	0.00	0.00	62.57
	3/27/2006	0.00	75.54	0.00	0.00	62.57
	6/19/2006	0.00	75.63	0.00	0.00	62.57
MW04	12/3/2008	76.04	76.08	0.04		
MW06	3/6/2002	70.64	72.09	1.45	1.50	1.50
	3/11/2002	71.38	71.95	0.57	0.25	1.75
	3/21/2002	71.17	71.44	0.27	0.75	2.50
	4/3/2002	75.95	75.99	0.04	0.00	2.50
	12/17/2002	71.03	71.06	0.03	0.02	2.72
	3/20/2003	70.90	71.43	0.53	0.33	3.05
	6/26/2003	71.04	71.66	0.62	0.10	3.15
	9/14/2003	71.04	72.25	1.21	0.20	3.35
	12/9/2003	71.10	71.75	0.65	0.00	3.35
	3/15/2004	71.11	71.74	0.63	0.11	3.46

SUMMARY OF FREE-PRODUCT REMOVAL STATE GAS COM N #1 (METER #71669)

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW06	6/17/2004	71.11	71.68	0.57	0.09	3.55
	9/16/2004	71.05	71.79	0.74	0.12	3.67
	12/20/2004	71.05	72.09	1.04	0.13	3.80
	3/17/2005	70.96	71.79	0.83	, 0.14	3.94
	6/17/2005	71.05	72.05	1.00	0.12	4.06
5	9/15/2005	71.04	72.14	1.10	0.12	4.17
	12/22/2005	71.30	72.22	0.92	0.12	4.29
	3/27/2006	71.02	72.10	1.08	0.13	4.42
	6/19/2006	71.34	72.33	0.99	0.12	4.53
i	7/21/2006	71.54	72.44	0.90	0.12	4.65
	8/24/2006	71.54	72.42	0.88	0.12	4.77
	9/27/2006	71.57	72.37	0.80	0.12	4.89
*	10/22/2006	71.53	72.35	0.82	0.12	5.00
	11/7/2006	71.66	72.43	0.77	0.12	5.12
	12/20/2006	71.60	72.41	0.81	0.12	5.24
· · · ·	1/16/2007	71.62	72.45	0.83	0.12	5.35
	2/26/2007	71.65	72.41	0.76	0.12	5.47
	3/26/2007	71.76	72.50	0.74	0.12	5.59
	4/30/2007	71.77	72.49	0.72	0.12	5.71
	5/24/2007	71.91	72.50	0.59	0.12	5.82
	6/14/2007	71.83	72.42	0.59	0.12	5.94
	7/31/2007	71.83	72.49	0.66	0.12	6.06
	8/29/2007	71.82	72.47	0.65	0.12	6.17
	9/18/2007	71.82	72.43	0.61	0.12	6.29
	10/31/2007	72.12	72.40	0.28	0.12	6.41
	11/30/2007	72.02	72.27	0:25	0.12	6.53
	12/17/2007	72.11	72.18	0.07	0.12	6.64
	1/23/2008	71.96	72.13	0.17	0.11	6.75
	3/5/2008	71.94	71.95	0.01	0.02	6.77
· ·	4/15/2008	· · ·	72.09	0.00	0.11	6.88
-	5/8/2008		71.94	0.00	0.09	6.97
·	6/12/2008		72.02	0.00	0.07	7.04
	7/17/2008		72.07	0.00	0.08	7.12
	8/12/2008		72.02	0.00	0.09	7.21
	9/8/2008	71.91	71.92	0.01	0.03	7.24
	10/9/2008		71.97	0.00	0.11	7.35
	11/7/2008	i ·	71.98	0.00	0.06	7.41
	12/3/2008	· · ·	72.00	.0.00	0.05	7.46
MW07	9/8/2008	73.75	73.76	0.01		the second se

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SUMMARY OF FREE-PRODUCT REMOVAL STATE GAS COM N #1 (METER #71669)

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW07	1.2/3/2008		73.92	0.00	0.04	0.04

